Individual Development and
Educational Assessment

Technical Report No. 12

Basic Data for the Revised IDEA System

Donald P. Hoyt
Eun-Joo Lee

August 2002

IDEA Technical Report No. 12

Basic Data for the Revised IDEA System

Donald P. Hoyt

Eun-Joo Lee

The Individual Development and
Educational Assessment Center
August 2002

Table of Contents

Page

List of Tables

Introduction

A revised version of the IDEA form for collecting student ratings of instructional processes and outcomes has been administered since the fall term of the 1998-99 school year[1]. Results from all administrations of the device from August 1998, through August 2001, constitute the basic data of this report. A total of 122 institutions of higher education participated in the program during this time span; reports were prepared for 73,722 classes[2], of which 29,267 used the Short Form and 44,455 used the Diagnostic (long) Form.

No claim is made that participants are representative of American higher education. However, they are relatively diverse, both geographically and in mission. Table 1 shows information about the highest degree offered by participating institutions as well as their geographic location.

Table 1
Number of Institutions Included in Research

Location	Highest Degree Offered					
	Associate	**Baccalau-reate**	**Master's**	**Doctoral**	**Other**	**Total**
Southeast	4	2	4	2	3	15
East/Northeast	7	5	9	5	0	26
Midwest	8	5	17	10	8	48
Southwest	5	3	5	4	1	18
Rockies/West	4	5	2	4	0	15
Total	28	20	37	25	12	122

Fifty-five institutions were publicly supported, 44 were private not-for-profit, of which many were church related, and 23 were private for-profit. Enrollment varied widely from under 500 (11 institutions) to over 20,000 (9 institutions). The two most common size categories were 1000-2499 (28 institutions) and 5000-9999 (29 institutions).

In terms of classes processed, 22 percent were from two-year institutions, 14 percent from those whose highest degree offered was the bachelor's, 28 percent from Master's degree institutions, 23 percent from doctoral institutions, and 13 percent from other types of institutions.

This report is organized into six parts.

I. Basic Data (including means, standard deviations, norms for types of institution, and inter-correlations of all items)
II. The Structure of the Ratings
III. The Process of Adjusting Ratings
IV. Reliability
V. Validity
VI. Other Technical Questions

[1] Copies of the instruments and sample copies of reports to participants are included in Appendix A.
[2] Institutions that were first-time participants in the IDEA program were excluded, as were classes with fewer than 10 respondents. Furthermore, if a single institution contributed more than 5% of the classes processed in a given year, classes from that institution were randomly deleted until the remainder constituted only 5% of the total.

Section I. Basic Data

This section presents item means, standard deviations, and inter-correlations as well as percentile ranks for all institutions and for each of four types of institutions (defined by highest degree offered). The data are based on the 44,455 classes that employed the Diagnostic Form in the time period from August 1998, through August 2001.

Table 2 describes faculty ratings of the importance of the 12 learning objectives as reported on the Faculty Information Form (FIF). A 3-point rating scale was used for these 12 items: "1=Of no more than minor importance;" "2=Important;" and "3=Essential." The table shows the number of classes for which a given objective was identified as "important" or "essential," the mean and standard deviation, and the percent of classes where the objective was identified as "essential" or "important."

Table 2
Faculty Ratings of the Importance of Twelve Learning Objectives

Learning Objective	N (Important & Essential)	% Important [a]	% Essential [a]	Mean [b]	s.d.
1. Gaining factual knowledge (trends, etc.)	31,991	32	46	2.24	.79
2. Learning fundamental principles, generalizations, or theories	30,398	34	41	2.16	.80
3. Learning to apply course material (to improve thinking, problem solving, and decisions)	30,442	40	35	2.10	.77
4. Developing skills, competencies, and points of view needed by professionals	21,568	30	25	1.80	.81
5. Acquiring skills in working as a team member	12,088	24	8	1.39	.63
6. Developing creative capacities--writing, art, etc	9,290	15	10	1.34	.65
7. Gaining a broad understanding, appreciation of intellectual/cultural activity (music, science, etc.)	10,256	17	10	1.37	.66
8. Developing skill in expressing oneself orally or in writing.	18,174	26	20	1.67	.79
9. Learning how to find and use resources	15,656	31	10	1.51	.67
10. Developing a clearer understanding of, and commitment to, personal values.	8,715	17	6	1.30	.58
11. Learning to analyze and critically judge ideas	18,909	29	20	1.68	.78
12. Acquiring an interest in learning more	15,616	30	11	1.52	.68

[a] Percentages based on all classes employing the Diagnostic Form. Percentages will not equal 100 because the percentage indicting the objective was "Of minor or no importance" are not reported.
[b] A 3-point rating scale was used: 1=Of no more than minor importance, 2=Important, 3=Essential.

A review of Table 2 provides an indication of the instructional priorities of those participating in the IDEA program. The first four objectives are stressed most frequently; these represent the acquisition and application of basic cognitive background, often as a part of professional preparation. Academic skills (8. communication; 11. critical analysis) were

also stressed frequently, but not as often as the first four objectives. Next in importance were the two "life-long learning" objectives (9. finding and using resources; 12. interest in learning more). The objectives that were stressed least were those concerned with values development (item 10), creative capacities (item 6), and a broad liberal education (item 7). American higher education is often portrayed as pragmatic and utilitarian; these results are consistent with that stereotype.

Table 3 gives the mean, standard deviation, and number of classes for the 47 individual items rated by students. A 5-point rating scale was used throughout, with "1" representing the lowest rating (least frequent, least characteristic, least satisfactory) and "5" the highest rating.

In addition, two "overall effectiveness" measures were included—PRO (Progress on Relevant Objectives) and PRO_{adj}. PRO was derived by combining the faculty member's ratings of "Importance" of a given objective with the average student rating of "Progress" on that objective. Because the average student rating of progress is different for each of the 12 learning objectives, these averages were first expressed as T Scores, a mathematical way of converting all averages to 50 and all standard deviations to 10[3]. These T Scores were then weighted by the faculty member's rating of the importance (relevance) of each objective. For objectives rated as "Essential," the T Score was multiplied by 2 before being added to the T Score for objectives chosen as "Important;" objectives rated as "Of no more than minor importance" were ignored. The PRO measure was derived by dividing the sum of the weighted T Scores by the sum of the weights. The PRO_{adj} measure adjusts PRO by taking into account factors which influence student ratings but which are beyond the control of the instructor. The adjustment process is described in Section III of this report.

For the student ratings shown in Table 3, it should be noted that, although "3" was the midpoint of the rating scale, all ratings averaged above "3" and 13 of them averaged above "4." While these relatively high ratings probably reflect a generally high quality of instruction being provided at participating institutions, they are also due in part to a tendency for students to be "lenient" in their ratings. This is revealed most clearly in those items where students are asked to compare the class with others they have taken (Items 33-35), where averages were 3.20, 3.42, and 3.42, respectively—well above the average which would be expected if leniency were not an issue.

[3] T=50+[10(X-M)/SD] where X=mean for the instructor; M=mean for the comparison group; SD=standard deviation for the comparison group.

Table 3
Student Ratings of Individual Items on the IDEA Diagnostic Form

Student Ratings of Teaching Methods	N	Mean	s.d.
1. Displayed a personal interest in students and their learning.	44,451	4.34	.50
2. Found ways to help students answer their own questions.	44,448	4.10	.52
3. Scheduled course work in ways which encouraged students to stay up-to-date in their work.	44,447	4.20	.48
4. Demonstrated the importance and significance of the subject.	44,447	4.32	.45
5. Formed "teams" or "discussion groups" to facilitate learning.	44,446	3.52	1.03
6. Made it clear how each topic fit into the course.	44,444	4.20	.51
7. Explained criticisms of students academic performance.	44,445	3.78	.57
8. Stimulated students to intellectual effort beyond that required by most courses.	44,443	3.86	.57
9. Encouraged students to use multiple resources to improve understanding.	44,444	3.78	.70
10. Explained course material clearly and concisely.	44,446	4.13	.61
11. Related course material to real life situations.	44,444	4.22	.58
12. Gave tests, projects, etc. that covered the most important points of the course.	44,440	4.28	.49
13. Introduced stimulating ideas about the subject.	44,443	4.03	.58
14. Involved students in "hands on" projects (research, etc.).	44,443	3.76	.80
15. Inspired students to set and achieve goals which really challenged them.	44,446	3.76	.62
16. Asked students to share ideas and experiences with others with different backgrounds and viewpoints.	44,445	3.69	.79
17. Provided timely and frequent feedback on tests, projects, etc.	44,443	4.11	.59
18. Asked students to help each other understand ideas, concepts.	44,444	3.79	.64
19. Gave projects, tests, etc. that required original thinking.	44,445	3.92	.65
20. Encouraged student-faculty interaction outside of class.	44,446	3.90	.63
44. Used a variety of methods to evaluate student progress.	44,442	3.83	.60
45. Expected students to take their share of responsibility for learning.	44,442	4.30	.33
46. Had high achievement standards in this class.	44,442	4.13	.41
47. Used educational technology to promote learning.	44,442	3.63	.77
Student Ratings of Progress			
21. Gaining factual knowledge (terminology, etc.)	44,443	3.94	.52
22. Learning fundamental principles, generalizations, or theories	44,442	3.89	.51
23. Learning to apply course material (to improve thinking, problem solving, and decisions)	44,440	3.95	.52
24. Developing skills, competencies, and points of view needed by professionals in the field most closely related to this course	44,441	3.91	.54
25. Acquiring skills in working with others as a team member	44,437	3.45	.82
26. Developing creative capacities (writing, inventing, etc.)	44,438	3.37	.79
27. Gaining a broader understanding and appreciation of intellectual/cultural activity (music, science, literature, etc.)	44,440	3.32	.74
28. Developing skill in expressing oneself orally or in writing	44,439	3.41	.80
29. Learning how to find and use resources for answering questions or solving problems	44,435	3.58	.60
30. Developing a clearer understanding of, and commitment to, personal values	44,434	3.44	.69
31. Learning to analyze and critically evaluate ideas, etc.	44,436	3.67	.63
32. Acquiring an interest in learning more	44,437	3.74	.56
Ratings of Course Characteristics			
33. Amount of reading	44,447	3.20	.74
34. Amount of work in other (non-reading) assignments	44,445	3.42	.59
35. Difficulty of subject matter	44,445	3.42	.58
Self-Ratings			
36. I had a strong desire to take this course.	44,447	3.66	.67
37. I worked harder on this course than on most I have taken.	44,448	3.57	.56
38. I really wanted to take a course from this instructor.	44,447	3.40	.67
39. I really wanted to take this course regardless of who taught it.	44,447	3.33	.56
43. As a rule, I put forth more effort than other students on my academic work.	44,443	3.64	.31

Table 3 is continued on the next page.

Table 3 (continued)
Student Ratings of Individual Items on the IDEA Diagnostic Form

Global Ratings of Outcomes			
40. As a result of taking this course, I have more positive feelings toward this field of study.	44,447	3.86	.60
41. Overall, I rate this instructor an excellent teacher.	44,447	4.18	.64
42. Overall, I rate this course as excellent.	44,447	3.92	.61
Progress on Relevant Objectives (PRO)[a]	42,785	50.9	8.7
PRO-Adjusted	42,344	51.0	8.5

[a]PRO ratings are standardized T Scores. The distribution has a mean of 50 and standard deviation of 10. All other ratings were made on a 5-point scale where 1 is low and 5 is high.

Inter-correlations for all items included in Tables 2 and 3 are provided in Tables 4, 5, and 6. Refer to Tables 2 and 3 for item descriptions.

The correlations shown in these tables may seem overwhelming. Aside from their value as basic information, they can help the reader gain a deeper understanding of individual ratings. For example, there may be interest in understanding factors that relate to how hard students work in a class (Item 37: "I worked harder on this course than on most courses I have taken"). As shown in Table 6, although a substantial number of items were significantly correlated with responses to this item, the highest correlations were with items related to the instructor's course management and/or expectations. Thus, means on this item correlated .68 with the amount of other (non-reading) work assigned in the course (Item 34), .67 with the difficulty of the course (Item 35), .66 with the instructor's achievement standards (Item 46), and .54 with the instructor's tendency to hold students responsible for their own learning (Item 45). Similarly, the perceived difficulty of a course (Item 35) was largely a function of the magnitude of assignments given (reading, Item 33; other, Item 34) as well as the instructor's achievement standards (Item 46) and success in stimulating student effort (Item 8). Detailed analyses such as these can result in new insights regarding teaching, learning, and the IDEA system.

Table 4
Inter-Correlations of IDEA Faculty Information Form
Faculty Ratings (FR)

Item	FR1	FR2	FR3	FR4	FR5	FR6	FR7	FR8	FR9	FR10	FR11	FR12
FR1	1.00											
FR2	.42	1.00										
FR3	.13	.28	1.00									
FR4	.13	.10	.30	1.00								
FR5	-.03	.04	.27	.26	1.00							
FR6	-.11	-.04	.13	.21	.29	1.00						
FR7	-.04	-.01	-.03	-.04	.12	.33	1.00					
FR8	-.22	-.14	.06	.01	.31	.34	.24	1.00				
FR9	.07	.10	.32	.25	.34	.28	.17	.38	1.00			
FR10	-.00	.08	.21	.10	.29	.22	.26	.26	.32	1.00		
FR11	-.11	.07	.23	.00	.22	.24	.27	.46	.41	.38	1.00	
FR12	.13	.20	.33	.22	.34	.30	.30	.32	.52	.45	.50	1.00

See Table 2 for item descriptions.

Table 5
Inter-Correlations of IDEA Faculty Information Form (FR) and IDEA Diagnostic Form (SR)

Item	FR1	FR2	FR3	FR4	FR5	FR6	FR7	FR8	FR9	FR10	FR11	FR12
SR1	-.07	-.06	.00	.05	.04	.05	.00	.04	.01	.07	.00	.03
SR2	-.08	-.06	.03	.05	.04	.04	-.01	.04	.01	.07	.02	.04
SR3	-.03	-.05	.02	.04	.00	.02	-.03	.03	-.01	.00	-.03	-.01
SR4	.02	-.01	.01	.06	.00	-.01	-.03	-.02	-.02	.09	-.02	.02
SR5	-.24	-.18	.06	.06	.36	.08	-.02	.23	.08	.12	.10	.04
SR6	.01	-.03	-.01	.03	.02	-.02	-.01	-.01	-.04	.07	-.02	.00
SR7	-.15	-.12	.01	.09	.09	.16	.02	.14	.04	.06	.05	.03
SR8	-.05	-.03	.03	.05	.03	.04	.00	.05	.02	.04	.06	.03
SR9	-.14	-.14	.02	.07	.12	.10	-.01	.21	.22	.06	.12	.06
SR10	.00	-.03	-.03	-.02	-.03	.00	.01	.02	-.03	.04	-.01	.00
SR11	.02	.02	.07	.07	.06	-.07	-.10	-.02	.00	.14	.02	.03
SR12	.13	.07	.02	.01	-.06	-.10	-.06	-.11	-.06	-.02	-.09	-.03
SR13	-.04	-.05	-.02	.02	.03	.05	.07	.04	.00	.13	.06	.06
SR14	-.12	-.13	.10	.23	.25	.13	-.08	.08	.15	.07	.00	.04
SR15	-.12	-.10	.06	.15	.13	.14	-.03	.08	.08	.09	.02	.05
SR16	-.22	-.17	.00	.03	.17	.12	.06	.24	.09	.23	.19	.12
SR17	.01	.00	.00	.01	-.02	-.02	-.03	.02	-.03	.00	-.02	-.01
SR18	-.17	-.13	.05	.10	.20	.09	-.02	.12	.05	.10	.05	.05
SR19	-.24	-.18	.03	.09	.14	.24	.07	.26	.11	.10	.15	.07
SR20	.06	-.05	.01	.03	.04	-.02	-.06	.03	.02	.00	.01	-.01
SR21	**.21**	.11	.04	.12	-.05	-.09	-.10	-.17	-.05	-.05	-.11	-.02
SR22	**.14**	**.17**	.09	.11	-.02	-.07	-.13	-.17	-.06	-.01	-.07	.00
SR23	**-.04**	**-.01**	**.14**	.19	.07	.03	-.16	-.03	.02	.04	-.04	.01
SR24	**.00**	**-.03**	**.08**	**.26**	.08	.07	-.14	-.04	.02	-.00	-.08	.00
SR25	**-.18**	**-.14**	**.10**	**.15**	**.39**	.08	-.07	.14	.09	.08	.02	.04
SR26	**-.32**	**-.27**	**-.04**	**.10**	**.17**	**.37**	.17	.35	.12	.11	.16	.09
SR27	**-.18**	**-.18**	**-.11**	**-.02**	**.08**	**.25**	**.33**	.22	.05	.14	.14	.11
SR28	**-.32**	**-.26**	**-.04**	**.01**	**.17**	**.19**	**.12**	**.46**	.13	.16	.24	.09
SR29	**-.10**	**-.10**	**.08**	**.12**	**.12**	**.05**	**-.09**	**.16**	**.21**	.02	.08	.05
SR30	**-.16**	**-.11**	**.03**	**.05**	**.13**	**.08**	**.02**	**.15**	**.08**	**.28**	.15	.11
SR31	**-.21**	**-.12**	**.02**	**-.02**	**.08**	**.08**	**.03**	**.23**	**.07**	**.16**	**.27**	.08
SR32	**-.09**	**-.06**	**.05**	**.10**	**.08**	**.07**	**-.02**	**.06**	**.06**	**.11**	**.08**	**.09**
SR33	.01	.01	-.04	-.13	-.05	-.18	.08	.13	.00	.06	.21	.03
SR34	-.06	-.05	.12	.19	.08	.12	-.12	.06	.07	-.13	-.06	-.05
SR35	.16	.17	.05	.02	-.12	-.11	-.08	-.16	-.08	-.18	-.05	-.07
SR36	.08	.03	.03	.26	.07	.11	-.04	-.11	-.02	.05	-.10	.05
SR37	.04	.03	.07	.16	.01	.06	-.10	-.02	.00	-.10	-.04	-.03
SR38	-.01	-.03	.01	.13	.04	.04	-.04	-.06	-.03	.02	-.07	-.01
SR39	.08	.04	.06	.25	.09	.10	-.05	-.09	.01	.03	-.10	.05
SR40	.04	-.01	.02	.18	.05	.07	-.02	-.06	-.02	.08	-.06	.04
SR41	-.03	-.05	-.03	.00	-.01	.02	.01	.02	-.03	.04	.00	.00
SR42	.00	-.03	-.01	.11	.03	.08	.00	-.01	-.03	.07	-.04	.03
SR43	.00	-.02	.07	.17	.09	.05	-.03	-.05	.02	.01	-.04	.01
SR44	-.12	-.12	.08	.15	.16	.09	-.03	.12	.07	.05	-.01	.02
SR45	-.04	-.06	.01	.10	.04	.03	-.03	.01	-.01	.01	-.01	.00
SR46	-.03	-.05	.02	.10	.02	.05	-.04	.04	-.01	-.01	.00	-.02
SR47	.00	-.07	.07	.14	.09	-.01	-.10	.00	.14	-.07	-.05	-.01

Bold numbers are correlations between student (SR21-SR32) and faculty ratings (FR1-FR12) of the twelve learning objectives.
See Tables 2 and 3 for item descriptions.

This page intentionally left blank.

Table 6
Inter-Correlations of IDEA Student Ratings (SR) – Diagnostic Form

Item	SR1	SR2	SR3	SR4	SR5	SR6	SR7	SR8	SR9	SR10	SR11	SR12	SR13	SR14	SR15	SR16	SR17	SR18	SR19	SR20	SR21	SR22	SR23	SR24
SR1	1.0																							
SR2	.88	1.0																						
SR3	.72	.76	1.0																					
SR4	.79	.81	.73	1.0																				
SR5	.41	.44	.36	.33	1.0																			
SR6	.78	.81	.74	.90	.39	1.0																		
SR7	.76	.79	.69	.71	.48	.74	1.0																	
SR8	.73	.80	.70	.76	.40	.75	.76	1.0																
SR9	.54	.56	.49	.54	.48	.53	.60	.61	1.0															
SR10	.77	.81	.76	.83	.27	.86	.71	.69	.48	1.0														
SR11	.64	.65	.55	.78	.36	.77	.57	.60	.49	.67	1.0													
SR12	.64	.67	.73	.72	.19	.74	.57	.62	.38	.75	.59	1.0												
SR13	.78	.82	.69	.86	.40	.86	.74	.79	.59	.81	.79	.68	1.0											
SR14	.52	.54	.47	.51	.64	.52	.58	.52	.68	.41	.55	.34	.58	1.0										
SR15	.77	.81	.69	.75	.51	.74	.82	.84	.67	.69	.62	.56	.79	.70	1.0									
SR16	.63	.65	.49	.59	.64	.61	.66	.60	.65	.53	.64	.37	.72	.64	.70	1.0								
SR17	.66	.67	.71	.64	.26	.66	.65	.61	.41	.70	.52	.68	.62	.35	.59	.45	1.0							
SR18	.71	.76	.61	.61	.72	.64	.73	.68	.58	.57	.54	.48	.67	.65	.77	.75	.57	1.0						
SR19	.61	.65	.59	.58	.56	.59	.70	.66	.68	.54	.50	.45	.68	.69	.74	.74	.48	.69	1.0					
SR20	.74	.70	.61	.62	.38	.63	.67	.68	.55	.59	.53	.54	.64	.47	.69	.53	.58	.64	.56	1.0				
SR21	.60	.66	.62	.72	.18	.73	.57	.72	.42	.68	.59	.69	.68	.40	.63	.36	.57	.48	.40	.55	1.0			
SR22	.61	.68	.62	.72	.22	.71	.59	.73	.41	.67	.60	.67	.69	.41	.65	.41	.57	.52	.44	.55	.89	1.0		
SR23	.70	.77	.68	.76	.40	.74	.70	.76	.53	.69	.68	.63	.74	.60	.78	.57	.59	.67	.62	.61	.76	.81	1.0	
SR24	.67	.72	.64	.74	.37	.73	.70	.73	.53	.67	.64	.60	.71	.61	.78	.54	.57	.64	.60	.60	.78	.78	.89	1.0
SR25	.46	.51	.41	.41	.86	.44	.53	.48	.51	.34	.42	.27	.46	.71	.61	.62	.32	.74	.57	.43	.33	.38	.55	.54
SR26	.50	.54	.46	.44	.54	.46	.66	.54	.61	.44	.35	.27	.57	.61	.67	.69	.36	.72	.82	.43	.29	.32	.52	.54
SR27	.52	.57	.46	.51	.40	.53	.62	.59	.51	.52	.37	.36	.66	.44	.62	.64	.41	.56	.65	.43	.41	.41	.46	.47
SR28	.50	.54	.45	.47	.58	.49	.63	.57	.66	.45	.43	.29	.59	.56	.63	.76	.38	.61	.77	.47	.30	.33	.51	.50
SR29	.57	.63	.56	.56	.46	.56	.63	.68	.82	.53	.49	.46	.60	.65	.72	.60	.48	.63	.67	.59	.57	.58	.69	.67
SR30	.61	.66	.52	.64	.50	.64	.66	.65	.62	.59	.63	.43	.73	.57	.73	.80	.47	.67	.68	.52	.49	.55	.66	.63
SR31	.57	.65	.52	.60	.48	.61	.66	.72	.63	.56	.56	.42	.70	.51	.68	.75	.47	.63	.72	.55	.50	.58	.66	.61
SR32	.72	.80	.65	.72	.44	.71	.73	.81	.61	.68	.61	.57	.79	.56	.81	.69	.58	.73	.69	.64	.69	.73	.81	.77
SR33	.01	.05	.04	.10	.10	.10	.03	.24	.19	.02	.13	.05	.15	.00	.06	.19	.05	.05	.12	.11	.16	.15	.05	.03
SR34	.11	.15	.24	.07	.20	.03	.21	.33	.27	-.01	-.06	.09	.02	.27	.32	.05	.10	.22	.28	.21	.21	.21	.29	.29
SR35	-.05	.01	.02	.01	-.14	-.03	-.01	.30	-.03	-.10	-.09	.07	-.03	-.13	.06	-.22	.03	-.04	-.08	.10	.27	.27	.10	.10
SR36	.39	.41	.32	.46	.17	.45	.39	.42	.27	.37	.41	.32	.50	.38	.46	.34	.27	.35	.35	.30	.50	.48	.50	.57

SR37	.24	.30	.31	.30	.13	.25	.32	.56	.28	.18	.14	.24	.27	.22	.45	.13	.24	.28	.29	.32	.47	.46	.44	.46
SR38	.67	.69	.56	.66	.31	.67	.65	.67	.46	.64	.57	.53	.70	.48	.69	.50	.50	.59	.51	.59	.63	.63	.67	.68
SR39	.22	.23	.19	.28	.12	.27	.25	.24	.16	.21	.24	.18	.31	.27	.30	.21	.16	.23	.22	.16	.36	.34	.36	.42
SR40	.68	.70	.61	.77	.30	.76	.64	.66	.47	.70	.67	.60	.79	.53	.70	.57	.54	.57	.56	.53	.73	.70	.75	.78
SR41	.85	.86	.76	.83	.32	.84	.74	.75	.50	.90	.66	.73	.83	.45	.74	.56	.70	.64	.58	.66	.69	.68	.73	.70
SR42	.73	.76	.68	.80	.31	.80	.69	.72	.48	.79	.66	.66	.82	.50	.74	.57	.61	.60	.59	.57	.73	.72	.76	.77
SR43	.19	.23	.20	.24	.21	.24	.29	.33	.24	.13	.21	.14	.25	.30	.36	.22	.16	.28	.26	.27	.32	.31	.33	.36
SR44	.61	.62	.64	.56	.56	.56	.63	.58	.59	.50	.47	.49	.57	.69	.68	.56	.48	.66	.69	.54	.45	.47	.62	.60
SR45	.56	.59	.56	.59	.31	.56	.55	.67	.44	.48	.43	.48	.56	.41	.62	.40	.46	.51	.49	.52	.55	.54	.60	.58
SR46	.54	.58	.56	.60	.29	.56	.58	.74	.46	.49	.41	.46	.56	.40	.68	.39	.46	.49	.50	.53	.59	.57	.61	.61
SR47	.33	.35	.36	.32	.30	.32	.34	.36	.55	.28	.32	.30	.33	.49	.41	.32	.29	.38	.40	.43	.35	.31	.39	.40

Table 6 (continued)

Inter-Correlations of IDEA Student Ratings (SR) – Diagnostic Form

	SR25	SR26	SR27	SR28	SR29	SR30	SR31	SR32	SR33	SR34	SR35	SR36	SR37	SR38	SR39	SR40	SR41	SR42	SR43	SR44	SR45	SR46	SR47
SR25	1.0																						
SR26	.58	1.0																					
SR27	.46	.79	1.0																				
SR38	.59	.84	.71	1.0																			
SR29	.59	.62	.53	.68	1.0																		
SR30	.60	.68	.69	.74	.68	1.0																	
SR31	.53	.67	.64	.78	.71	.80	1.0																
SR32	.57	.63	.65	.65	.76	.79	.81	1.0															
SR33	.06	.06	.15	.26	.19	.20	.33	.17	1.0														
SR34	.26	.26	.09	.18	.36	.09	.17	.24	.17	1.0													
SR35	-.09	-.17	-.07	-.14	.08	-.12	.06	.11	.40	.49	1.0												
SR36	.30	.33	.35	.26	.33	.41	.32	.50	.04	.12	.06	1.0											
SR37	.25	.25	.23	.23	.41	.25	.34	.45	.33	.68	.67	.41	1.0										
SR38	.43	.44	.46	.43	.54	.56	.53	.67	.05	.15	.11	.58	.38	1.0									
SR39	.24	.24	.24	.16	.23	.28	.18	.34	.04	.13	.05	.79	.34	.27	1.0								
SR40	.43	.49	.54	.47	.54	.64	.57	.74	.07	.09	-.02	.74	.37	.70	.55	1.0							
SR41	.40	.47	.54	.47	.56	.60	.59	.73	.02	.06	-.03	.41	.25	.73	.22	.75	1.0						
SR42	.43	.52	.57	.50	.56	.65	.60	.76	.04	.09	-.02	.69	.37	.72	.50	.90	.84	1.0					
SR43	.28	.26	.25	.25	.31	.28	.26	.32	.14	.30	.24	.33	.43	.35	.29	.32	.15	.28	1.0				
SR44	.61	.59	.47	.57	.62	.54	.51	.60	.03	.40	-.07	.34	.30	.50	.24	.54	.57	.57	.30	1.0			
SR45	.38	.38	.40	.40	.49	.45	.48	.60	.21	.37	.27	.42	.54	.51	.27	.57	.57	.58	.35	.57	1.0		
SR46	.37	.41	.42	.42	.52	.46	.52	.61	.25	.47	.39	.38	.66	.52	.25	.53	.56	.57	.38	.52	.78	1.0	
SR47	.37	.32	.23	.28	.53	.30	.29	.37	.09	.28	.04	.22	.22	.30	.17	.33	.32	.32	.21	.48	.30	.30	1.0

See Table 3 for item descriptions.

Of special interest is the relationship between ratings of teaching methods and instructional outcomes. Are some teaching approaches more closely associated with progress of a given type than others? Do the most effective methods differ depending on instructor objectives? Answers to these questions are highly relevant to the IDEA system's goal of facilitating instructional improvement.

Although a review of relevant correlations in Tables 4, 5, and 6 provides a direct approach to this problem, it is commonly assumed that answers may depend, in part, on class size. Therefore, correlations between instructional methods and student ratings of progress were computed separately for four class sizes—small (10-14), medium (15-34), large (35-49), and very large (50+). Table 7 shows the "methods" items, which were most closely related to progress ratings on each objective for each of these four class sizes. Typically, seven to ten methods were identified as "most" closely related to progress ratings.

Although there was some overlap between the lists of "most relevant" items (especially between the first two objectives), the pattern of items tended to be distinctive for each objective. Differences among class sizes were not dramatic, but were large enough to merit a separate listing of "most relevant items" for each size group.

Table 7
Relationship of Teaching Methods to Learning Objectives (Correlations)

	Obj. 21. Gaining Factual Knowledge				Obj. 22. Principles and Theories				Obj. 23. Applications			
	S	M	L	VL	S	M	L	VL	S	M	L	VL
1. Displayed psnl interest in Ss									.69	.71		
2. Helped Ss answ own Qs	.65	.69	.69	.66	.68	.71	.73	.75	.75	.78	.77	.75
3. Scheduled work helpfully	.64								.69			
4. Demonstrated imp of subject	.70	.73	.74	.73	.69	.72	.72	.73	.76	.79	.78	.76
5. Formed teams, discussion												
6. Made clear how topics fit	.71	.74	.75	.72	.70	.73	.73	.73	.75	.78	.76	.75
7. Explained criticisms										.71	.73	.73
8. Stimulated intellectual effort	.73	.76	.78	.78	.74	.77	.78	.79	.73	.78	.79	.78
9. Encrgd multiple resources												
10. Explained clearly	.67	.70	.72	.70	.67	.69	.70	.71	.69	.71	.70	
11. Related to real life	.64								.69	.70		.68
12. Tests cover imprt. points	.68	.69	.70	.69	.65	.68	.68	.74				
13. Introduce stimulating ideas	.67	.71	.70	.68	.67	.71	.69	.70	.74	.77	.74	.71
14. Involved Ss in "hands on"												
15. Inspired to set high goals	.65	.66	.69	.65	.66	.68	.69	.71	.76	.79	.80	.80
16. Asked to share experiences												
17. Provided timely feedback												
18. Asked Ss to help each other												
19. Creative assessments												
20. Enrgd out class S/F contact												

	Obj. 24. Prof. Skills, Viewpoints				Obj. 25. Team Skills				Obj. 26. Creative Capacities			
	S	M	L	VL	S	M	L	VL	S	M	L	VL
1. Displayed psnl interest in Ss	.67	.70							.54			
2. Helped Ss answ own Qs	.72	.76	.75	.74	.53	.52		.57	.53	.57	.63	.60
3. Scheduled work helpfully												
4. Demonstrated imp of subject	.75	.79	.79	.73								
5. Formed teams, discussion					.75	.77	.77	.70				.62
6. Made clear how topics fit	.75	.79	.78	.71	.52							
7. Explained criticisms	.68	.72	.73	.73	.54		.54	.62	.63	.67	.73	.69
8. Stimulated intellectual effort	.71	.76	.78	.77		.52	.53		.53	.56		
9. Encrgd multiple resources												
10. Explained clearly	.69	.71	.70									
11. Related to real life		.69										
12. Tests cover imprt. points												
13. Introduce stimulating ideas	.73	.77	.75	.69					.57	.58	.65	.60
14. Involved Ss in "hands on"					.67	.67	.68	.72	.52		.63	.72
15. Inspired to set high goals	.76	.78	.80	.79	.60	.59	.61	.70	.68	.66	.73	.78
16. Asked to share experiences						.53			.53	.59	.65	.73
17. Provided timely feedback												
18. Asked Ss to help each other				.68	.63	.67	.65	.70	.55	.57	.69	.79
19. Creative assessments						.53	.56	.63	.74	.78	.73	.64
20. Enrgd out class S/F contact												

S=small (10-14), M=medium (15-34), L=large (35-49), VL=very large (50+)
Only the most highly correlated items are shown.
Note: Analyses reported in Table 7 used a more restricted data set. Classes with response rates less than 75% or not reporting the number enrolled were also excluded.

Table 7 is continued on the next page.

Table 7 (continued)
Relationship of Teaching Methods to Learning Objectives (Correlations)

	Obj. 27. Broad Liberal Education				Obj. 28. Communi-cation Skills				29. Find, Use Resources			
	S	M	L	VL	S	M	L	VL	S	M	L	VL
1. Displayed psnl interest in Ss	.50					.55						
2. Helped Ss answ own Qs	.51	.59	.56	.52	.56	.58	.58	.59	.64	.65	.66	.64
3. Scheduled work helpfully												
4. Demonstrated imp of subject			.57	.52								
5. Formed teams, discussion												
6. Made clear how topics fit	.50	.58	.58	.54								
7. Explained criticisms	.56	.62	.62	.57	.62	.65	.62	.66	.63	.65	.67	.67
8. Stimulated intellectual effort	.50	.60	.59		.59	.59	.61	.55	.70	.72	.67	.66
9. Encrgd multiple resources									.77	.82	.85	.85
10. Explained clearly		.58	.60	.51								
11. Related to real life												
12. Tests cover imprt. points												
13. Introduce stimulating ideas	.57	.67	.67	.59	.56	.56	.61	.56	.62	.63		
14. Involved Ss in "hands on"									.63	.64	.69	.73
15. Inspired to set high goals	.53	.59	.57	.56	.63	.62	.64	.60	.72	.73	.74	.77
16. Asked to share experiences		.57	.60	.59	.66	.68	.72	.60				.63
17. Provided timely feedback												
18. Asked Ss to help each other					.58	.60	.62		.63	.63	.65	.71
19. Creative assessments	.52	.61	.63	.50	.72	.76	.78	.77	.66	.68	.65	.74
20. Enrgd out class S/F contact										.63	.64	

	Obj. 30. Values Development.				Obj. 31. Critical Analysis				Obj. 32. Interest in Learning			
	S	M	L	VL	S	M	L	VL	S	M	L	VL
1. Displayed psnl interest in Ss	.61		.69	.63					.70	.72	.74	.76
2. Helped Ss answ own Qs	.66	.72	.73	.65	.68	.71	.72	.72	.79	.81	.83	.85
3. Scheduled work helpfully												
4. Demonstrated imp of subject	.62	.70	.75	.67			.65	.63	.71	.72	.75	.74
5. Formed teams, discussion												
6. Made clear how topics fit	.61	.69	.73	.65				.64	.70	.72	.74	
7. Explained criticisms					.65	.68	.66	.67	.70	.73	.77	.79
8. Stimulated intellectual effort	.65	.69			.72	.75	.74	.68	.78	.83	.85	.82
9. Encrgd multiple resources												
10. Explained clearly			.68						.70			
11. Related to real life	.64	.71	.67									
12. Tests cover imprt. points												
13. Introduce stimulating ideas	.70	.77	.78	.69	.69	.71	.73	.71	.77	.81	.82	.78
14. Involved Ss in "hands on"												
15. Inspired to set high goals	.66	.71	.69	.61	.68	.69	.67	.64	.78	.80	.81	.81
16. Asked to share experiences	.74	.75	.75	.70	.70	.72	.74	.75			.75	
17. Provided timely feedback												
18. Asked Ss to help each other	.66	.69			.64	.66		.64	.72	.74	.75	.76
19. Creative assessments					.70	.71	.73	.73			.73	
20. Enrgd out class S/F contact												

S=small (10-14), M=medium (15-34), L=large (35-49), VL=very large (50+)
Only the most highly correlated items are shown.
Note: Analyses reported in Table 7 used a more restricted data set. Classes with response rates less than 75% or not reporting the number enrolled were also excluded.

Class size is relevant in another way. Average ratings of the frequency with which each method is employed varies with the size of the class. These ratings also vary with the degree to which students were motivated (really wanted the course regardless of who taught it). Faculty members participating in the program want to know if their ratings were above or below average, especially on those items shown to be most related to progress on objectives they have chosen.

To obtain a meaningful answer to this question, it is necessary to know the average rating for each item for classes grouped according to both class size and student motivation. Accordingly, four class sizes were identified: Small (10-14), Medium (15-34), Large (35-49), and Very Large (50 or more). Similarly, five "motivation" levels were established, representing roughly the upper 10 percent (High), the next 20 percent (High Average), the middle 40 percent (Average), the next 20 percent (Low Average), and the lowest 10 percent (Low). By jointly considering these two classification methods, a 4 x 5 table was constructed consisting of 20 cells (one for each combination of class size and student motivation). Average scores on each of the 20 teaching methods items were then computed for each item. Results are shown below in Table 8.

Table 8
Average Scores for Method Items by Class Size and Level of Student Motivation

1. Displayed a personal interest in students and their learning

Student Motivation (#39)		Class Size (Enrollment)			
		Small	Medium	Large	Very Large
	Low	4.29	4.18	4.10	3.98
	Low Average	4.38	4.29	4.17	4.13
	Average	4.45	4.38	4.29	4.22
	High Average	4.55	4.45	4.42	4.23
	High	4.61	4.53	4.44	4.44

2. Found ways to help students answer their own questions

Student Motivation (#39)		Class Size (Enrollment)			
		Small	Medium	Large	Very Large
	Low	4.03	3.90	3.83	3.67
	Low Average	4.12	4.04	3.93	3.83
	Average	4.20	4.14	4.04	3.95
	High Average	4.29	4.21	4.17	3.97
	High	4.36	4.31	4.22	4.24

3. Scheduled course work (class activities, tests, projects) in ways which encouraged students to stay up-to-date in their work

Student Motivation (#39)		Class Size (Enrollment)			
		Small	Medium	Large	Very Large
	Low	4.11	4.07	3.97	3.86
	Low Average	4.21	4.16	4.08	4.02
	Average	4.25	4.24	4.16	4.09
	High Average	4.35	4.29	4.24	4.13
	High	4.39	4.34	4.23	4.21

Table 8 is continued on the next page.

Table 8 (continued)
Average Scores for Method Items by Class Size and Level of Student Motivation

4. Demonstrated the importance and significance of subject matter

Student Motivation (#39)		Class Size (Enrollment)			
		Small	Medium	Large	Very Large
	Low	4.19	4.09	4.09	4.03
	Low Average	4.30	4.24	4.21	4.18
	Average	4.39	4.37	4.35	4.30
	High Average	4.50	4.45	4.47	4.38
	High	4.57	4.54	4.51	4.53

5. Formed teams or discussion groups to facilitate learning

Student Motivation (#39)		Class Size (Enrollment)			
		Small	Medium	Large	Very Large
	Low	3.42	3.50	3.12	2.85
	Low Average	3.60	3.58	3.24	2.90
	Average	3.66	3.68	3.38	3.18
	High Average	3.75	3.72	3.58	3.51
	High	3.86	3.84	3.66	3.55

6. Made it clear how each topic fit into the course

Student Motivation (#39)		Class Size (Enrollment)			
		Small	Medium	Large	Very Large
	Low	4.04	3.95	3.95	3.90
	Low Average	4.18	4.12	4.10	4.05
	Average	4.27	4.25	4.23	4.17
	High Average	4.39	4.34	4.38	4.25
	High	4.46	4.43	4.40	4.42

7. Explained the reasons for criticisms of students' academic performance

Student Motivation (#39)		Class Size (Enrollment)			
		Small	Medium	Large	Very Large
	Low	3.72	3.61	3.42	3.31
	Low Average	3.83	3.73	3.54	3.46
	Average	3.91	3.84	3.68	3.54
	High Average	4.02	3.92	3.84	3.62
	High	4.13	4.08	3.92	3.98

*8. Stimulated students to intellectual effort beyond that required by most class*es

Student Motivation (#39)		Class Size (Enrollment)			
		Small	Medium	Large	Very Large
	Low	3.82	3.64	3.52	3.43
	Low Average	3.93	3.78	3.70	3.63
	Average	4.00	3.91	3.83	3.75
	High Average	4.10	3.98	4.00	3.90
	High	4.16	4.10	4.11	4.17

Table 8 is continued on the next page.

Table 8 (continued)
Average Scores for Method Items by Class Size and Level of Student Motivation

9. Encouraged students to use multiple resources…to improve understanding

Student Motivation (#39)		Class Size (Enrollment)			
		Small	Medium	Large	Very Large
	Low	3.77	3.66	3.39	3.12
	Low Average	3.88	3.74	3.46	3.31
	Average	3.93	3.84	3.67	3.40
	High Average	4.00	3.89	3.84	3.61
	High	4.05	3.98	3.88	3.97

10. Explained course material clearly and concisely

Student Motivation (#39)		Class Size (Enrollment)			
		Small	Medium	Large	Very Large
	Low	3.93	3.89	3.84	3.80
	Low Average	4.07	4.05	3.99	3.97
	Average	4.16	4.16	4.13	4.10
	High Average	4.29	4.23	4.25	4.15
	High	4.37	4.33	4.29	4.30

11. Related course material to real life situations

Student Motivation (#39)		Class Size (Enrollment)			
		Small	Medium	Large	Very Large
	Low	4.03	3.94	4.05	3.86
	Low Average	4.17	4.14	4.16	4.06
	Average	4.30	4.28	4.31	4.28
	High Average	4.41	4.35	4.43	4.36
	High	4.47	4.44	4.45	4.45

12.Gave tests, projects, etc. that covered the most important points of the course

Student Motivation (#39)		Class Size (Enrollment)			
		Small	Medium	Large	Very Large
	Low	4.14	4.08	4.12	4.05
	Low Average	4.23	4.21	4.25	4.20
	Average	4.33	4.31	4.33	4.30
	High Average	4.41	4.36	4.38	4.24
	High	4.43	4.36	4.32	4.23

13. Introduced stimulating ideas about the subject

Student Motivation (#39)		Class Size (Enrollment)			
		Small	Medium	Large	Very Large
	Low	3.81	3.70	3.72	3.62
	Low Average	4.00	3.92	3.88	3.84
	Average	4.13	4.09	4.07	4.01
	High Average	4.27	4.20	4.23	4.10
	High	4.36	4.32	4.28	4.27

Table 8 is continued on the next page.

Table 8 (continued)
Average Scores for Method Items by Class Size and Level of Student Motivation

14. Involved students in hands on projects such as research, case studies, or real life activities

Student Motivation (#39)		Class Size (Enrollment)			
		Small	Medium	Large	Very Large
	Low	3.73	3.52	3.32	3.07
	Low Average	3.87	3.67	3.36	3.12
	Average	4.01	3.88	3.64	3.47
	High Average	4.13	4.03	3.92	3.88
	High	4.28	4.20	4.02	3.86

15. Inspired students to set and achieve goals which really challenged them

Student Motivation (#39)		Class Size (Enrollment)			
		Small	Medium	Large	Very Large
	Low	3.70	3.52	3.28	3.16
	Low Average	3.83	3.66	3.47	3.33
	Average	3.92	3.82	3.64	3.52
	High Average	4.06	3.95	3.86	3.75
	High	4.21	4.14	4.03	4.07

16. Asked students to share ideas and experiences with others whose backgrounds and viewpoints differ from their own

Student Motivation (#39)		Class Size (Enrollment)			
		Small	Medium	Large	Very Large
	Low	3.57	3.47	3.25	2.94
	Low Average	3.78	3.64	3.42	3.15
	Average	3.84	3.79	3.60	3.32
	High Average	3.96	3.87	3.76	3.46
	High	4.07	3.98	3.83	3.93

17. Provided timely and frequent feedback on tests, reports, projects, etc. to help students improve

Student Motivation (#39)		Class Size (Enrollment)			
		Small	Medium	Large	Very Large
	Low	4.00	3.93	3.89	3.69
	Low Average	4.13	4.07	3.98	3.84
	Average	4.18	4.14	4.08	3.95
	High Average	4.26	4.19	4.16	3.89
	High	4.32	4.25	4.20	4.14

Table 8 is continued on the next page.

Table 8 (continued)
Average Scores for Method Items by Class Size and Level of Student Motivation

18. Asked students to help each other understand ideas and concepts

Student Motivation (#39)		Class Size (Enrollment)			
		Small	Medium	Large	Very Large
	Low	3.71	3.63	3.42	3.23
	Low Average	3.86	3.74	3.53	3.38
	Average	3.93	3.87	3.66	3.53
	High Average	4.03	3.95	3.85	3.69
	High	4.14	4.09	3.93	3.97

19. Gave projects, tests, or assignments that required original or creative thinking

Student Motivation (#39)		Class Size (Enrollment)			
		Small	Medium	Large	Very Large
	Low	3.83	3.75	3.47	3.21
	Low Average	4.00	3.89	3.60	3.39
	Average	4.07	4.01	3.78	3.54
	High Average	4.17	4.07	3.89	3.67
	High	4.24	4.13	3.94	3.83

20. Encouraged student-faculty interaction outside of class (office visits, phone calls, email, etc.)

Student Motivation (#39)		Class Size (Enrollment)			
		Small	Medium	Large	Very Large
	Low	3.86	3.74	3.64	3.55
	Low Average	3.96	3.87	3.77	3.77
	Average	4.03	3.96	3.90	3.83
	High Average	4.09	3.98	4.03	3.78
	High	4.14	4.05	4.07	4.15

Note: Analyses reported in Table 8 used a more restricted data set. Classes with response rates less than 75% or not reporting the number enrolled were also excluded.

The information provided in these cells is intended to provide diagnostic assistance to those using the Diagnostic Form (see pages 4 and 5 of the sample IDEA Report included in Appendix A). This is done through a series of steps.

First, "relevant" objectives are identified (those the instructor identified as "Important" or "Essential"). Then, the most relevant teaching methods—those most closely related to a given progress rating—are identified (see Table 7). The class is then classified according by its size and level of student motivation. Results on the "most relevant" items are then compared with those for "similar classes" using the data reported above.

If the obtained mean is 0.3 (approximately one standard error) or more above the mean for similar classes, the user is encouraged to retain this approach; if it is 0.3 or more below the mean for similar classes, the user is advised to "consider increasing the frequency" with which the method is employed.

Table 9 provides normative information for each of the items included on the Diagnostic Form. Separate norms for the Short Form are not included for reasons described in Section VI of this report.

Norms are provided for all institutions and for those whose highest degree offered is the Associate (2-year), Baccalaureate, Master's, or Doctoral. As noted earlier, a number of "Other" institutions also participated. These were principally institutions with highly specialized emphases; they were so heterogeneous that a meaningful norm (comparison) group could not be described.

For items or measures that are intended to provide information about the effectiveness of instruction, norms are provided for both *unadjusted (raw)* and *adjusted* scores. Of these, Items 21-32 represent student ratings of the progress they made on each of 12 learning objectives; for these 12 items, the only classes included are those for which the objective was rated as "Essential" or "Important" by the instructor. The process of adjusting scores is described in Section III of this report.

Table 9 also provides norms for five "scales" descriptive of alternative teaching approaches or styles contained in the IDEA Survey. A further description of these scales is provided in Section II of this report.

As shown in Table 9, for the most part, differences among types of institutions were relatively slight. There appeared to be a tendency for ratings to be slightly higher at two-year institutions. For example, on Item 17 (frequency and timeliness of feedback) an average of 4.3 was at the 49th percentile for 2-year colleges but at the 61st percentile for those offering the baccalaureate degree. Similarly, on Item 47 (use of educational technology), an average rating of 3.7 was equivalent to the 46th percentile for 2-year colleges but the 57th percentile for 4-year colleges. But there were numerous exceptions The average ratings for the four types of institutions, given at the bottom of each table, were very close to each other.

Differences among types of institutions were so slight that the IDEA Center will continue to use the all-classes norm in its reports. Users who feel more comfortable in interpreting results if they are compared with those from similarly classified institutions will find the necessary information in the Table 9 below.

Table 9
Percentile Ranks for IDEA Diagnostic Form Items and Scales
By Type of Institution

1. Displayed personal interest

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	0	0	0	0	0
2.5	0	0	0	0	0
2.8	1	1	1	1	1
3.0	2	1	1	1	2
3.3	4	3	3	4	5
3.5	6	5	6	6	8
3.7	11	9	10	10	13
3.9	17	15	16	17	20
4.1	26	23	25	26	28
4.3	38	35	37	38	41
4.5	54	52	54	55	56
4.7	74	73	73	75	74
4.9	92	92	92	93	92
5.0	98	98	98	98	97
Avg.	4.3	4.4	4.3	4.3	4.3

2. Helped students answer own questions

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	0	0	0	0	0
2.5	0	0	1	0	1
2.8	2	1	2	2	2
3.0	3	2	4	3	4
3.3	7	5	8	8	9
3.5	12	9	13	13	15
3.7	19	15	20	21	22
3.9	30	25	32	32	33
4.1	43	37	46	46	46
4.3	59	53	62	62	61
4.5	76	73	80	79	77
4.7	90	89	92	91	90
4.9	98	97	98	98	98
5.0	99	99	99	99	99
Avg.	4.1	4.2	4.1	4.1	4.1

Table 9 is continued on the next page.

Table 9 (continued)
Percentile Ranks for IDEA Diagnostic Form Items and Scales
By Type of Institution

3. Scheduled work helpfully

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	0	0	0	0	0
2.5	0	0	0	0	0
2.8	1	1	1	1	1
3.0	2	1	2	2	2
3.3	5	3	5	5	6
3.5	8	6	9	9	10
3.7	14	10	15	15	16
3.9	22	18	24	24	26
4.1	35	29	37	37	39
4.3	51	45	53	54	54
4.5	70	65	73	73	72
4.7	87	85	89	89	88
4.9	97	97	98	98	97
5.0	99	99	99	99	99
Avg.	4.2	4.3	4.2	4.2	4.2

4. Demonstrated significance

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	0	0	0	0	0
2.5	0	0	0	0	0
2.8	0	0	0	0	0
3.0	1	1	1	1	1
3.3	3	2	3	3	4
3.5	5	4	6	5	7
3.7	9	7	10	9	12
3.9	16	14	17	16	20
4.1	26	23	27	26	30
4.3	40	37	42	41	44
4.5	59	57	60	60	61
4.7	78	78	80	80	79
4.9	94	94	95	95	94
5.0	98	98	99	99	98
Avg.	4.3	4.4	4.3	4.3	4.3

5. Formed “teams”

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	2	2	3	3	3
2.0	10	9	11	11	10
2.5	20	20	21	22	18
2.8	27	28	29	28	24
3.0	31	33	34	32	27
3.3	38	40	41	39	33
3.5	43	47	46	44	38
3.7	49	53	52	49	43
3.9	55	59	58	56	49
4.1	62	66	65	62	56
4.3	70	74	73	70	65
4.5	79	82	81	79	75
4.7	88	91	90	87	86
4.9	96	97	97	96	96
5.0	99	99	99	99	99
Avg.	3.5	3.5	3.4	3.5	3.6

6. Made clear how topics fit

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	0	0	0	0	0
2.5	0	0	0	0	0
2.8	1	1	1	1	2
3.0	2	2	2	2	3
3.3	5	5	5	5	7
3.5	9	9	8	9	11
3.7	15	14	14	14	18
3.9	23	23	22	23	27
4.1	34	34	32	34	39
4.3	50	49	48	50	53
4.5	68	68	67	69	70
4.7	85	85	86	87	86
4.9	97	97	97	97	96
5.0	99	99	99	99	99
Avg.	4.2	4.2	4.2	4.2	4.2

7. Explained criticisms

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	0	0	0	0	0
2.5	2	2	2	2	3
2.8	5	5	4	5	6
3.0	9	8	8	9	11
3.3	18	17	16	20	22
3.5	28	27	26	31	31
3.7	40	38	38	44	43
3.9	55	52	52	59	56
4.1	68	66	67	72	68
4.3	80	79	80	84	80
4.5	90	89	90	92	90
4.7	96	96	96	97	96
4.9	99	99	99	99	99
5.0	99	99	99	99	99
Avg.	3.8	3.8	3.8	3.7	3.8

8. Stimulated intellectual effort

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	0	0	0	0	0
2.5	2	1	3	1	2
2.8	4	3	7	4	5
3.0	7	6	11	7	9
3.3	15	12	20	16	18
3.5	24	20	29	25	27
3.7	35	30	42	37	37
3.9	48	44	56	50	50
4.1	62	57	68	64	63
4.3	75	73	79	77	76
4.5	87	86	89	88	87
4.7	95	94	96	95	95
4.9	99	98	99	99	99
5.0	99	99	99	99	99
Avg.	3.9	3.9	3.8	3.8	3.8

Table 9 is continued on the next page

Table 9 (continued)
Percentile Ranks for IDEA Diagnostic Form Items and Scales
By Type of Institution

9. Encouraged using multiple resources

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	1	0	2	1	1
2.5	5	3	7	6	5
2.8	9	6	13	12	10
3.0	14	10	19	17	15
3.3	23	18	29	27	24
3.5	31	26	37	36	32
3.7	40	36	46	45	41
3.9	51	47	57	55	51
4.1	61	58	68	66	60
4.3	73	71	80	76	72
4.5	84	83	89	86	83
4.7	93	92	95	94	92
4.9	98	98	98	98	98
5.0	99	99	99	99	99
Avg.	3.8	3.9	3.7	3.7	3.8

10. Explained clearly

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	0	0	0	0	0
2.5	2	1	2	2	2
2.8	4	2	4	4	5
3.0	5	3	6	6	7
3.3	10	7	11	11	12
3.5	14	10	15	16	17
3.7	20	15	21	22	24
3.9	28	22	29	31	33
4.1	38	31	40	41	43
4.3	52	43	55	55	56
4.5	68	60	72	71	72
4.7	84	80	88	87	85
4.9	96	95	98	97	96
5.0	99	98	99	99	99
Avg.	4.1	4.2	4.1	4.1	4.1

11. Related to real life

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	0	0	0	0	0
2.5	1	1	1	1	1
2.8	2	2	3	2	2
3.0	4	4	4	3	4
3.3	8	8	9	7	9
3.5	12	13	14	11	13
3.7	18	19	20	17	19
3.9	25	27	29	24	27
4.1	34	36	39	33	36
4.3	46	49	51	45	48
4.5	61	63	64	60	62
4.7	77	79	78	77	77
4.9	93	94	93	93	93
5.0	98	98	98	98	98
Avg.	4.2	4.2	4.2	4.2	4.2

12. Tests covered important points

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	0	0	0	0	0
2.5	0	0	0	0	0
2.8	1	1	1	1	1
3.0	2	1	2	2	2
3.3	4	3	5	4	5
3.5	7	5	8	7	9
3.7	11	9	13	11	15
3.9	19	15	21	19	24
4.1	28	23	31	29	35
4.3	42	36	46	43	49
4.5	60	53	65	62	67
4.7	80	75	84	82	84
4.9	95	94	97	96	96
5.0	99	98	99	99	99
Avg.	4.3	4.4	4.2	4.3	4.2

13. Introduced stimulating ideas

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	0	0	0	0	0
2.5	1	1	1	1	2
2.8	3	3	4	3	4
3.0	5	5	6	5	7
3.3	11	10	12	11	14
3.5	17	15	18	17	20
3.7	25	22	26	26	28
3.9	35	33	37	37	39
4.1	48	45	50	50	50
4.3	62	60	64	64	63
4.5	77	76	79	79	76
4.7	89	89	91	90	88
4.9	97	97	98	98	97
5.0	99	99	99	99	99
Avg.	4.0	4.1	4.0	4.0	4.0

14. Involved in "hands on"

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	3	2	2	3	3
2.5	8	8	7	10	9
2.8	13	13	12	14	14
3.0	18	18	16	19	18
3.3	25	27	24	27	25
3.5	32	34	32	33	32
3.7	40	42	40	41	39
3.9	49	52	50	50	47
4.1	59	62	60	60	56
4.3	69	73	71	70	66
4.5	80	84	81	81	78
4.7	90	92	91	90	88
4.9	97	98	97	97	97
5.0	99	99	99	99	99
Avg.	3.7	3.7	3.8	3.7	3.8

Table 9 is continued on the next page

Table 9 (continued)
Percentile Ranks for IDEA Diagnostic Form Items and Scales
By Type of Institution

15. Inspired ambitious goals

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	0	0	0	0	0
2.5	3	2	3	3	3
2.8	7	6	7	7	8
3.0	12	10	11	12	14
3.3	22	18	23	24	24
3.5	31	27	33	35	34
3.7	42	38	45	47	44
3.9	55	51	57	60	56
4.1	67	63	69	72	67
4.3	79	76	80	82	79
4.5	88	87	90	90	88
4.7	95	94	96	96	95
4.9	99	98	99	99	98
5.0	99	99	99	99	99
Avg.	3.7	3.8	3.7	3.7	3.7

16. Asked diverse students to share ideas

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	2	2	3	3	3
2.5	9	7	10	11	10
2.8	15	13	16	18	15
3.0	20	18	22	24	20
3.3	29	27	31	33	28
3.5	36	35	39	40	34
3.7	44	43	48	49	42
3.9	54	54	58	57	50
4.1	63	64	68	66	60
4.3	74	75	78	76	70
4.5	84	85	87	85	80
4.7	92	93	94	93	90
4.9	98	98	99	98	97
5.0	99	99	99	99	99
Avg.	3.7	3.7	3.6	3.6	3.7

17. Timely feedback

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	0	0	0	0	0
2.5	1	0	2	2	2
2.8	3	2	4	4	4
3.0	5	3	7	6	7
3.3	10	6	12	11	12
3.5	14	10	17	16	18
3.7	21	16	24	22	25
3.9	29	24	35	31	35
4.1	40	34	46	41	46
4.3	54	49	61	56	60
4.5	71	67	77	73	74
4.7	86	84	90	87	87
4.9	97	96	98	97	97
5.0	99	99	99	99	99
Avg.	4.1	4.2	4.0	4.1	4.0

18. Asked students to help others

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	0	0	0	0	0
2.5	3	3	2	3	4
2.8	8	7	7	8	8
3.0	12	11	11	13	13
3.3	21	20	21	23	22
3.5	30	28	31	32	30
3.7	40	38	42	43	40
3.9	52	50	55	55	51
4.1	64	62	68	67	63
4.3	76	74	80	78	75
4.5	87	86	91	88	86
4.7	94	94	97	95	94
4.9	98	98	99	99	98
5.0	99	99	99	99	99
Avg.	3.8	3.8	3.8	3.7	3.8

19. Required originality

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	0	0	0	0	0
2.5	3	2	3	3	3
2.8	6	5	7	7	7
3.0	10	8	11	11	10
3.3	17	15	18	20	18
3.5	24	22	25	27	25
3.7	32	30	33	35	33
3.9	43	41	44	46	42
4.1	54	53	55	58	52
4.3	67	66	67	70	64
4.5	80	80	80	82	77
4.7	90	91	90	91	89
4.9	97	98	97	98	97
5.0	99	99	99	99	99
Avg.	3.9	4.0	3.9	3.9	3.9

20. Encouraged out-of-class contact

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	0	0	0	0	0
2.5	2	3	4	2	2
2.8	5	7	7	4	5
3.0	9	11	12	7	9
3.3	16	19	21	14	16
3.5	24	27	30	21	24
3.7	33	37	39	30	33
3.9	44	49	51	42	44
4.1	56	61	62	54	56
4.3	69	73	74	68	68
4.5	82	85	85	81	81
4.7	92	93	93	92	91
4.9	98	98	98	98	98
5.0	99	99	99	99	99
Avg.	3.9	3.8	3.8	3.9	3.9

Table 9 is continued on the next page.

Table 9 (continued)
Percentile Ranks for IDEA Diagnostic Form Items and Scales
By Type of Institution

21. Factual knowledge (unadjusted)

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	0	0	0	0	0
2.5	0	0	1	0	0
2.8	2	1	3	1	2
3.0	3	3	5	3	4
3.3	8	7	12	8	9
3.5	15	12	19	15	16
3.7	24	20	29	25	25
3.9	37	34	43	39	39
4.1	53	49	57	55	54
4.3	70	68	73	71	70
4.5	85	84	86	86	85
4.7	94	94	95	95	95
4.9	99	99	99	99	99
5.0	99	99	99	99	99
Avg.	4.0	4.0	3.9	4.0	4.0

21. Factual knowledge (adjusted)

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	0	0	0	0	0
2.5	1	1	2	1	1
2.8	3	2	5	3	3
3.0	5	4	8	5	6
3.3	11	9	16	11	12
3.5	18	16	24	18	20
3.7	28	26	36	28	29
3.9	42	40	48	42	43
4.1	58	57	63	58	59
4.3	74	74	77	73	74
4.5	87	87	90	87	87
4.7	95	95	96	95	95
4.9	98	98	98	98	98
5.0	99	99	99	99	99
Avg.	4.0	4.0	3.9	4.0	4.0

22. Principles, theories (unadjusted)

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	0	0	0	0	0
2.5	0	0	1	0	0
2.8	2	1	3	2	2
3.0	4	3	6	4	4
3.3	10	7	14	10	10
3.5	17	13	22	17	18
3.7	27	23	33	27	28
3.9	42	38	47	42	43
4.1	58	55	63	59	58
4.3	75	73	78	76	74
4.5	89	88	89	90	88
4.7	96	96	96	97	96
4.9	99	99	99	99	99
5.0	99	99	99	99	99
Avg.	3.9	4.0	3.9	3.9	3.9

22. Principles, theories (adjusted)

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	0	0	0	0	0
2.5	1	1	2	1	1
2.8	3	2	6	3	3
3.0	5	4	9	5	6
3.3	12	10	19	12	13
3.5	20	17	27	20	22
3.7	32	28	39	31	33
3.9	47	44	53	46	47
4.1	63	61	69	62	63
4.3	79	78	82	79	78
4.5	90	90	91	90	89
4.7	96	96	97	96	96
4.9	99	99	99	99	99
5.0	99	99	99	99	99
Avg.	3.9	4.0	3.8	3.9	3.9

23. Applications (unadjusted)

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	0	0	0	0	0
2.5	0	0	1	0	0
2.8	2	1	3	2	2
3.0	4	3	5	4	5
3.3	10	7	11	10	11
3.5	16	13	20	17	18
3.7	26	23	30	27	28
3.9	39	36	44	40	40
4.1	54	52	57	55	54
4.3	69	69	71	71	69
4.5	84	84	85	85	83
4.7	93	94	94	94	93
4.9	98	98	98	99	98
5.0	99	99	99	99	99
Avg.	4.0	4.0	3.9	4.0	4.0

23. Applications (adjusted)

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	0	0	0	0	0
2.5	1	1	2	1	1
2.8	3	2	5	3	4
3.0	6	4	8	6	6
3.3	12	11	17	13	14
3.5	20	18	26	20	22
3.7	31	29	36	30	32
3.9	44	44	49	44	45
4.1	59	61	64	59	59
4.3	74	76	77	73	73
4.5	86	88	88	85	85
4.7	94	95	95	94	93
4.9	98	98	98	98	97
5.0	99	99	99	99	98
Avg.	4.0	4.0	3.9	4.0	4.0

Table 9 is continued on the next page.

Table 9 (continued)
Percentile Ranks for IDEA Diagnostic Form Items and Scales
By Type of Institution

24. Professional skills, attitudes (unadjusted)

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	0	0	0	0	0
2.5	0	0	1	0	0
2.8	2	2	2	2	2
3.0	4	3	4	4	4
3.3	9	8	10	9	11
3.5	15	14	16	15	18
3.7	23	22	25	24	27
3.9	35	33	37	36	39
4.1	48	47	49	50	52
4.3	64	63	65	66	67
4.5	80	80	79	81	81
4.7	91	91	91	92	92
4.9	98	98	97	98	98
5.0	99	99	99	99	99
Avg.	4.0	4.1	4.0	4.0	4.0

24. Professional skills, attitudes (adjusted)

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	0	0	0	0	0
2.5	1	1	2	1	1
2.8	3	3	4	3	3
3.0	5	5	7	5	6
3.3	11	11	14	11	13
3.5	18	19	21	18	20
3.7	28	29	31	27	30
3.9	41	44	43	39	43
4.1	56	60	57	53	57
4.3	71	75	71	68	71
4.5	84	87	84	82	83
4.7	92	94	93	92	92
4.9	97	98	97	97	97
5.0	98	99	98	98	98
Avg.	4.0	4.0	4.0	4.0	4.0

25. Team skills (unadjusted)

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	0	0	0	0	0
2.5	3	3	4	3	2
2.8	6	7	8	5	5
3.0	8	10	11	7	8
3.3	15	17	18	14	15
3.5	21	24	23	21	22
3.7	30	32	31	29	32
3.9	41	44	41	40	44
4.1	54	56	55	53	57
4.3	68	70	69	68	70
4.5	81	83	81	81	83
4.7	92	93	92	92	92
4.9	98	98	98	98	98
5.0	99	99	99	99	99
Avg.	3.9	3.9	3.9	3.9	3.9

25. Team skills (adjusted)

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	1	1	1	1	1
2.5	4	5	7	3	4
2.8	7	9	11	6	7
3.0	11	12	16	9	11
3.3	19	20	24	17	19
3.5	26	28	30	24	28
3.7	35	38	38	33	38
3.9	47	51	51	45	49
4.1	61	64	65	58	63
4.3	75	78	77	72	77
4.5	86	89	87	85	87
4.7	93	95	94	92	94
4.9	97	98	98	97	98
5.0	98	98	99	98	99
Avg.	3.9	3.8	3.8	3.9	3.9

26. Creative capacities (unadjusted)

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	1	0	1	2	2
2.5	4	3	4	6	6
2.8	8	5	8	10	11
3.0	12	8	12	15	15
3.3	19	16	19	23	22
3.5	26	23	26	29	28
3.7	34	33	34	37	36
3.9	45	45	45	46	46
4.1	56	57	56	56	57
4.3	68	70	69	68	69
4.5	81	82	81	80	82
4.7	91	93	91	89	92
4.9	97	98	98	97	98
5.0	99	99	99	99	99
Avg.	3.9	3.9	3.9	3.8	3.8

26. Creative capacities (adjusted)

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	1	1	2	2	1
2.5	5	3	6	7	7
2.8	9	7	10	12	11
3.0	13	11	15	15	15
3.3	21	18	24	24	23
3.5	29	27	30	32	30
3.7	38	37	39	41	39
3.9	48	49	49	50	50
4.1	60	62	60	60	61
4.3	72	74	72	71	73
4.5	83	85	82	81	83
4.7	91	93	90	89	91
4.9	96	97	96	95	95
5.0	97	98	97	97	96
Avg.	3.9	3.9	3.8	3.8	3.8

Table 9 is continued on the next page.

Table 9 (continued)
Percentile Ranks for IDEA Diagnostic Form Items and Scales
By Type of Institution

27. Broad liberal education (unadjusted)

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	1	0	2	2	2
2.5	7	3	8	8	8
2.8	13	7	15	15	15
3.0	18	11	20	20	20
3.3	28	20	30	30	30
3.5	36	29	40	38	38
3.7	45	39	48	46	47
3.9	56	51	58	56	56
4.1	65	62	67	66	65
4.3	76	75	77	77	75
4.5	86	87	87	86	85
4.7	94	95	95	94	93
4.9	98	99	99	98	98
5.0	99	99	99	99	99
Avg.	3.7	3.8	3.6	3.7	3.7

27. Broad liberal education (adjusted)

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	1	0	0
2.0	2	1	5	3	3
2.5	8	4	12	8	10
2.8	14	8	18	15	17
3.0	20	14	25	20	23
3.3	30	25	37	31	32
3.5	39	34	44	39	41
3.7	49	45	52	48	49
3.9	59	57	61	58	59
4.1	69	68	71	69	69
4.3	79	80	79	78	77
4.5	87	88	87	86	86
4.7	93	94	93	92	93
4.9	97	98	97	96	97
5.0	98	98	98	97	98
Avg.	3.7	3.8	3.6	3.7	3.7

28. Communication skills (unadjusted)

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	1	0	2	1	1
2.5	4	3	6	5	5
2.8	9	7	11	10	9
3.0	13	11	16	14	13
3.3	21	17	27	23	20
3.5	29	25	37	32	28
3.7	39	35	46	42	37
3.9	50	47	56	54	47
4.1	62	59	66	64	59
4.3	75	73	76	77	71
4.5	86	86	86	87	84
4.7	94	95	94	95	93
4.9	99	99	98	99	98
5.0	99	99	99	99	99
Avg.	3.8	3.8	3.7	3.7	3.8

28. Communication skills (adjusted)

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	1	0	0
2.0	1	1	3	2	2
2.5	5	4	9	5	6
2.8	10	8	14	11	10
3.0	14	11	21	16	14
3.3	24	20	33	27	23
3.5	33	28	42	36	32
3.7	43	38	51	47	41
3.9	54	50	61	57	52
4.1	66	63	70	68	63
4.3	77	75	78	79	74
4.5	86	86	87	87	85
4.7	93	94	93	94	92
4.9	97	97	97	97	97
5.0	98	98	98	98	98
Avg.	3.8	3.9	3.7	3.7	3.8

29. Find, use resources (unadjusted)

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	0	0	1	0	0
2.5	2	1	6	2	2
2.8	6	3	13	7	6
3.0	10	7	19	12	11
3.3	22	16	33	24	24
3.5	32	25	45	35	34
3.7	44	38	57	48	45
3.9	58	54	70	62	59
4.1	71	68	81	74	71
4.3	84	82	90	85	83
4.5	92	92	95	93	91
4.7	97	97	98	97	97
4.9	99	99	99	99	99
5.0	99	99	99	99	99
Avg.	3.7	3.8	3.5	3.7	3.7

29. Find, use resources (adjusted)

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	0	0	3	0	0
2.5	3	1	10	3	3
2.8	8	4	19	9	7
3.0	12	8	25	14	13
3.3	24	17	40	27	25
3.5	35	27	52	39	37
3.7	47	40	64	52	48
3.9	61	56	75	65	61
4.1	74	71	85	77	72
4.3	85	85	91	86	84
4.5	92	92	95	93	92
4.7	97	97	97	97	96
4.9	99	99	99	98	99
5.0	99	99	99	99	99
Avg.	3.7	3.8	3.4	3.7	3.7

Table 9 is continued on the next page.

Table 9 (continued)
Percentile Ranks for IDEA Diagnostic Form Items and Scales
By Type of Institution

30. Values development (unadjusted)

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	0	0	1	0	0
2.5	3	2	5	3	4
2.8	7	5	10	7	9
3.0	11	8	15	11	13
3.3	21	16	26	21	22
3.5	30	25	35	30	31
3.7	40	37	45	40	41
3.9	53	51	56	51	53
4.1	65	65	67	63	63
4.3	77	80	79	75	75
4.5	88	90	89	87	87
4.7	95	96	96	94	94
4.9	99	99	99	99	99
5.0	99	99	99	99	99
Avg.	3.8	3.8	3.7	3.8	3.8

30. Values development (adjusted)

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	1	0	2	1	1
2.5	4	3	9	4	6
2.8	9	6	15	9	11
3.0	14	10	21	13	16
3.3	24	19	32	24	26
3.5	33	29	41	32	35
3.7	45	42	51	43	46
3.9	57	58	61	55	57
4.1	70	72	69	67	69
4.3	81	84	80	78	80
4.5	89	93	88	86	89
4.7	95	97	94	93	95
4.9	98	98	97	97	98
5.0	99	99	98	98	99
Avg.	3.8	3.8	3.7	3.8	3.7

31. Critical analysis (unadjusted)

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	0	0	1	0	0
2.5	2	1	4	2	2
2.8	5	3	9	6	6
3.0	9	6	12	10	10
3.3	17	13	20	18	19
3.5	25	20	29	27	28
3.7	35	30	40	37	37
3.9	48	45	53	49	49
4.1	62	59	65	63	61
4.3	76	75	78	76	74
4.5	88	88	89	87	87
4.7	95	95	96	95	95
4.9	99	99	99	99	99
5.0	99	99	99	99	99
Avg.	3.8	3.9	3.8	3.8	3.8

31. Critical analysis (adjusted)

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	0	0	2	0	0
2.5	3	1	6	3	3
2.8	7	4	12	7	8
3.0	10	7	16	11	12
3.3	20	15	26	21	23
3.5	28	23	36	29	31
3.7	40	35	47	41	41
3.9	53	50	60	53	53
4.1	67	66	72	66	66
4.3	80	80	81	79	80
4.5	90	91	90	88	89
4.7	95	96	95	94	96
4.9	98	98	98	98	98
5.0	99	99	99	99	99
Avg.	3.8	3.9	3.7	3.8	3.8

32. Interest in learning (unadjusted)

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	0	0	0	0	0
2.5	2	0	3	2	2
2.8	5	3	7	5	6
3.0	9	5	12	10	11
3.3	18	11	23	20	22
3.5	28	19	33	31	32
3.7	40	30	47	42	44
3.9	54	44	61	56	57
4.1	67	60	74	70	69
4.3	80	75	85	82	80
4.5	90	88	94	91	90
4.7	96	96	98	97	96
4.9	99	99	99	99	99
5.0	99	99	99	99	99
Avg.	3.8	3.9	3.7	3.8	3.8

32. Interest in learning (adjusted)

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	0	0	1	0	0
2.5	3	1	6	3	2
2.8	6	4	12	7	7
3.0	11	6	17	11	12
3.3	21	14	31	23	24
3.5	31	23	42	33	33
3.7	43	35	54	45	45
3.9	57	50	66	58	58
4.1	71	66	78	72	70
4.3	82	80	88	83	82
4.5	91	90	93	90	90
4.7	96	96	97	96	95
4.9	98	98	99	98	98
5.0	99	99	99	99	99
Avg.	3.8	3.9	3.6	3.8	3.8

Table 9 is continued on the next page.

Table 9 (continued)
Percentile Ranks for IDEA Diagnostic Form Items and Scales
By Type of Institution

Progress on Relevant Objectives (unadjusted)

(PRO ratings are standardized T Scores. The distribution has a mean of 50 and standard deviation of 10.)

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
25	0	0	1	0	0
30	2	2	3	2	2
35	5	4	6	5	5
40	11	10	13	12	12
43	18	15	21	18	20
45	24	21	27	24	25
48	34	32	38	36	35
50	43	41	47	44	43
53	57	55	61	59	57
55	67	66	71	69	67
58	81	81	83	82	79
60	88	88	89	89	87
62	93	93	94	94	93
65	98	98	98	98	98
70	99	99	99	99	99
Avg.	50.7	51.3	50.0	50.5	50.8

Progress on Relevant Objectives (adjusted)

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
25	0	0	1	0	0
30	2	1	3	1	2
35	4	4	6	4	5
40	10	9	14	11	11
43	17	15	22	17	18
45	22	21	28	23	23
48	34	33	41	34	34
50	43	42	49	43	43
53	58	58	63	58	57
55	68	68	72	68	67
58	81	82	84	81	80
60	88	89	90	88	87
62	93	94	94	93	92
65	97	97	97	97	97
70	99	99	99	99	99
Avg.	50.9	51.2	49.7	51.1	51.0

33. Amount of reading

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	2	1	5	1	1
2.0	6	5	14	6	5
2.5	16	16	28	14	15
2.8	26	26	38	23	25
3.0	35	34	47	32	35
3.3	53	51	60	51	53
3.5	65	64	68	64	66
3.7	75	74	76	74	75
3.9	83	82	82	83	83
4.1	88	88	88	89	89
4.3	93	93	92	93	93
4.5	96	96	95	96	97
4.7	98	98	98	98	98
4.9	99	99	99	99	99
5.0	99	99	99	99	99
Avg.	3.2	3.2	3.0	3.2	3.2

34. Amount of other work

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	0	0	2	1	1
2.5	5	3	8	7	5
2.8	13	8	16	17	13
3.0	23	16	26	27	22
3.3	41	34	44	46	42
3.5	55	50	56	59	56
3.7	68	65	67	71	68
3.9	79	78	78	80	79
4.1	86	87	86	87	87
4.3	92	93	91	92	92
4.5	96	96	95	96	96
4.7	98	99	97	98	98
4.9	99	99	99	99	99
5.0	99	99	99	99	99
Avg.	3.4	3.5	3.4	3.4	3.4

35. Difficulty

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	1	0	2	0	1
2.5	5	3	7	5	6
2.8	12	9	16	13	14
3.0	22	19	27	23	25
3.3	43	40	47	43	46
3.5	57	56	60	56	61
3.7	69	69	72	68	73
3.9	79	80	81	77	83
4.1	86	87	88	85	89
4.3	92	93	92	91	94
4.5	96	96	96	95	97
4.7	98	98	98	98	99
4.9	99	99	99	99	99
5.0	99	99	99	99	99
Avg.	3.4	3.5	3.3	3.4	3.4

36. Strong desire to take course

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	0	0	0	0	1
2.5	4	3	5	5	5
2.8	11	7	11	11	12
3.0	17	13	17	17	18
3.3	29	25	28	30	31
3.5	39	35	37	41	40
3.7	50	45	48	52	51
3.9	61	56	59	64	62
4.1	71	66	69	74	72
4.3	80	75	79	84	82
4.5	89	84	88	91	90
4.7	94	91	94	96	96
4.9	98	97	98	99	99
5.0	99	99	99	99	99
Avg.	3.7	3.8	3.7	3.6	3.6

Table 9 is continued on the next page.

Table 9 (continued)
Percentile Ranks for IDEA Diagnostic Form Items
By Type of Institution

37. Worked hard

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	0	0	0	0	0
2.5	3	1	5	3	3
2.8	8	4	13	9	9
3.0	15	9	21	16	16
3.3	30	23	38	33	33
3.5	44	37	52	47	47
3.7	58	53	64	61	61
3.9	72	68	75	74	74
4.1	82	79	83	83	85
4.3	89	88	90	90	92
4.5	95	93	95	95	96
4.7	98	97	97	98	98
4.9	99	99	99	99	99
5.0	99	99	99	99	99
Avg.	3.6	3.7	3.5	3.5	3.5

38. Wanted instructor

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	1	1	1	1	1
2.5	8	9	8	8	9
2.8	19	20	18	18	21
3.0	28	31	27	27	31
3.3	45	47	42	43	47
3.5	56	59	54	54	58
3.7	66	69	64	65	69
3.9	75	77	74	74	77
4.1	83	84	81	82	84
4.3	89	90	87	89	90
4.5	94	94	93	93	94
4.7	97	97	96	97	97
4.9	99	99	99	99	99
5.0	99	99	99	99	99
Avg.	3.4	3.4	3.4	3.4	3.4

39. Wanted course

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	0	0	0	1	1
2.5	7	4	7	8	7
2.8	17	12	18	20	17
3.0	27	21	28	31	28
3.3	47	38	48	52	48
3.5	62	52	62	67	63
3.7	74	65	75	80	75
3.9	84	77	85	89	86
4.1	91	85	92	94	93
4.3	95	91	96	97	97
4.5	98	96	98	99	99
4.7	99	98	99	99	99
4.9	99	99	99	99	99
5.0	99	99	99	99	99
Avg.	3.3	3.5	3.3	3.2	3.3

40. Increased positive attitude (unadjusted)

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	0	0	0	0	0
2.5	2	1	2	2	2
2.8	5	4	5	5	6
3.0	9	7	9	9	10
3.3	17	15	17	18	19
3.5	25	23	25	26	27
3.7	35	32	35	37	36
3.9	47	45	46	50	48
4.1	60	58	60	63	61
4.3	74	72	74	76	74
4.5	85	84	86	88	85
4.7	94	93	94	95	94
4.9	98	98	99	99	99
5.0	99	99	99	99	99
Avg.	3.9	3.9	3.9	3.8	3.8

40. Increased positive attitude (adjusted)

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	0	0	0	1	1
2.5	3	3	3	3	4
2.8	7	7	7	7	8
3.0	11	11	11	11	13
3.3	21	21	20	20	23
3.5	30	31	30	29	32
3.7	41	43	41	39	43
3.9	54	57	53	52	55
4.1	67	69	66	65	67
4.3	78	81	78	77	78
4.5	87	89	87	86	87
4.7	93	94	94	93	93
4.9	97	97	97	97	96
5.0	98	98	98	98	97
Avg.	3.8	3.8	3.8	3.9	3.8

Table 9 is continued on the next page.

Table 9 (continued)
Percentile Ranks for IDEA Diagnostic Form Items and Scales
By Type of Institution

41. Excellent teacher (unadjusted)

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	0	0	0	0	0
2.5	2	1	2	2	2
2.8	4	3	5	4	5
3.0	6	4	7	6	7
3.3	10	7	11	11	12
3.5	14	10	15	15	17
3.7	19	15	20	21	23
3.9	27	22	28	28	30
4.1	35	30	36	37	40
4.3	47	41	47	49	52
4.5	61	56	62	63	64
4.7	77	73	78	79	79
4.9	93	92	94	93	94
5.0	98	97	98	98	98
Avg.	4.2	4.3	4.2	4.2	4.1

41. Excellent teacher (adjusted)

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	0	0	1	0	0
2.5	2	1	3	2	3
2.8	4	3	6	4	6
3.0	6	5	8	7	8
3.3	11	9	13	12	14
3.5	16	13	17	17	19
3.7	22	18	24	22	26
3.9	29	25	31	30	34
4.1	40	35	41	40	44
4.3	52	48	53	52	57
4.5	67	64	67	66	70
4.7	81	80	82	80	84
4.9	92	91	93	91	94
5.0	96	95	96	95	96
Avg.	4.2	4.2	4.1	4.2	4.1

42. Excellent course (unadjusted)

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	0	0	0	0	0
2.5	2	1	2	2	3
2.8	5	3	5	5	6
3.0	8	5	8	8	10
3.3	15	11	15	17	19
3.5	23	17	23	24	27
3.7	32	25	32	34	36
3.9	43	37	43	46	47
4.1	56	50	56	59	59
4.3	69	65	69	72	72
4.5	82	80	82	84	83
4.7	92	91	92	93	92
4.9	98	98	98	98	98
5.0	99	99	99	99	99
Avg.	3.9	4.0	3.9	3.9	3.9

42. Excellent course (adjusted)

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	0	0	0	0	1
2.5	3	2	3	3	4
2.8	6	4	7	6	8
3.0	10	8	10	10	13
3.3	18	15	19	19	23
3.5	26	23	27	27	31
3.7	36	34	37	36	41
3.9	48	47	49	48	53
4.1	61	60	61	60	65
4.3	74	73	73	73	76
4.5	84	84	84	83	86
4.7	92	91	92	91	92
4.9	96	96	97	96	96
5.0	97	97	98	97	98
Avg.	3.9	3.9	3.9	3.9	3.8

43. Usually work hard

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	0	0	0	0	0
2.5	0	0	0	0	0
2.8	0	0	0	0	0
3.0	1	2	1	1	1
3.3	12	17	9	11	11
3.5	32	39	26	30	31
3.7	57	63	51	58	56
3.9	80	83	77	82	79
4.1	92	93	91	94	92
4.3	97	97	97	98	98
4.5	99	99	99	99	99
4.7	99	99	99	99	99
4.9	99	99	99	99	99
5.0	99	99	99	99	99
Avg.	3.6	3.6	3.7	3.6	3.6

44. Variety teaching methods

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	0	0	1	1	1
2.5	3	2	2	3	3
2.8	6	4	5	7	6
3.0	9	7	8	10	10
3.3	17	14	16	18	18
3.5	24	22	23	26	26
3.7	35	32	34	37	37
3.9	48	47	47	50	51
4.1	63	62	62	65	65
4.3	77	78	77	79	78
4.5	89	90	89	90	89
4.7	96	96	96	97	96
4.9	99	99	99	99	99
5.0	99	99	99	99	99
Avg.	3.8	3.9	3.8	3.8	3.8

Table 9 is continued on the next page.

Table 9 (continued)
Percentile Ranks for IDEA Diagnostic Form Items and Scales
By Type of Institution

45. Students given responsibility

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	0	0	0	0	0
2.5	0	0	0	0	0
2.8	0	0	0	0	0
3.0	0	0	0	0	0
3.3	0	0	0	0	0
3.5	1	1	1	1	2
3.7	4	4	4	3	5
3.9	11	11	11	10	14
4.1	25	24	25	24	28
4.3	46	45	47	47	50
4.5	71	71	72	72	73
4.7	89	89	90	90	90
4.9	98	98	98	98	98
5.0	99	99	99	99	99
Avg.	4.3	4.3	4.3	4.3	4.3

46. High achievement standards

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	0	0	0	0	0
2.5	0	0	0	0	0
2.8	0	0	0	0	0
3.0	1	1	1	0	1
3.3	3	2	4	2	4
3.5	7	6	9	6	9
3.7	14	12	16	13	18
3.9	27	25	29	27	32
4.1	44	42	47	44	49
4.3	64	63	66	64	67
4.5	81	81	81	81	83
4.7	92	93	92	92	93
4.9	98	98	98	98	99
5.0	99	99	99	99	99
Avg.	4.1	4.1	4.1	4.1	4.1

47. Used educational technology

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
1.5	0	0	0	0	0
2.0	2	1	4	3	2
2.5	9	6	13	11	9
2.8	16	12	22	18	15
3.0	21	18	29	25	21
3.3	32	28	41	36	31
3.5	40	37	49	44	39
3.7	49	46	57	53	48
3.9	58	56	66	62	58
4.1	68	66	74	70	67
4.3	77	76	81	78	77
4.5	86	86	89	86	86
4.7	93	93	95	93	93
4.9	98	98	98	98	98
5.0	99	99	99	99	99
Avg.	3.6	3.7	3.5	3.6	3.6

Stimulating Student Interest (4 items)

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
10.0	0	0	1	0	1
11.0	2	1	2	2	2
12.0	4	3	5	4	5
13.0	8	7	9	8	11
14.0	16	13	17	16	19
15.0	28	24	30	29	31
15.5	36	32	38	38	39
16.0	45	40	48	47	48
16.5	55	51	59	58	57
17.0	65	61	69	68	66
17.5	75	72	79	78	75
18.0	84	82	87	86	83
18.5	91	90	93	92	90
19.0	96	95	97	97	95
20.0	99	99	99	99	99
Avg.	15.9	16.2	15.8	15.9	15.8

Fostering Student Collaboration (3 items)

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
5.0	0	0	0	0	0
6.0	1	1	1	2	2
7.0	5	4	5	5	5
8.0	11	10	11	12	11
9.0	19	19	20	22	18
10.0	30	30	32	33	28
11.0	44	44	47	47	41
11.5	52	53	56	55	48
12.0	61	62	66	63	58
12.5	70	72	76	72	67
13.0	79	81	84	81	76
13.5	88	89	92	89	85
14.0	94	95	96	95	93
14.5	98	98	99	98	97
15.0	99	99	99	99	99
Avg.	11.0	11.0	10.8	10.9	11.1

Establishing Rapport (4 items)

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
10.0	0	0	1	0	1
11.0	1	1	2	1	2
12.0	3	3	3	3	4
13.0	7	6	7	7	9
14.0	14	12	14	14	16
15.0	25	23	25	25	27
15.5	32	30	34	33	35
16.0	41	40	43	42	43
16.5	51	50	54	52	53
17.0	62	62	65	63	63
17.5	73	73	76	74	72
18.0	83	83	86	84	82
18.5	91	91	92	92	90
19.0	96	96	97	97	95
20.0	99	99	99	99	99
Avg.	16.1	16.2	16.0	16.1	16.0

Table 9 is continued on the next page.

Table 9 (continued)
Percentile Ranks for IDEA Diagnostic Form Items and Scales
By Type of Institution

Encouraging Student Involvement (4 items)

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
10.0	1	1	1	1	1
11.0	3	3	4	4	4
12.0	7	6	8	8	8
13.0	13	12	13	14	14
14.0	22	20	23	23	23
15.0	34	32	36	36	35
15.5	41	40	45	44	41
16.0	49	48	53	53	48
16.5	58	58	62	61	56
17.0	67	68	71	70	65
17.5	76	77	80	78	73
18.0	84	86	88	86	81
18.5	91	92	94	92	89
19.0	96	96	97	96	95
20.0	99	99	99	99	99
Avg.	15.6	15.7	15.5	15.5	15.7

Structuring Classroom Experience (5 items)

Mean	All	2-Yr	BA,BS	MA,MS	Doct.
13.0	0	0	0	0	1
15.0	2	1	2	2	3
17.0	6	5	7	7	8
18.0	11	8	12	11	14
19.0	18	14	19	19	23
20.0	28	23	30	30	34
20.5	35	29	38	37	41
21.0	43	37	46	45	49
21.5	52	45	56	54	58
22.0	61	55	66	64	66
22.5	71	66	77	75	75
23.0	81	77	86	84	83
23.5	89	87	93	91	90
24.0	95	94	97	96	95
25.0	99	99	99	99	99
Avg.	20.9	21.3	20.7	20.8	20.6

Average ratings were generally about the same for institutions of various sizes (less than 1000; 1000-2499; 2500-4999; 5000-9999; and 10,000+). Of the 47 items, differences in average ratings among these groups exceeded 0.1 on only 12. Results for these 12 items are shown in Table 10.

Table 10
Average Ratings by Institutional Size on Twelve Items

	All Classes	Institutional Size				
		<1,000	1,000-2,499	2,500-4,999	5,000-9,999	10,000 +
5. Formed “teams” or “discussion groups”	3.5	3.3	3.4	3.6	3.6	3.5
11. Related course to real life situations	4.2	4.1	4.2	4.2	4.2	4.3
16. Asks students to share with diverse others	3.7	3.6	3.6	3.7	3.7	3.8
17. Provided frequent feedback on tests	4.1	4.0	4.0	4.1	4.1	4.2
20. Encouraged out-of-class interactions	3.9	3.7	3.8	3.9	3.9	3.9
47. Used educational technology	3.6	3.5	3.5	3.6	3.7	3.7
25. Progress on “team skills”	3.5	3.3	3.3	3.4	3.5	3.5
26. Progress on “creative capacities”	3.4	3.5	3.3	3.4	3.4	3.4
29. Progress on “finding, using resources”	3.6	3.5	3.4	3.5	3.6	3.6
33. Amount of required reading	3.2	3.0	3.1	3.2	3.2	3.2
35. Course difficulty	3.4	3.3	3.4	3.4	3.5	3.4
36. Strong desire to take the course	3.7	3.7	3.6	3.6	3.6	3.8

On most of these items, average ratings for institutions with the smallest enrollments tended to be lower than those for larger institutions. However, on an overall basis, the differences were too slight to conclude that institutional size had a significant influence on ratings.

II. The Structure of the Ratings

Although students and faculty both rate 12 learning objectives, it is possible that a smaller number of "dimensions" would be adequate to describe "goals" or "progress." Similarly, student ratings of 20 teaching methods may well represent fewer than 20 teaching "styles."

To determine if there was a meaningful underlying structure to either the ratings of objectives or ratings of teaching methods, three Maximum Likelihood Factor Analyses with Orthogonal Rotation[4] were conducted. One of these was for faculty ratings of the importance of the 12 objectives; a second was for student ratings of progress of these objectives; and the third was for student ratings of teaching methods. Results for both the Short and Diagnostic Forms were used in these analyses.

In all analyses, factors with eigenvalues greater than 1.0 were extracted and rotated by the Varimax method. Rotated factor loadings of faculty ratings of the importance of the 12 objectives are shown in Table 11.

Table 11
Rotated Factor Loadings for
Faculty Ratings of the Importance of Objectives

Objective	Factor I	Factor II	Factor III
11. Learning to *analyze* and *critically evaluate* ideas, arguments, and points of view	.71	.09	.02
12. Acquiring an interest in learning more by asking questions and seeking answers	.68	.30	.25
8. Developing skill in expressing oneself orally or in writing	.56	.15	-.31
9. Learning how to find and use resources for answering questions or solving problems	.54	.42	.12
10. Developing a clearer understanding of, and commitment to, personal values	.53	.16	.07
7. Gaining a broader understanding and appreciation of intellectual/cultural activity (music, science, literature, etc.)	.43	-.04	-.12
6. Developing creative capacities (writing, inventing, designing, performing in art, music, drama, etc.)	.35	.33	-.20
4. Developing specific skills and points of view needed by professionals in the fields related to this course	-.04	.67	.11
5. Acquiring skills in working with others as a member of a team	.33	.43	-.04
3. Learning to *apply* course material (to improve thinking, problem solving, and decisions)	.22	.42	.30
2. Learning fundamental theories, principles	.05	.07	.65
1. Gaining factual knowledge (terminology, trends, etc)	-.10	.06	.61

Although the structure that emerged from this analysis was somewhat ambiguous, there were three relatively clear groupings of objectives. The first loading principally on Factor I, and included (in abbreviated form) *Critical analysis, Interest in learning, Values*

[4] Lawley, D. N. (1940) "The Estimation of Factor Loadings for the Method of Maximum Likelihood," *Proceedings/The Royal Society of* Edinburgh, 60, 64-82. Kaiser, H. F. (1958), "The Varimax Criterion for Analytic Rotation in Factor Analysis," *Psychometrika*, 23, 187-200.

development, Broad liberal education, and *Communication skills*. Taken together, these objectives seem to emphasize *Intellectual Development.*

Three other objectives loaded primarily on Factor II—*Professional skills, viewpoints; Applications;* and *Team skills*. The common focus of these objectives appears to be *Professional Preparation.*

Finally, two objectives loaded primarily on Factor III—*Principles and theories* and *Factual knowledge*. These objectives both stress *Basic Cognitive Development*.

The other two objectives (*Creative capacities; Finding and using* resources) appeared to represent a combination of Factor I (*Intellectual Development)* and Factor II (*Professional Skills*). Conceptually, then, faculty objectives centered on *Basic Cognitive Development*, a broader *Intellectual Development*, or *Professional Preparation*; but two objectives appeared to combine the last two of these.

Did student ratings of their progress parallel faculty ratings of importance? Table 12 explores this question.

Table 12
Rotated Factor Loadings for
Student Ratings of Progress on Objectives

Objective	Factor I	Factor II
8. Developing skill in expression myself orally or in writing	.91	.17
6. Developing creative capacities	.85	.19
11. Learning to *analyze* and *critically evaluate* ideas, arguments, and points of view	.75	.45
10. Developing a clearer understanding of personal values	.75	.44
7. Gaining a broader understanding and appreciation of intellectual/cultural activity (music, science, etc.)	.73	.26
9. Learning how to find and use resources	.62	.53
5. Acquiring skills in working as a member of a team	.59	.30
2. Learning basic principles, generalization, or theories	.22	.92
1. Learning factual knowledge (terminology, etc.)	.18	.91
3. Learning to *apply* course material	.44	.79
4. Developing professional competencies, points of view	.43	.78
12. Acquiring an interest in learning more	.63	.66

In this analysis, only two factors were extracted. The structure of progress ratings appears generally different from that of faculty "importance" ratings. The one clear similarity between the two involves the two objectives that had high loadings on Factor II but low ratings on Factor I in Table 12 (*Principles and theories; Factual knowledge*). This was called *Basic Cognitive Development* in the previous analysis, and might be labeled *Building a Cognitive Background* in the present analysis.

All other objectives had substantial loadings on Factor I, ranging from .43 to .91, together with a wide range of loadings on Factor II. It can be inferred that all were perceived to involve cognitive development in addition to some other kind of development, represented by the Factor II rotated loading. An examination of the rotated loadings on both factors

suggests that various combinations of these loadings represent different ways students use their backgrounds to advance educational competencies:

1. *Professional Development* (Objectives 3 and 4; loadings on Factors I and II of .44/.79 and .43/.78, respectively).
2. *Intellectual Development* (Objectives 7, 10, and 11; loadings on Factors I and II were .73/.26, .75/.44, and .75/.45, respectively).
3. *Expressiveness* (Objectives 6 and 8; loadings of .85/.19 and .91/.17).
4. *Life Long Learning Skills* (Objectives 5, 9, and 12; loadings of .59/.30, .62/.53, and .63/.66).

Although the terminology suggested by the analysis of student ratings is similar to that used in describing faculty ratings, the two analyses do not always agree on the placement of individual objectives. They did agree that *Basic Cognitive Development* is being stressed by the first two objectives and that the third and fourth objectives related to *Professional Development*. Furthermore, Objectives 7, 10, and 11 were classified as *Intellectual Development* in both analyses. But *Expressiveness* and *Life-Long Learning Skills*, which seemed to emerge from the student analysis, were not evident as separate dimensions in the faculty ratings.

It can be concluded that conceptualizations of faculty aspirations and student perceived outcomes have much in common. Both agree that conceptualization should include *Basic Cognitive Development, Professional Development,* and *Intellectual Development*. Student ratings offer two additional ways of conceptualizing the advancement of educational competencies—*Expressiveness* and *Life Long Learning Skills*. It should be noted that the two objectives not readily classified in the faculty analysis were included in the last two dimensions of the student analysis (*Creative capacities* as an *Expressiveness* objective and *Finding, using resources* as a *Life Long Learning* objective).

It appears that the first two objectives are sufficiently redundant that, in subsequent revisions of the instrument, they could be combined. Other than that, the mathematical structures that emerged from these analyses were not very crisp. They may provide some guidance to those interested in developing conceptual schemes for describing the purposes of higher education, and will be used to classify the objectives in the IDEA Center's *Directions to Faculty.* But they provided no reason to alter the current focus of the IDEA system on the relative importance of each individual objective.

The final factor analysis was performed on student ratings of the 20 instructional methods Two factors were extracted. Rotated factor loadings are shown in Table 13.

Table 13
Rotated Factor Loadings for Student Ratings of Instructional Methods

Method	Factor I	Factor II
10. Explained material clearly and concisely	.89	.25
6. Made it clear how each topic fit into course	.86	.35
4. Demonstrated the importance of the subject matter	.86	.34
12. Gave tests etc. that covered most important points	.80	.15
13. Introduced stimulating ideas about the subject	.78	.48
2. Found ways to help students answer own questions	.76	.51
1. Displayed a personal interest in students	.74	.47
3. Scheduled course work to help students stay up-to-date	.74	.36
17. Provided timely and frequent feedback on tests etc.	.69	.28
11. Related course material to real life situations	.68	.36
8. Stimulated students to high intellectual effort	.67	.53
7. Explained the reasons for criticisms	.62	.60
20. Encouraged out-of-class student-faculty interaction	.56	.49
15. Inspired students to set high achievement goals	.60	.69
18. Asked students to help each other understand ideas	.43	.76
16. Asked students to share ideas with diverse others	.38	.75
19. Gave assessments that required original thinking	.39	.74
9. Encouraged students to use multiple resources	.35	.66
5. Formed “teams” or “discussion groups”	.09	.75
14. Involved students in “hands on” experiences	.27	.75

An examination of the rotated factor loadings suggests that the first factor focuses on the instructor’s role in transmitting knowledge while the second emphasizes the student’s role in acquiring knowledge.

Within these broad categories, subgroups of items can be formed by attending to the relative size of the rotated loading on the two factors. The first subgroup (high loadings on Factor I; relatively low loadings on Factor II) appears to emphasize *providing a clear classroom structure;* the focus seems to be on course content. The next two item subgroups appear to center on increasing student motivation, a potent influence on learning. One aspect of motivation is reflected in the second subgroup (relatively high loadings on Factor I; moderate loadings on Factor II), which features ways of *stimulating student interest.* The four items in the next subgroup (where loadings on the two factors were nearly equal) emphasized a related approach to improving student motivation—methods designed to *stimulate student effort.* Although attracting interest in the subject is often the first step in motivating students, additional efforts may be required to encourage the student effort that learning requires.

The final two subgroups both have high loadings on Factor II, the factor stressing the student’s role in learning. The first stresses *involving students* in learning activities, it reflects the adage that the best way to learn something is to teach it. The second emphasizes

student interaction; activities requiring the exchange of student views or team participation represent another way instructors may facilitate learning.

Although the high inter-correlations among methods items resulted in a somewhat ambiguous factor structure, the sub-groupings of items make intuitive sense. Effective instruction requires attention to content; faculty members need to be not only authorities in their field but expert in organizing and communicating that content. Especially in lower division undergraduate courses, where student motivation is often low or marginal, the effective instructor must also attend to student readiness to learn, both by finding ways to capture student interest and by stimulating student effort. Although at times teaching is necessarily centered on the instructor's input, effective instructors know that student learning is as much a function of what the student does as how the instructor proceeds.

These "dimensions of effective teaching" are clearly not independent; a fact reflected in both the high item inter-correlations and the somewhat ambiguous factor structure. Classroom observations are consistent with this conclusion. Effective teachers typically organize and present class content. But at the same time, and sometimes with the same techniques, they elicit student interest, encourage student effort, and involve students in the teaching-learning process. It may be unwise and fruitless to conceptualize the "art" of teaching as a series of discrete and unrelated techniques.

Prior to the conduct of these analyses, IDEA staff had proposed five *a priori* scales be developed using the 20 standard methods items. These scales were modeled after those developed by The National Survey of Student Engagement (NSSE)[5] to describe features of the campus environment which promote student learning. Because the IDEA scales were limited to the classroom environment, and because they had not been empirically developed, they were given slightly different names than those employed by NSSE. They were called *Stimulating Student Interest, Fostering Student Collaboration, Establishing Rapport, Encouraging Student Involvement,* and *Structuring the Classroom.* The similarity of these names to those suggested for the five subgroups produced by the factor analysis is obvious, even though there was only a moderate overlap among the specific items included on "scales" with similar names. Although there would be a modest statistical advantage in revising the content of these scales in accordance with findings from the factor study, the advantages gained by refining the scales was judged to be outweighed by the disadvantage of sacrificing longitudinal comparisons.

In summary, results from the factor analyses were relatively ambiguous. When methods were analyzed, five alternative approaches to instruction were identified. These approaches were far from independent, suggesting that the effective instructor must be prepared to adjust strategies to different times and circumstances. The analyses of objectives show that, while they could be grouped into a smaller number of categories, these groupings were not entirely distinct. Therefore, it seems advisable (with the possible exception of objectives concerned with basic cognitive development) to continue having instructors select the pattern of objectives that best describes their intentions without regard for how these objectives relate to each other.

[5] National Survey of Student Engagement. *National Benchmarks of Effective Educational Practice*. Indiana University Center for Postsecondary Research and Planning: Bloomington, Indiana, 2001.

III. The Process of Adjusting Ratings

Teaching effectiveness is assessed in three ways—(1) the ratings of progress on individual objectives chosen as important or essential by the instructor; (2) the weighted average for objectives chosen by the instructor (Progress on Relevant Objectives - PRO); and (3) the three global measures (averages on *As a result of taking this course, I have more positive feelings toward this field of study; Overall, I rate this instructor as an excellent teacher;* and *Overall, I rate this an excellent course.* Effectiveness is reported in two ways—the simple average of student ratings on the measure and an "adjusted" measure. This section describes how "adjusted" scores were developed.

Ratings are adjusted to take into account, insofar as possible, the fact that matters influence them that are beyond the instructor's control. For example, if the majority of students were strongly motivated to take a class, ratings are likely to be higher than in classes with less interested students. Therefore, unless this is taken into account, instructors of highly motivated students would have an unfair advantage over those whose students were less interested and dedicated.

In addition to size of class, the Diagnostic Form contains a number of items that are potentially relevant as measures of "extraneous circumstances." The most apparent ones are Items 39 and 43 (*I really wanted to take this course regardless of who taught it; As a rule, I put forth more effort than other students on academic work.*) For convenience, scores are these items are called "Course Motivation" (CM) and "Work Habits" (WH), respectively.

Three other items were considered as relevant to potentially important extraneous circumstances—average ratings of Items 35, 36, and 37 (*Difficulty of subject matter; I had a strong desire to take this course;* and *I worked harder on this course than on most courses I have taken).* However, scores on these items could not be used as direct measures of extraneous influences because, at least in theory, each of them was, to a degree, under the control of the instructor. Obviously, the instructor controls many factors that make a course difficult or easy. Similarly, instructors can influence the amount of effort a student puts into a course. And, at least for some students, the desire to take a course may reflect the reputation its instructor has earned, a factor under the instructor's control.

Although ratings on these three items can be traced, in part, to instructor behavior or characteristics, they may also reflect factors that are not under the instructor's control. Course difficulty may, for example, reflect the fact that disciplines differ on the degree to which they stress content that is inherently difficult (complex, obscure). Similarly, students may have a strong desire to take a course for reasons unrelated to the instructor's reputation or behavior (the time of day the course was offered, the intent of friends to take the course, the need to satisfy some pre-requisite, etc.). And student effort may reflect, in addition to factors under the control of the instructor, such extraneous motivations as desire to be accepted in a professional school; desire to earn academic honors (or avoid academic dismissal); desire to impress someone else; etc.

To determine whether ratings on any of these items represented extraneous influences that ought to be included in the adjustment process, an effort was made to exclude the portion of variation that could be accounted for by instructor behavior. The procedure was to conduct step-wise multiple regression analyses[6] that employed each of these three measures as the dependent variable. For two of the items (difficulty and effort), 22 independent variables

[6] Hocking, R. R. (1976) "The Analysis and Selection of Variables in Linear Regression," *Biometrics*, 32, 1-50.

were employed (the 20 teaching methods items plus Items 33 and 34—*Amount of reading* and *Amount of other work*. For Item 36 (*I had a strong desire to take this course*), Item 38 *(I really wanted to take a course from this instructor*) was used as the independent variable. This permitted us to predict average ratings on each of these three items on the basis of averages for the independent variables.

This prediction represented the average rating expected on the basis of relevant student characteristics. By subtracting the prediction from the obtained average, we obtained a residual that represented the average on the item after the instructor's influence had been removed. These residuals were labeled D_N (difficulty unrelated to the instructor), E_N (effort unrelated to the instructor), and OM (other motivation). A positive residual means that the average rating was higher than would be expected on the basis of the independent variable(s). In other words, after the influence of the instructor's approach to the class had been taken into account, student ratings of effort and difficulty were above average. The "difficulty" residual probably reflects differences among disciplines; some are inherently more challenging than others to the majority of students. The "effort" residual may reflect the adequacy of student background and/or student academic self-confidence.

In initial analyses, 7 independent variables made significant contributions to the prediction of Item 35 (difficulty); the same was true for Item 37 (Effort), although only 5 of the 7 significant variables were identical. In both instances, the partial regression weight for two of the measures was negative, a finding that invariably obscures interpretation. Furthermore, the amount of variance accounted for by two other measures was less than two percent of the total.

In the interest of simplicity, new analyses were undertaken which employed only the three most important measures. For both difficulty and effort, these were the average ratings on Items 33 (amount of reading), 34 (amount of other work), and 8 (stimulating intellectual effort). The formula for predicting "difficulty" was:

$$\text{Predicted } X_{35} = .13412\, X_8 + .23986\, X_{33} + .40303\, X_{34} + .74331;\ R^2 = .371$$
$$D_N = \text{Mean of } X_{35} - \text{Predicted } X_{35}$$

For "effort," these formulas were:

$$\text{Predicted } X_{37} = .35690\, X_8 + .11142\, X_{33} + .51595\, X_{34} + .06562;\ R^2 = .635$$
$$E_N = \text{Mean of } X_{37} - \text{Predicted } X_{37}$$

Both formulas are easy to understand; the more reading is required, the more "other work" is required, and the more the instructor is perceived to stimulate intellectual effort, the more difficult the course is perceived to be and the more effort students report putting forth. D_N and E_N tell us whether the difficulty and effort reported by students was more (positive residual) or less (negative residual) than was expected on the basis of instructor-controlled factors.

Other motivation (OM) was calculated by predicting the mean for Item 36 (*I had a strong desire to take this course*) from the mean of Item 38 (*I really wanted to take a course from this instructor*) and subtracting the result from the obtained mean on Item 36. The formula was:

$$\text{Predicted } X_{36} = .57366\, X_{38} + 1.71732;\ R^2 = .327$$
$$OM = \text{Mean of } X_{36} - \text{Predicted } X_{36}$$

These results indicate that the desire to take a course can be partially explained by the desire to be exposed to a particular instructor. But a substantial portion of the variability in this measure is apparently due to other (unspecified) motivations.

The next step in the adjustment process was to conduct step-wise multiple regression analyses which employed the 12 ratings of progress and the 3 global ratings as dependent variables and six independent variables—enrollment (N), CM (mean of Item 39), WH (mean of Item 43), D_N, E_N, and OM. When this was done, the OM measure was statistically significant in only two analyses; and in these two, it contributed less than 1 percent to the explained variance. Therefore, this measure was dropped and analyses were repeated using only five independent variables.

Table 14 provides information about statistically significant regression weights and other data needed to compute adjusted scores. Appendix B shows calculations for an example.

Table 14
Regression Coefficients and Constants for Adjusting Ratings On the Diagnostic Form

Criterion	Con-stant	Regression Coefficient[1]					$1+R^2$	Grand Mean
		CM	WH	N	D_N	E_N		
21. Factual knowledge	1.69981	.27568	.38141	---	.09434	-.07217	1.176	4.0013
22. Principles and theories	1.67498	.25225	.39835	-.00065	.09683	-.12443	1.163	3.9443
23. Applications	1.55086	.27966	.43610	-.00255	-.10759	-.12437	1.225	3.9874
24. Prof skill, viewpoints	1.45513	.32015	.42804	-.00284	-.09290	-.06913	1.238	4.0420
25. Team skills	1.36271	.20224	.51612	---	-.26412	-.11336	1.161	3.9285
26. Creative Capacities	1.74672	.20146	.45071	-.01175	-.47119	.09341	1.194	3.8668
27. Broad liberal education	1.12469	.24898	.51462	-.00463	-.28984	-.14497	1.165	3.6948
28. Communication skills	2.17413	.03283	.44629	-.00774	-.57321	---	1.193	3.7887
29. Find, use resources	1.34473	.14364	.54934	-.00487	-.19646	-.17466	1.169	3.7322
30. Values development	1.15089	.25370	.47874	---	-.24761	-.19709	1.160	3.7779
31. Critical analysis	1.96267	.13407	.42156	-.00354	-.19952	-.15229	1.119	3.8438
32. Interest in learning	1.32320	.26505	.17280	-.00578	-.10333	-.12346	1.206	3.7907
40. Increased positive attitude	1.00177	.51242	.33205	-.00113	-.22342	.07431	1.361	3.8611
41. Excellent teacher	2.58021	.24024	.23139	-.00122	-.14747	-.18191	1.088	4.1815
42. Excellent course	1.35036	.47249	.28732	-.00136	-.21410	.05304	1.294	3.9198

[1]CM=Course Motivation (item 39), WH=Work Habits (item 43), N=enrollment, D_N=Difficulty unrelated to the instructor, E_N=Effort unrelated to the instructor

Note: Analyses reported in Table 14 are based on a more restricted data set. Classes with response rates less than 75% or not reporting the number enrolled were also excluded.

It is clear from this table that "Work Habits" (WH, mean of Item 43) was generally the most potent predictor, followed by "Course Motivation" (CM, mean of Item 39). Classes that contained students who typically worked hard on their studies and/or were highly motivated to take the course regardless of who taught it were expected to receive favorable ratings; unless ratings were adjusted, the instructors of such classes would have an unfair advantage over colleagues with less motivated and less dedicated students.

The joint effect of these two variables is displayed In Table 15. Classes were sorted into 5 groups on the basis of average scores on Item 39 (course motivation). The "Low" group's

average was in the lowest 10 percent of all averages; “Low Average” was in the next 20 percent; “Average” was in the middle 40 percent; “High Average” in the next 20 percent; and “High” in the upper 10 percent. Then each of these groups was sorted into five similarly defined groups on the basis of their average response to Item 43 (work habits). The resulting 5x5 matrix produced 25 groups. Average progress ratings on each of the 12 learning objectives for these 25 groups are shown in the table. The only classes included in this table were those for which the instructor identified the objective as “important” or “essential.”

As seen in Table 15, the influence of these two variables on progress ratings is dramatized by comparing the two extreme groups (“Low/Low” vs. “High/High”). Differences ranged from 0.62 (for *Communication Skills*) to 1.17 (for *Professional skills and viewpoints*), averaging 0.96. Clearly, instructors in “High/High” classes have an enormous advantage over those in “Low/Low” classes; adjusted scores attempt to compensate for this advantage.

Table 15
Average Progress Ratings for Classes That Differ in Levels of Student Motivation (Item 39) and Student Work Habits (Item 43)

21. Gaining factual knowledge

Work Habits (Item 43)	Student Motivation (Item 39)				
	Low	Low Avg.	Avg.	High Avg.	High
Low	3.51	3.66	3.80	3.95	4.08
Low Avg.	3.60	3.76	3.91	4.05	4.07
Average	3.73	3.87	4.02	4.12	4.21
High Avg.	3.88	3.97	4.13	4.23	4.33
High	4.01	4.12	4.25	4.33	4.48

22. Principles, theories

Work Habits (Item 43)	Student Motivation (Item 39)				
	Low	Low Avg.	Avg.	High Avg.	High
Low	3.46	3.64	3.77	3.89	3.96
Low Avg.	3.58	3.71	3.86	3.98	3.98
Average	3.69	3.83	3.96	4.05	4.11
High Avg.	3.91	3.94	4.09	4.15	4.25
High	3.95	4.10	4.18	4.26	4.43

23. Applications

Work Habits (Item 43)	Student Motivation (Item 39)				
	Low	Low Avg.	Avg.	High Avg.	High
Low	3.53	3.67	3.75	3.88	3.96
Low Avg.	3.63	3.73	3.90	4.00	4.06
Average	3.69	3.84	4.00	4.10	4.23
High Avg.	3.85	4.00	4.12	4.25	4.34
High	3.98	4.13	4.25	4.35	4.53

24. Professional skills, viewpoints

Work Habits (Item 43)	Student Motivation (Item 39)				
	Low	Low Avg.	Avg.	High Avg.	High
Low	3.38	3.58	3.78	3.96	4.11
Low Avg.	3.51	3.70	3.88	4.05	4.15
Average	3.64	3.83	4.01	4.14	4.28
High Avg.	3.76	3.96	4.14	4.29	4.38
High	4.04	4.13	4.28	4.38	4.55

25. Team skills

Work Habits (Item 43)	Student Motivation (Item 39)				
	Low	Low Avg.	Avg.	High Avg.	High
Low	3.49	3.58	3.66	3.74	3.75
Low Avg.	3.65	3.68	3.75	3.86	3.92
Average	3.67	3.83	3.92	3.94	4.09
High Avg.	3.81	4.01	4.06	4.11	4.16
High	3.94	4.16	4.26	4.27	4.47

26. Creative capacities

Work Habits (Item 43)	Student Motivation (Item 39)				
	Low	Low Avg.	Avg.	High Avg.	High
Low	3.46	3.51	3.54	3.71	3.85
Low Avg.	3.55	3.61	3.68	3.87	4.05
Average	3.57	3.68	3.83	3.93	4.12
High Avg.	3.70	3.88	3.97	4.08	4.17
High	4.31	4.03	4.17	4.26	4.39

27. Broad liberal education

Work Habits (Item 43)	Student Motivation (Item 39)				
	Low	Low Avg.	Avg.	High Avg.	High
Low	3.15	3.38	3.45	3.63	3.81
Low Avg.	3.27	3.50	3.57	3.68	3.88
Average	3.42	3.56	3.74	3.80	3.99
High Avg.	3.44	3.74	3.86	4.00	3.97
High	3.75	3.98	4.04	4.23	4.28

28. Communication skills

Work Habits (Item 43)	Student Motivation (Item 39)				
	Low	Low Avg.	Avg.	High Avg.	High
Low	3.54	3.63	3.60	3.57	3.66
Low Avg.	3.64	3.68	3.67	3.76	3.71
Average	3.67	3.76	3.80	3.79	3.80
High Avg.	3.69	3.91	3.94	3.91	3.91
High	3.83	4.01	4.07	4.08	4.16

29. Finding and using resources

Work Habits (Item 43)	Student Motivation (Item 39)				
	Low	Low Avg.	Avg.	High Avg.	High
Low	3.45	3.44	3.49	3.55	3.65
Low Avg.	3.49	3.56	3.58	3.65	3.63
Average	3.57	3.63	3.71	3.77	3.85
High Avg.	3.63	3.82	3.87	3.91	3.99
High	3.86	3.98	4.08	4.12	4.27

30. Values development

Work Habits (Item 43)	Student Motivation (Item 39)				
	Low	Low Avg.	Avg.	High Avg.	High
Low	3.23	3.42	3.59	3.71	3.74
Low Avg.	3.41	3.61	3.66	3.83	3.87
Average	3.47	3.64	3.80	3.85	3.85
High Avg.	3.70	3.81	3.95	4.03	4.05
High	3.82	3.91	4.11	4.17	4.34

31. Critical analysis

Work Habits (Item 43)	Student Motivation (Item 39)				
	Low	Low Avg.	Avg.	High Avg.	High
Low	3.52	3.62	3.66	3.80	3.73
Low Avg.	3.60	3.70	3.75	3.86	3.83
Average	3.68	3.78	3.87	3.89	3.91
High Avg.	3.79	3.92	3.99	4.02	4.07
High	3.77	4.02	4.12	4.17	4.28

32. Interest in continued learning

Work Habits (Item 43)	Student Motivation (Item 39)				
	Low	Low Avg.	Avg.	High Avg.	High
Low	3.29	3.45	3.55	3.71	3.77
Low Avg.	3.41	3.56	3.65	3.79	3.93
Average	3.48	3.63	3.81	3.89	4.02
High Avg.	3.64	3.82	3.93	4.02	4.14
High	3.77	4.00	4.10	4.19	4.38

The regression coefficient for "Enrollment" (N) was not always statistically significant; but when it was, it was always negative, meaning the larger the class, the lower the predicted (expected) rating. Those teaching small classes have an advantage over those teaching large classes; hence, in the interest of fairness, ratings should be adjusted to take this into account.

Except for the first two criterion ratings, the regression coefficient for D_N was always negative. Generally, if the discipline was perceived as difficult (after taking into account the impact of the instructor on perceived difficulty), an attenuated outcome can be expected. This was especially apparent in progress ratings on "Creative capacities" and "Communication skills" where high difficulty was strongly associated with low progress ratings. The two exceptions, where "disciplinary difficulty" had a positive effect on the predicted outcome, were for the progress ratings concerned with basic cognitive development ("Factual knowledge" and "Principles and theories"). Consistent with other research regarding the influences of difficulty, this finding refutes conventional wisdom (high difficulty=low ratings).

In most cases, student effort in the class (adjusted for the instructor's influence on effort) was also negatively related to predicted ratings. Classes containing an unusually large number of students who worked harder than the instructor's approach required ended up with lower progress ratings. As noted earlier, this may be because those who found it necessary to put in extra effort were those whose backgrounds did not prepare them well for the class. They may also be students who lack self-confidence and, for this reason, under-achieve (or under-estimate their progress in a self-abasing manner).

Adjustments for the three global ratings merit special scrutiny. Regression results for predicted scores on "Increased positive attitude" and "Excellent course" were similar to each other. The order of the most influential predictors was reversed over that found for individual progress ratings; CM (desire to take the course regardless of who was teaching it) was the clear leader, and WH (tendency to work hard in academic studies) was a relatively distant second. Classes perceived as very difficult (D_N) were generally rated low on these measures, but (again in contrast to the findings for individual progress ratings) those with substantial numbers of students who worked hard in the class generally rated it more favorably. In other words, when students worked harder than required by the instructor, they tended to have good impressions of both the discipline and the course, even though their ratings of progress on relevant objectives tended to be low. But both global ratings and specific progress ratings tended to be low in disciplines perceived to be inherently difficult.

The other global rating ("Excellent instructor") was not predicted with much accuracy (R^2=.0883); these measures of extraneous influences were not very predictive of students' overall impressions of their instructors[7]. Although significant regression weights were found for all five independent variables, these were all of modest magnitude. CM and WH were about equal in their influence on such ratings, while the adjusted ratings for "Difficulty" and "Effort" had a more moderate (and negative) influence. Enrollment size had a very minor and negative influence. Thus, instructor "popularity" was not accurately predicted by these measures; but student motivation and dedication did have a moderate

[7] Conceivably, this may be because ratings of this characteristic are determined almost exclusively by instructor behavior rather than by extraneous circumstances. Ratings on Item 10 *Explained course material clearly and concisely*, correlated .90 with overall ratings of the instructor (Item 41). See Table 6.

positive influence while disciplinary difficulty and student effort had a slight negative influence.

The formula for adjusting means for progress ratings (Items 21-32) and global ratings (Items 40-42) is Grand Mean + (Obtained Mean – Predicted Mean)*(1 + R^2). This formula produces adjusted values with approximately the same mean and standard deviations as those obtained for unadjusted measures.

Adjustments to ratings on the Short Form were less precise because it provided no information on WH, D_N or E_N. Since WH (work habits) was the most potent measure of relevant extraneous circumstances, its omission from the Short Form was especially regrettable. In later versions of this instrument, this item will be added. Until that time, it was decided to retain the adjustment formulas and process that have been in place since the 1998-99 school year.

The formula for predicting OM (other motivation) was developed from Short Form results; it is similar to, but not identical with, that reported earlier for the Diagnostic Form.

Predicted Mean of Item 13 = .519087 X_{14} + 1.804711
OM = Mean Item 13 – Predicted Mean, Item 13

Table 16 provides information regarding regression coefficients and constants used in adjusting Short Form scores.

Table 16
Regression Coefficients and Constants for Adjusting Ratings On the Short Form

Criterion	Constant	Regression Coefficient			1+R^2	Grand Mean
		CM	OM	N		
1. Factual knowledge	2.83473	.32094	-.06596	---	1.102	3.9038
2. Principles and theories	3.07102	.23693	---	---	1.084	3.8526
3. Applications	2.87594	.31386	-.12552	-.00239	1.072	3.8536
4. Professional skills, viewpoints	3.00560	.30163	---	-.00262	1.117	3.9764
5. Team skills	1.92292	.53771	-.23726	-.01384	1.100	3.3749
6. Creative capacities	3.18263	.23181	---	-.00504	1.070	3.8348
7. Broad liberal education	3.12332	.19650	---	-.00326	1.034	3.6707
8. Communication skills	3.57679	.13616	-.18760	-.00951	1.046	3.8055
9. Find, use resources	2.42522	.44526	-.18993	-.01693	1.104	3.4819
10. Values development	2.95472	.26901	-.14057	-.00916	1.090	3.6285
11. Critical analysis	2.71324	.27491	-.10031	-.00639	1.072	3.4837
12. Interest in learning	3.15930	.16133	-.15513	---	1.011	3.7065
16. Increased positive attitude	2.28507	.47865	---	---	1.212	3.8708
17. Excellent teacher	2.63471	.45726	-.38354	---	1.060	4.1496
18. Excellent course	2.22667	.49763	---	---	1.238	3.8752

Clearly, course motivation (CM) was the most important extraneous variable taken into account by adjustments to the Short Form; the stronger the desire of students to take the course regardless of who taught it, the more likely high progress ratings would be reported. The other two measures of influences beyond the instructor's control (size of class and "other motivation") did not always have significant regression weights. When they did, their weights were negative. If classes were large and/or if "extraneous" student motivation (motivation unrelated to a desire for a specific instructor) was low, it was probable that progress ratings would be negatively affected, making it necessary to adjust the ratings.

To estimate the amount of improvement to Short Form adjustments which might be anticipated if the WH item were included, all calculations related to adjustments were performed using Diagnostic Form data but omitting D_N and E_N, the measures of extraneous influences which would not be available on the Short Form. The amount of variance accounted for by extraneous measures (R^2) increased from an average of .094 to an average of .156, a very substantial improvement (see Appendix C).

IV. Reliability

Classes with 13-17 respondents were used to compute split half reliabilities for each of the 47 items and for the 5 teaching methods scales described in Section II of this report. Classes were randomly divided and means were computed for each half. These means were correlated. Results were taken as an estimate of the split half reliability of classes averaging 7.5 respondents. The Spearman-Brown Prophecy formula[8] was applied to estimate reliabilities for classes averaging 12.5, 24.5, 42.5, and 60 respondents (corresponding to class size ranges of 10-14, 15-34, 35-49, and 50+).

Standard deviations were also computed for each item[9] or scale and these were used, in conjunction with the computed reliabilities, to calculate standard errors of estimate. Results are shown in Table 17.

All measurements include a degree of "error." The data of Table 17 provide the user with information about the likely range within which the "true" mean falls (the theoretical average from an infinite number of administrations of the form). In general, the probability that the true mean will fall within ? one standard error of the obtained mean is approximately two out of three; 95 times in 100 it will fall within two standard errors of the obtained mean.

[8] $r_{xx} = \frac{nr_{11}}{1 + (n-1)r_{11}}$

[9] Standard deviations were calculated for the 44,447 classes with 10 or more respondents processed between 1998 and 2001. Items 21-32 (progress ratings) were exceptions to this; for these items, only "relevant" classes (those for which the objective was selected as "important" or "essential") were used in computing standard deviations.

Table 17
Reliability and Standard Errors of Items and Scales For Four Class Sizes

Teaching Methods	All Classes		Class Size							
			10-14		15-34		35-49		50+	
	Mean	s.d.	r_{11}	s.e.	r_{11}	s.e.	r_{11}	s.e.	r_{11}	s.e.
1. Displayed personal interest in students	4.34	.498	.81	.22	.89	.17	.93	.13	.95	.11
2. Helped students answer own questions	4.10	.520	.79	.24	.88	.18	.93	.14	.95	.12
3. Scheduled work helpfully	4.20	.481	.75	.24	.86	.18	.91	.14	.94	.12
4. Demonstrated imp of subject	4.32	.455	.77	.22	.87	.17	.92	.13	.94	.11
5. Formed teams, discussion groups	3.52	1.03	.90	.33	.95	.24	.97	.18	.98	.16
6. Made clear how topics fit	4.20	.506	.77	.24	.87	.18	.92	.14	.94	.12
7. Explained criticisms	3.78	.570	.72	.30	.84	.23	.90	.18	.93	.16
8. Stimulated intellectual effort	3.86	.573	.77	.27	.87	.21	.92	.17	.94	.14
9. Encouraged use of multiple resources	3.78	.696	.82	.29	.90	.22	.94	.17	.96	.14
10. Explained clearly	4.12	.610	.83	.25	.91	.19	.94	.15	.96	.12
11. Related to real life	4.22	.581	.82	.25	.90	.19	.94	.14	.96	.12
12. Tests covered important points	4.28	.492	.79	.23	.88	.17	.93	.13	.95	.11
13. Introduced stimulating ideas	4.03	.583	.81	.25	.89	.19	.94	.15	.95	.13
14. Involved students in hands on activities	3.76	.805	.84	.32	.91	.24	.95	.18	.96	.15
15. Inspired students to set high goals	3.76	.621	.78	.29	.88	.22	.92	.17	.95	.15
16. Asked students to share experiences	3.69	.790	.84	.32	.91	.24	.95	.19	.96	.16
17. Provided timely feedback	4.11	.593	.81	.26	.89	.20	.93	.15	.95	.13
18. Asked students to help each other	3.79	.642	.79	.30	.88	.22	.93	.17	.95	.15
19. Assessments required creativity	3.92	.649	.81	.28	.89	.21	.94	.17	.95	.14
20. Encouraged student/faculty contact	3.90	.627	.78	.29	.88	.22	.92	.17	.95	.15
Learning Objectives										
21. Factual knowledge	4.00	.495	.77	.24	.87	.18	.92	.14	.94	.12
22. Principles and theories	3.94	.485	.76	.24	.86	.18	.91	.14	.94	.12
23. Applications	3.99	.516	.75	.26	.85	.20	.91	.16	.93	.13
24. Professional skills, viewpoints	4.04	.424	.75	.21	.86	.16	.91	.13	.94	.11
25. Team skills	3.93	.632	.85	.24	.92	.19	.95	.14	.97	.12
26. Creative capacities	3.87	.701	.83	.29	.91	.21	.95	.16	.96	.14
27. Broad liberal education	3.69	.731	.79	.34	.88	.25	.93	.20	.95	.17
28. Communication skills	3.79	.676	.84	.27	.91	.20	.95	.16	.96	.13
29. Find, use resources	3.73	.571	.75	.28	.86	.22	.91	.17	.94	.14
30. Values development	3.78	.629	.79	.29	.88	.22	.93	.17	.95	.14
31. Critical analysis	3.84	.590	.78	.28	.87	.21	.92	.16	.94	.14
32. Interest in learning	3.79	.562	.73	.29	.84	.22	.90	.18	.93	.15
Course Ratings										
33. Amount of reading	3.20	.741	.89	.24	.94	.18	.97	.14	.98	.12
34. Amount of other work	3.42	.589	.81	.26	.89	.19	.94	.15	.95	.13
35. Difficulty of subject matter	3.42	.581	.82	.24	.90	.18	.94	.14	.96	.12
Self-ratings										
36. Strong desire to take the course	3.66	.671	.80	.30	.84	.23	.93	.18	.95	.15
37. Worked harder on this course than most	3.57	.557	.77	.27	.87	.20	.92	.16	.94	.14
38. Wanted this instructor	3.40	.675	.80	.30	.89	.23	.93	.18	.95	.15
39. Wanted course regardless of instructor	3.33	.560	.65	.33	.78	.26	.86	.21	.90	.18
43. Usually work hard on academic work	3.64	.308	.39	.24	.56	.20	.69	.17	.76	.15
Global Ratings										
40. Increase positive attitude toward field	3.86	.602	.75	.30	.86	.23	.91	.18	.94	.15
41. Excellent instructor	4.18	.643	.83	.26	.91	.20	.94	.15	.96	.13
42. Excellent course	3.92	.607	.80	.27	.89	.21	.93	.16	.95	.14
Progress on Relevant Objectives (PRO)[a]	50.9	8.6	.78	4.0	88	3.0	.92	2.4	.95	2.0

[a]PRO ratings are standardized T Scores. The distribution has a mean of 50 and standard deviation of 10. All other ratings were made on a 5-point scale where 1=low and 5=high.

Table 17 is continued on the next page.

Table 17 (continued)
Reliability and Standard Errors of Items and Scales
For Four Class Sizes

Additional Method Items	All Classes		Class Size							
			10-14		15-34		35-49		50+	
	Mean	s.d.	r_{11}	s.e.	r_{11}	s.e.	r_{11}	s.e.	r_{11}	s.e.
44. Used variety of evaluation methods	3.83	.596	.75	.30	.85	.23	.91	.18	.94	.15
45. Expected students to take responsibility	4.30	.326	.60	.21	.75	.16	.84	.13	.88	.11
46. High achievement standards	4.12	.413	.69	.23	.81	.18	.88	.14	.91	.12
47. Used educational technology	3.63	.773	.83	.32	.91	.24	.94	.18	.96	.15
Teaching Method Scales										
Stimulated Student Interest	4.03	.506	.84	.20	.91	.15	.95	.12	.96	.10
Fostering Student Collaboration	3.74	.709	.88	.24	.94	.18	.96	.14	.97	.12
Establishing Rapport	4.06	.490	.83	.20	.91	.15	.95	.12	.96	.10
Encouraging Student Involvement	3.97	.560	.86	.21	.92	.16	.95	.12	.97	.10
Structuring Classroom Experiences	4.20	.473	.85	.18	.92	.14	.95	.10	.97	.09

Ratings were made on a 5-point scale where 1=low and 5=high.
Note: Analyses reported in Table 17 used a more restricted data set. Classes with response rates less than 75% or not reporting the number enrolled were also excluded.

For the five *a priori* scales, internal consistency reliabilities were computed using Cronbach's Alpha.[10] Since inter-correlations of items were generally high (see Table 6), these reliabilities were also high, as noted in Table 18.

Table 18
Internal Consistency Reliabilities for Teaching Method Scales

Scale	Coefficient Alpha
Stimulating Student Interest	.935
Fostering Student Collaboration	.844
Establishing Rapport	.920
Encouraging Student Involvement	.852
Structuring Classroom Experiences	.928

Note: Analyses reported in Table 18 used a more restricted data set. Classes with response rates less than 75% or not reporting the number enrolled were also excluded.

[10]Cronback, L. J. (1951) "Coefficient Alpha and the Internal Structure of Tests," *Psychometrika*, 16, 297-334.

V. Validity

What evidence is there that student ratings obtained from the IDEA system can be trusted? This section updates previous studies of the system's validity based on results obtained in the most recent three years. Four approaches to validity were taken.

1. The correlation of student progress ratings and instructor ratings of importance.
The first study is based on three assumptions: (1) instruction is effective; (2) instructors make meaningful and conscientious judgments when they rate the importance of each objective; and (3) students make accurate ratings of the progress they make on these objectives (the validity question under investigation). If all three assumptions are true, then there should be a positive correlation between the instructor's rating of importance and the students' average rating of progress. To the degree that any of these assumptions is less than 100% true (instruction is not effective, instructors were not always conscientious in identifying objectives, students did not estimate their progress accurately) this correlation will be reduced. The correlation will also be attenuated by the fact that importance ratings are made using only a 3-point scale. For these reasons, this test of validity is considered to be a severe one.

The bolded numbers in Table 5 provide the information required by this study. The average correlation between the instructor's rating of importance and students' average rating of progress on the corresponding objective across all 12 objectives was +.265. In contrast, the average correlation between instructor rating of importance of a given objective and student ratings of progress on the other 11 (irrelevant) objectives was +.024. These findings are consistent with those reported for other samples dating back to 1973. We conclude that students rate their progress on instructional objectives with more than minimal validity.

2. The consistency of student ratings with intuitive expectations.
The 20 "methods" items included on the IDEA form were chosen because they have been identified as "desirable" or "potent" teaching techniques. Therefore, if student ratings are valid, there should be a degree of correspondence between their ratings of progress and their perceptions of how frequently the instructor employed these "potent" methods. The data of Table 6 make it apparent that the expected correspondence occurred almost uniformly.

Aside from this expectation of general correspondence, there is the question of whether specific correlations make sense. An examination of relevant data in Table 6 shows that many intuitive expectations were met. For example, the teaching method most closely related to student ratings of progress on "Team skills" (Item 25) was *Formed teams or "discussion groups" to facilitate learning* (Item 5). Progress on "Learning to find and use resources for answering questions or solving problems" (Item 29) was most closely related to ratings of *Encouraged students to use multiple resources to improve understanding* (Item 9). Progress on "Developing a clearer understanding of, and commitment to, personal values" (Item 30) was most highly correlated with *Asked students to share ideas and experiences with others whose backgrounds and viewpoints differ from their own* (Item 16). Progress ratings on "Developing creative capacities" (Item 26) were most closely related to *Gave projects, tests, or assignments that required original or creative thinking* (Item 19).

Data provided earlier with respect to the impact of class size on correlations between instructional methods and student progress provides additional evidence that student ratings were consistent with intuitive expectations (see Table 7). Progress ratings on "Developing creative capacities" (Item 26) were substantially related to *Formed teams or "discussion groups" to facilitate learning* (Item 5) for very large classes (where personalized techniques

are more problematical), but not for smaller classes. And progress ratings on "Developing a clearer understanding of, and commitment to, personal values" (Item 30) was closely related to *Asked students to help each other understand ideas and concepts* (Item 18) if class size was less than 35 but was not so useful in larger classes.

3.The differential validity of the methods items.
Teaching methods items that were most highly correlated with progress ratings were relatively distinctive for each objective (see Table 7). Exceptions were the first two objectives (basic cognitive background) and the third and fourth objectives (applications; professional skills and viewpoints) where identical lists of "most relevant" teaching techniques were identified. But when lists of the eight "most relevant" methods for "Factual knowledge" and "Team skills" were compared, only three were on both. Generally, with the exceptions noted above, the amount of overlap between any two sets of "most relevant" items was approximately 50 percent. Unless students were making differential judgments in answering the questions, such distinctive patterns of relevant teaching methods would not have existed.

4. Correspondence between independently obtained student and faculty ratings.
Using the Faculty Information Form (see Appendix A) faculty participants are asked to respond to a number of questions about the specific class they are teaching. Their answers to these questions sometimes suggest how students might rate their progress or otherwise evaluate the instructor and class. Several studies were undertaken to determine if these expected relationships existed. Their presence would constitute evidence for the validity of the system since the instructors and students each made their ratings without knowledge of each other's views.

In the first of these studies, instructors were asked to rate the impact of various circumstances on the learning of students (Contextual Question 4). Circumstances were described as having a "Positive," "In between," or "Negative" impact on learning. Four of them were believed to be especially relevant to overall (global) outcomes: previous experience in teaching the course; desire to teach the course; adequacy of students' background and preparation for the course; and student enthusiasm.

Table 19 compares the average rating on the four global criteria—progress on relevant objectives (PRO) and three single-item ratings (increased positive attitude toward the subject; excellent teacher; excellent course)—for classes that were rated as having different impacts on student learning. PRO results are reported in T Scores, while those for the three individual ratings are based on the IDEA system's 5-point scale.

In every instance, the expected differences were found. In classes where the circumstance was expected to have a positive influence on student learning, global ratings were significantly higher than in those where the expected impact was negative. Classes with "in between" faculty ratings invariably had "in between" student ratings on these four measures.

Table 19
The Relationship Between Instructor Ratings of Selected Circumstances and Student Global Ratings of Teaching and Learning

Circumstance/ Expected Impact	Global Rating			
	PRO[1]	Increased Positive Attitude	Excellent Teacher	Excellent Course
Previously taught				
Positive (N=19805)	52.0	3.93	4.25	3.99
In between (N=2418)	50.3	3.81	4.07	3.81
Negative (N=516)	48.0	3.66	3.89	3.62
Desire to teach				
Positive (N=21333)	51.9	3.94	4.24	3.99
In between (N=3228)	49.4	3.71	4.01	3.74
Negative (N=192)	48.7	3.69	3.97	3.71
Student background				
Positive (N=7164)	52.8	4.02	4.27	4.06
In between (N=10386)	51.7	3.94	4.24	3.99
Negative (N=5513)	49.6	3.69	4.07	3.75
Student enthusiasm				
Positive (N=12214)	52.8	4.07	4.31	4.11
In between (N=7514)	51.2	3.86	4.18	3.90
Negative (N=3510)	47.9	3.50	3.94	3.56

[1]PRO (Progress on Relevant Objectives) ratings are standardized T Scores. The distribution has a mean of 50 and standard deviation of 10. All other ratings were made on a 5-point scale where 1=low and 5=high.
Note: Analyses reported in Table 19 used a more restricted data set. Classes with response rates less than 75% or not reporting the number enrolled were also excluded.

A second study focused on the instructor's description of specific class emphases (Contextual Question 3). They indicated whether the class required "None," "Some," or "Much" of seven activities: writing, oral communication, computer applications, group work, mathematical/quantitative work, critical thinking, and creative/artistic/design endeavor. If the IDEA system is valid (if both instructor and student ratings can be trusted), then there should be a relationship between some of these emphases and progress on related objectives.

Specifically, if "writing" was emphasized, students should report above average progress on "Communication skills." If "critical thinking" was emphasized, above average progress should be reported on "Critical analysis." If "creative/artistic/design endeavor" was emphasized, students should report above average progress on "Creative capacities." And if "group work" was emphasized, student progress on "Team skills" should be relatively high.

Results are shown in Table 20.

Table 20
Relationship Between Instructor Emphasis and Relevant Student Progress Ratings

Student Progress Rating[a]	Instructor Emphasis: Writing			
		None	Some	Much
Communication Skills	Mean	3.36	3.61	4.01
	S. D.	.85	.70	.56
	N	428	5360	6134
	Instructor Emphasis: Critical Thinking			
		None	Some	Much
Critical Analysis	Mean	3.54	3.81	4.07
	S. D	.66	.59	.52
	N	1005	5777	5131
	Instructor Emphasis: Creative Endeavor			
		None	Some	Much
Creative Capacities	Mean	3.52	3.76	3.99
	S. D.	.83	.74	.61
	N	959	2561	2606
	Instructor Emphasis: Group Work			
		None	Some	Much
Team Skills	Mean	3.94	3.99	4.04
	S. D.	.67	.61	.57
	N	885	4363	3014

[a]This study used only courses where the learning objective was selected as "important" or "essential," making it a very conservative test of validity.
Note: Analyses reported in Table 20 used a more restricted data set. Classes with response rates less than 75% or not reporting the number enrolled were also excluded.

All four F tests were highly significant (P<.0001). The expected relationships were confirmed, thus establishing validity for both instructor and student ratings.

In a third validity test in which instructor and student ratings were compared the focus was on two objectives: *Developing specific skills, competencies, and points of view needed by professionals in the field most closely related to this course* and *Gaining a broader understanding and appreciation of intellectual/cultural activity (music, science, literature, etc.)*. If the IDEA system is valid, the first of these should be chosen much more frequently by those teaching professionally oriented courses (or courses related to the students' major field) while the second should be selected more frequently by instructors teaching courses directed to meeting general education or distribution requirements (as indicated by Contextual Question 5).

This expectation was confirmed. More than 78 percent of those teaching professionally oriented courses chose the "professional development" objective, compared to 21 percent of those teaching general education/distribution courses. On the other hand, over 60 percent of the latter chose the "broad liberal education" objective compared to 39 percent of those teaching professionally oriented courses.

Student progress ratings on these objectives were compared for the two types of classes; these comparisons were limited to classes for which the instructor chose the objective in question as "relevant." Results followed a similar pattern. Progress ratings were significantly higher on the professional development objective in professionally oriented courses (4.15 vs. 3.85 for classes focused on meeting general education/distribution requirements). Conversely, the latter averaged 3.72 on the broad liberal education objective compared to 3.63 for professionally oriented classes. In both instances, the "t" test was significant beyond the .001 level.

Since both "relevance" and progress ratings were consistent with those expected if the IDEA system were valid, further confirmation of validity was provided.

A final validity study centered on measures used to adjust student ratings. A number of studies have established that students give a much higher priority to courses that prepare them for a profession than for those aimed at a general or liberal education. Therefore, those teaching courses related to the student's major interest should receive ratings indicative of higher student motivation than those teaching courses designed to meet general education or distribution requirements. Relevant measures of motivation are Items 36 and 39 (*I had a strong desire to take this course; I really wanted to take this course regardless of who was teaching it*). Results of these two items for five types of classes are given in Table 21. Both F tests were significant beyond the .0001 level.

Table 21
Motivation Ratings by Principle Type of Student Enrolled in the Class

Type of Student	36. Strong desire to take this course		39. Wanted to take course regardless of who taught it	
	Mean	s.d.	Mean	s.d.
Lower Division, General Education	3.34	.65	3.11	.55
Upper Division, General Education	3.55	.61	3.21	.54
Lower Division, Specialized	3.86	.68	3.49	.55
Upper Division, Specialized	3.86	.60	3.44	.51
Graduate/Professional	3.92	.57	3.49	.49

Ratings were made on a 5-point scale where 1=low and 5=high
Note: Analyses reported in Table 21 used a more restricted data set. Classes with response rates less than 75% or not reporting the number enrolled were also excluded.

The IDEA system makes adjustments in ratings to take this type of "extraneous circumstance" into account. If adjustments are successful in making the "playing field" more even, then they should be positive for those teaching general education courses and negative for those teaching courses related to the student's major. Table 22 provides data to test the validity of this expectation (and hence the validity of adjustments).

All F tests were significant (P<.0001). Without exception, adjustments for classes designed to meet general education/distribution requirements at the lower division level were positive, ranging from +.02 to +.08 on individual objectives. At the upper division level, adjustments for this type of class were generally positive, although small negative figures were obtained on 4 of the 12 progress ratings. When pairwise comparisons were made, adjustments for upper division general education courses were significantly different (in a positive direction) from upper division courses related to the student's major/professional interests in 15 of the 16 comparisons.

In most comparisons, adjustments for graduate/professional level courses were greater than those for the other four types. This was expected since students in such courses are almost always highly motivated. The high unadjusted ratings in these courses reflect, in part, this motivation[11].

Table 22
Differences Between Adjusted and Unadjusted Ratings
Among Five Types of Classes

Criterion	Type of Class				
	General Education/ Distribution		Specialized/Major		Graduate/ Professional
	Lower Division	Upper Division	Lower Division	Upper Division	
21. Factual knowledge	+.08	+.01	-.06	-.07	-.06
22. Principles and theories	+.07	+.01	-.05	-.07	-.05
23. Applications	+.05	.00	-.04	-.08	-.11
24. Professional skills, viewpoints	+.05	+.01	-.03	-.04	-.08
25. Team skills	+.02	-.02	-.04	-.08	-.14
26. Creative capacities	+.06	.00	-.04	-.10	-.14
27. Broad liberal education	+.06	-.01	-.07	-.12	-.19
28. Communication skills	+.02	-.03	-.04	-..04	-.11
29. Find, use resources	+.06	+.02	-.02	-.05	-.08
30. Values development	+.06	.00	-.08	-.07	-.09
31. Critical analysis	+.02	-.01	-.04	-.06	-.09
32. Interest in learning	+.08	+.02	-.06	-.09	-.09
Progress on Relevant Objectives[a]	+1.27	+1.33	-1.40	-1.94	-1.32
Increased positive attitude	+.08	+.04	-.10	-.08	-.11
Excellent teacher	+.04	.00	-.02	-.05	-.08
Excellent course	+.11	+.06	-.08	-.08	-.12

[a]Progress on Relevant Objectives ratings are standardized T Scores. The distribution has a mean of 50 and standard deviation of 10. All other ratings were made on a 5-point scale where 1=low and 5=high.
Note: Analyses reported in Table 22 used a more restricted data set. Classes with response rates less than 75% or not reporting the number enrolled were also excluded.

Since these results were in line with expectations, it can be concluded that there is validity in the IDEA system's adjustments.

[11] Lower adjusted scores for such classes do not necessarily mean that unadjusted ratings overestimate instructional effectiveness. Rather, the quality of instruction is less vital in such classes since high student motivation and energy almost ensures high levels of progress.

VI. Other Technical Questions

This section addresses two questions that, while relevant to the interpretation of IDEA results, don't fit into any of the previous five sections. These questions are:

1. Are results on the Diagnostic and Short Form comparable?
2. Are there significant differences among disciplines?

1. Comparability of Diagnostic and Short Forms

Initially, the two forms were compared by examining the averages for student ratings of progress on relevant objectives (those chosen as "Important" or "Essential" by the instructor) as well as on the three global ratings of effectiveness (increased positive attitude toward the subject, excellence of the teacher, and excellence of the course). Results are shown in Table 23.

Table 23
Comparison of Ratings on the IDEA Diagnostic Form
And the IDEA Short Form

	Diagnostic Form				Short Form		
Objective	**N**	**Mean**	**S. D.**		**N**	**Mean**	**S. D.**
Factual knowledge	31,990	4.00	.49		21,301	4.20	.46
Principles and theories	30,394	3.94	.48		20,404	4.14	.46
Applications	30,437	3.99	.52		19,254	4.12	.49
Professional skills, viewpoints	21,564	4.04	.52		15,042	4.12	.49
Team skills	12,085	3.93	.63		7,307	4.02	.61
Creative capacities	9,288	3.87	.70		7,419	3.97	.61
Broad liberal education	10,254	3.69	.73		6,988	3.89	.65
Communication skills	18,170	3.79	.68		10,944	3.87	.63
Find, use resources	15,652	3.73	.57		9,690	3.83	.53
Values development	8,713	3.78	.63		5,707	3.87	.60
Critical analysis	18,905	3.84	.59		11,331	3.96	.55
Interest in learning	15,612	3.79	.56		10,104	3.92	.53
Overall Measure							
Increased positive attitude	44,447	3.86	.60		28,827	3.98	.58
Excellent teacher	44,447	4.18	.64		28,827	4.25	.60
Excellent course	44,447	3.92	.61		28,827	4.00	.59

A consistent difference favoring the Short Form is apparent. For the 12 individual objectives, these differences averaged .119; for the three global ratings, they averaged .090. Differences of this magnitude are significant in both the statistical and the practical sense. The practicality of these differences is especially apparent when the distribution of ratings on the two forms is examined. See Table 24.

Table 24
Diagnostic and Short Form Distribution of Means of Progress Ratings and Global Items (in Percentages)

Criterion	Form[a]	Range of Means						
		<2.00	2.00-2.49	2.50-2.99	3.00-3.49	3.50-3.99	4.00-4.49	4.50+
21. Factual knowledge	D	0.05	0.34	1.79	8.04	26.68	42.28	20.83
	S	0.01	0.13	0.78	3.87	16.81	42.18	36.21
22. Principles and theories	D	0.04	0.32	2.11	9.33	28.78	42.40	16.01
	S	0.02	0.13	0.95	4.71	20.11	43.69	30.39
23. Applications	D	0.05	0.33	2.15	8.97	26.62	39.88	22.00
	S	0.02	0.21	1.20	5.73	20.40	41.32	31.14
24. Professional skills, viewpoints	D	0.04	0.36	1.90	8.08	23.44	39.18	27.00
	S	0.03	0.22	1.21	5.84	20.51	40.63	31.56
25. Team skills	D	0.29	1.26	3.72	9.99	23.25	35.86	25.63
	S	0.09	0.95	3.43	8.60	20.54	34.41	31.98
26. Creative capacities	D	0.59	1.78	5.25	10.69	22.89	32.17	26.64
	S	0.21	0.91	3.11	9.68	22.88	36.16	27.04
27. Broad liberal education	D	0.75	2.94	7.88	15.09	24.68	28.71	19.95
	S	0.20	1.54	4.70	12.69	22.86	32.68	25.34
28. Communication skills	D	0.54	1.85	5.70	13.23	25.49	33.37	19.82
	S	0.26	1.31	4.52	12.01	25.36	34.39	22.13
29. Find, use resources	D	0.15	1.12	5.56	16.97	32.91	31.70	11.60
	S	0.02	1.64	3.56	13.95	32.96	35.21	13.67
30. Values development	D	0.30	1.47	5.61	14.69	28.12	32.84	16.98
	S	0.10	0.96	4.70	13.31	26.69	32.91	21.33
31. Critical analysis	D	0.16	1.09	4.57	12.51	27.99	36.53	17.16
	S	0.02	0.58	2.99	10.74	25.48	37.25	22.94
32. Interest in learning	D	0.10	0.87	4.71	15.17	31.91	33.52	13.71
	S	0.04	0.42	2.93	10.88	30.09	37.12	18.50
40. Increased positive attitude	D	0.19	1.00	4.42	12.57	27.05	34.59	20.19
	S	0.09	0.70	3.08	9.46	23.12	36.77	26.78
41. Excellent teacher	D	0.23	0.82	2.37	5.88	14.14	28.79	47.76
	S	0.13	0.52	1.86	4.96	13.24	28.92	50.38
42. Excellent course	D	0.16	0.94	3.79	11.21	24.94	34.90	24.06
	S	0.11	0.67	3.01	9.10	22.47	35.70	28.93

[a]D=Diagnostic Form, S=Short Form

A number of studies were conducted to try to account for these differences.

One study restricted the comparison of the two forms to classes that were taught by the same method (e. g., "Lecture/Discussion," "Skill/Activity," etc.). No reduction in differences was found for these more homogeneous groups.

Similar conclusions were drawn when comparisons were restricted to groups of classes that were directed to the same audiences (lower division classes for students seeking to meet general education or distribution requirements; upper division classes directed to specialization interests of students; etc.). The advantage of Short Form users could not be accounted for by their tendency to teach different types of students than was true for Diagnostic Form users.

A special study was made of PRO and the three global ratings at eight institutions that had administered approximately equal numbers of both forms in at least 100 classes. Although in general the Short Form's advantage was still apparent, there were some differences among institutions. Of the 32 comparisons (4 measures for each of 8 institutions), the Short Form mean was higher in 20; but the Diagnostic Form had higher means 7 times, and the two were about equal on the other 5 comparisons.

Disciplinary differences were examined by comparing results on the two forms for the eight disciplines where both forms were most commonly used. Differences were relatively small in Engineering and Communications departments, but relatively large in Philosophy and General Liberal Arts classes. This study was refined by restricting it to the 36 institutions that regularly employed both forms. "Within institutional disciplinary differences" were similar to those found when disciplinary differences were studied across all institutions.

The most crucial test was made when the comparison was restricted to the 465 classes taught by the same instructor on two occasions—once using the Diagnostic Form and once using the Short Form. In this study, only 2 of the 15 comparisons produced significant differences; and the magnitude of the significant differences was about .10 less than that found in the original studies.

Finally, the IDEA on-campus coordinators on campuses where substantial use was made of both forms were consulted. In most instances, these coordinators reported that the Short Form was employed with faculty members whose effectiveness had been well established (tenured faculty, others with significant amounts of experience, etc.). In contrast, the Diagnostic Form was typically required of junior, temporary, or part-time faculty.

These reports offered strong support for the view that differences between the two forms were artifacts of campus policies that appeared to assure an advantage to the Short Form. When coupled with the findings for the "same course, same instructor" study, it was concluded that true differences between the two forms were, at most, minor. The decision to restrict all normative reporting to the Diagnostic Form meant that norms would reflect the full range of faculty users, not a set that represents established, veteran teachers.

2. Disciplinary differences

Do results on the IDEA forms differ for different disciplines? This question has been a major focus of IDEA's research program. The short answer is, "Results differ significantly across disciplines, and some of these differences are substantial." The question requires relatively complex and detailed analysis. Therefore, it will be addressed in the Center's next technical report. In this report, a sample of disciplinary differences is provided below.

A minimum of 500 classes was required before a discipline was considered in these analyses. A total of 28 disciplines met this standard. Among other matters, the degree to which these disciplines identified each objective as "relevant" ("important" or "essential") was determined. Similarly, for those classes in which the objective was chosen as relevant, the average progress rating was computed. These results are summarized below for two of the twelve objectives, *Creative Capacities* and *Critical Analysis*, in Table 25.

Table 25
Disciplinary Differences in Relevance and Progress Ratings
For Two Learning Objectives

Discipline	Objective			
	Creative Capacities		Critical Analysis	
	% Relevant[a]	Average Progress[b]	% Relevant[a]	Average Progress[b]
Accounting	5.5	3.06	29.0	3.64
Admin/Management	14.8	3.66	46.2	3.98
Art	83.2	4.38	36.1	3.78
Biology/Life Science	7.2	3.15	30.1	3.61
Business – General	15.6	3.65	48.2	3.83
Chemistry	5.8	2.67	26.7	3.31
Communications	42.3	4.13	56.7	3.98
Computer/Information Sciences	20.3	3.46	24.0	3.37
Design/Applied Arts	69.0	4.01	40.4	3.84
Economics	6.2	2.82	46.0	3.65
Education – General	24.6	4.06	45.9	4.07
Engineering	20.2	3.31	26.4	3.38
English Literature	45.8	4.27	72.2	4.10
Fine and Applied Arts	69.0	4.17	39.1	3.83
Foreign Language/Literature	27.4	3.71	24.9	3.65
History	17.6	3.48	69.3	3.98
Health Professions/Related Science	8.8	3.78	32.5	3.93
Liberal Arts/General Studies	29.0	3.98	67.6	4.07
Mathematics/Statistics	6.3	2.78	22.8	3.30
Music	64.1	4.29	19.6	3.59
Nursing	7.7	3.69	42.0	4.14
Philosophy	16.4	3.64	93.1	4.37
Physical Education/ Health/ Safety	14.5	3.60	29.7	3.63
Physics	6.7	2.69	36.1	3.23
Political Science/Government	15.8	3.47	73.5	4.17
Psychology	7.5	3.54	53.7	3.93
Religion	13.7	3.46	60.1	4.12
Sociology	13.9	3.50	64.9	4.01

[a]Percent identifying objective as "important" or "essential."
[b]Ratings were made on a 5-point scale where 1=low and 5=high.
Note: Analyses reported in Table 25 used a more restricted data set. Classes with response rates less than 75% or not reporting the number enrolled were also excluded.

Instructors indicated that gains in *Creative Capacities* represented an "Important" or "Essential" objective in over half of the classes in Art, Design/Applied Arts, Fine and Applied Arts, and Music. In contrast, it was considered "Of no more than minor importance" in over 90 percent of the classes in Accounting, Biological/Life Science, Chemistry, Economics, Health Professions, Mathematics/Statistics, Physics, and Psychology. The average progress rating in relevant (important; essential) classes was much higher in disciplines that featured this objective than in those where it was rarely chosen (4.21 for disciplines where this objective was popular; 3.13 for those where it was rarely chosen).

Findings for the *Critical Analysis* objective were similar. It was considered relevant in over two-thirds of the classes in English Literature, History, Liberal Arts/General Studies, and Philosophy (where it was rated as relevant in over 93 percent of all classes). But it was rated as relevant in fewer than twenty-five percent of the classes in Computer/Information Sciences, Foreign Language/Literature, Mathematics/Statistics, and Music. Again, progress ratings paralleled these differences, averaging 4.08 for disciplines where it was commonly chosen and 3.48 for those where it was infrequently chosen.

These findings illustrate some of the very large differences among disciplines. Because these are so extensive, a full accounting will be delayed until the publication of a subsequent technical report.

Appendix A

Faculty Information Form
Diagnostic Form
Short Form (used Fall 1998-Summer 2002)
Short Form (revised Fall 2002)
Sample IDEA Report (Diagnostic Form)
Sample IDEA Short Form Report (reflects adjustments described in Appendix C)

This page intentionally left blank.

Faculty Information Form

See Directions to Faculty:
http://ideaedu.org/wp-content/uploads/2015/04/FIFHandout.pdf

IMPORTANT!

USE NO. 2 PENCIL ONLY

Proper Marks ●●●●●●

Improper Marks ⊙⊘⊗⊛◒⊙

Institution: _____ **Instructor:** _____

Course Number: _____ **Time and Days Class Meets:** _____

Last Name (Up to 11 letters) | **Init.**

Objectives: Using the scale provided, identify the relevance of each of the twelve objectives to this course. As a general rule, prioritize what you want students to learn by selecting no more than 3-5 objectives as either Important or Essential. The weighting system used to generate the IDEA report weighs Essential objectives "2," Important objectives "1," and Minor objectives "0."
(Scale - M = Minor or No Importance, I = Important, E = Essential)

	M	I	E	
1.	○	○	○	Gaining factual knowledge (terminology, classifications, methods, trends)
2.	○	○	○	Learning fundamental principles, generalizations, or theories
3.	○	○	○	Learning to *apply* course material (to improve thinking, problem solving, and decisions)
4.	○	○	○	Developing specific skills, competencies, and points of view needed by professionals in the field most closely related to this course
5.	○	○	○	Acquiring skills in working with others as a member of a team
6.	○	○	○	Developing creative capacities (writing, inventing, designing, performing in art, music, drama, etc.)
7.	○	○	○	Gaining a broader understanding and appreciation of intellectual/cultural activity (music, science, literature, etc.)
8.	○	○	○	Developing skill in expressing oneself orally or in writing
9.	○	○	○	Learning how to find and use resources for answering questions or solving problems
10.	○	○	○	Developing a clearer understanding of, and commitment to, personal values
11.	○	○	○	Learning to *analyze* and *critically evaluate* ideas, arguments, and points of view
12.	○	○	○	Acquiring an interest in learning more by asking questions and seeking answers

Days Class Meets

○ Mon
○ Tues
○ Wed
○ Thu
○ Fri
○ Sat
○ Sun

Discipline Code

Time Class Begins

Course Number

Number Enrolled

Local Codes: A B C D E F G H

Contextual Questions (Research Purposes):

The IDEA Center will conduct research on these optional questions in order to improve the interpretation of student ratings.

1. Which of the following represents the primary approach to this course? (Mark only one)

① = Lecture
② = Discussion/recitation
③ = Seminar
④ = Skill/activity
⑤ = Laboratory
⑥ = Field Experience
⑦ = Studio
⑧ = Multi-Media
⑨ = Practicum/clinic
⓪ = Other

2. If multiple approaches are used, which one represents the secondary approach? (Mark only one)

① = Lecture
② = Discussion/recitation
③ = Seminar
④ = Skill/activity
⑤ = Laboratory
⑥ = Field Experience
⑦ = Studio
⑧ = Multi-Media
⑨ = Practicum/clinic
⓪ = Other

3. Describe this course in terms of its requirements with respect to the features listed below. Use the following code to make your responses:
N = None (or little) required
S = Some required
M = Much required

	N	S	M	
A.	○	○	○	Writing
B.	○	○	○	Oral communication
C.	○	○	○	Computer applications
D.	○	○	○	Group work
E.	○	○	○	Mathematical/quantitative work
F.	○	○	○	Critical thinking
G.	○	○	○	Creative/artistic/design endeavor
H.	○	○	○	Reading
I.	○	○	○	Memorization

Continue on back page

Contextual Questions Continued:

4. Rate each of the circumstances listed below, using the following code to respond:

P = Had a positive impact on learning
I = Neither a positive nor a negative impact
N = Had a negative impact on learning
? = Can't judge

P	I	N	?	
◯	◯	◯	◯	A. Physical facilities and/or equipment
◯	◯	◯	◯	B. Your previous experience in teaching this course
◯	◯	◯	◯	C. Substantial changes in teaching approach, course assignments, content, etc.
◯	◯	◯	◯	D. Your desire to teach this course
◯	◯	◯	◯	E. Your control over course management decisions (objectives, texts, exams, etc.)
◯	◯	◯	◯	F. Students' level of preparation for taking the course
◯	◯	◯	◯	G. Students' level of enthusiasm for the course
◯	◯	◯	◯	H. Students' level of effort to learn
◯	◯	◯	◯	I. Technical/instructional support

5. Please identify the <u>principal</u> type of student enrolling in this course (Mark only one)

① = First-year students/sophomores seeking to meet a "general education" or "distribution" requirement
② = First-year students/sophomores seeking to develop background needed for their intended specialization
③ = Upper level non-majors taking the course as a "general education" or "distribution" requirement
④ = Upper level majors (in this or a related field of study) seeking competence or expertise in their academic/professional specialty
⑤ = Graduate or professional school students
⑥ = Combination of two or more of the above types

6. Is this class:

a. Team taught?	◯ Yes	◯ No
b. Taught through distance learning?	◯ Yes	◯ No

Discipline Codes (Modified CIP Codes)

0100 Agricultural Business and Production
0200 Agricultural Sciences
0300 Conservation and Renewable Natural Resources
0400 Architecture and Related Programs
0500 Area Ethnic and Cultural Studies
5007 Art (Painting, Drawing, Sculpture)
3201 Basic Skills
2600 Biological Sciences/Life Sciences
5201 Business, General
5202 Business Administration and Management
5203 Business - Accounting
5208 Business - Finance
5212 Business Information and Data Processing Services
5214 Business - Marketing
4005 Chemistry
0900 Communications
1100 Computer and Information Sciences
4301 Criminal Justice and Corrections
1205 Culinary Arts and Related Services
1103 Data Processing Technology (2-year program)
5004 Design and Applied Arts
9901 Developmental Math
9902 Developmental Reading
9903 Developmental Writing
9904 Developmental Natural Sciences
4506 Economics
1300 Education
1400 Engineering
1500 Engineering-Related Technologies
9910 English as Second Language
2301 English Language and Literature
5000 Fine and Applied Arts (EXCEPT Art, Music, and Design and Applied Arts)
1600 Foreign Languages and Literatures
3105 Health and Physical Education/Fitness
5100 Health Professions and Related Sciences (EXCEPT Nursing)
5199 Health Professions and Related Sciences (2-year program)
4508 History
1900 Human Sciences/Family and Consumer Sciences
2400 Liberal Arts & Sciences, General Studies and Humanities
2200 General Legal Studies (Undergraduate)
2500 Library Science
2700 Mathematics and Statistics
5009 Music (Performing, Composing, Theory)
5116 Nursing
3100 Parks, Recreation, Leisure, and Fitness Studies
3801 Philosophy
4000 Physical Science (EXCEPT Physics and Chemistry)
4008 Physics
4510 Political Science and Government
4200 Psychology
4400 Public Administration and Services (EXCEPT Social Work)
3900 Religion and Theological Studies
4500 Social Sciences (EXCEPT Economics, History, Political Science, and Sociology)
4407 Social Work and Service
4511 Sociology
2310 Speech and Rhetorical Studies

Vocational/Technical Programs (see Website: Department codes 4600-4900)

9900 Other (to be used when none of the above codes apply)

To see an expanded list of discipline codes go to: http://ideaedu.org/support/discipline-and-department-codes/

DIAGNOSTIC FEEDBACK (SURVEY FORM – STUDENT REACTIONS TO INSTRUCTION AND COURSES)

IMPORTANT!

USE NO. 2 PENCIL ONLY

Proper Marks ●●●●●●

Improper Marks ⊙⊘⊗⊜◒⊙

Institution: **Instructor:**

Course Number: **Time and Days Class Meets:**

Your thoughtful answers to these questions will provide helpful information to your instructor.

Describe the frequency of your instructor's teaching procedures, using the following code:

1=Hardly Ever 2=Occasionally 3=Sometimes 4=Frequently 5=Almost Always

The Instructor:

1.	1	2	3	4	5	Displayed a personal interest in students and their learning
2.	1	2	3	4	5	Found ways to help students answer their own questions
3.	1	2	3	4	5	Scheduled course work (class activities, tests, projects) in ways which encouraged students to stay up-to-date in their work
4.	1	2	3	4	5	Demonstrated the importance and significance of the subject matter
5.	1	2	3	4	5	Formed "teams" or "discussion groups" to facilitate learning
6.	1	2	3	4	5	Made it clear how each topic fit into the course
7.	1	2	3	4	5	Explained the reasons for criticisms of students' academic performance
8.	1	2	3	4	5	Stimulated students to intellectual effort beyond that required by most courses
9.	1	2	3	4	5	Encouraged students to use multiple resources (e.g. data banks, library holdings, outside experts) to improve understanding
10.	1	2	3	4	5	Explained course material clearly and concisely
11.	1	2	3	4	5	Related course material to real life situations
12.	1	2	3	4	5	Gave tests, projects, etc. that covered the most important points of the course
13.	1	2	3	4	5	Introduced stimulating ideas about the subject
14.	1	2	3	4	5	Involved students in "hands on" projects such as research, case studies, or "real life" activities
15.	1	2	3	4	5	Inspired students to set and achieve goals which really challenged them
16.	1	2	3	4	5	Asked students to share ideas and experiences with others whose backgrounds and viewpoints differ from their own
17.	1	2	3	4	5	Provided timely and frequent feedback on tests, reports, projects, etc. to help students improve
18.	1	2	3	4	5	Asked students to help each other understand ideas or concepts
19.	1	2	3	4	5	Gave projects, tests, or assignments that required original or creative thinking
20.	1	2	3	4	5	Encouraged student-faculty interaction outside of class (office visits, phone calls, e-mail, etc.)

Twelve possible learning objectives are listed below, not all of which will be relevant in this class. Describe the amount of progress you made on each (even those not pursued in this class) by using the following scale:

1 - No apparent progress
2 - Slight progress; I made small gains on this objective.
3 - Moderate progress; I made some gains on this objective.
4 - Substantial progress; I made large gains on this objective.
5 - Exceptional progress; I made outstanding gains on this objective.

Progress on:

21.	1	2	3	4	5	Gaining factual knowledge (terminology, classifications, methods, trends)
22.	1	2	3	4	5	Learning fundamental principles, generalizations, or theories
23.	1	2	3	4	5	Learning to *apply* course material (to improve thinking, problem solving, and decisions)
24.	1	2	3	4	5	Developing specific skills, competencies, and points of view needed by professionals in the field most closely related to this course
25.	1	2	3	4	5	Acquiring skills in working with others as a member of a team
26.	1	2	3	4	5	Developing creative capacities (writing, inventing, designing, performing in art, music, drama, etc.)
27.	1	2	3	4	5	Gaining a broader understanding and appreciation of intellectual/cultural activity (music, science, literature, etc.)
28.	1	2	3	4	5	Developing skill in expressing myself orally or in writing
29.	1	2	3	4	5	Learning how to find and use resources for answering questions or solving problems
30.	1	2	3	4	5	Developing a clearer understanding of, and commitment to, personal values
31.	1	2	3	4	5	Learning to *analyze* and *critically evaluate* ideas, arguments, and points of view
32.	1	2	3	4	5	Acquiring an interest in learning more by asking my own questions and seeking answers

Continued on back page

On the next three items, compare this course with others you have taken at this institution, using the following code:

1=Much Less than Most Courses | 2=Less than Most Courses | 3=About Average | 4=More than Most Courses | 5=Much More than Most Courses

The Course:

33. ① ② ③ ④ ⑤ Amount of reading
34. ① ② ③ ④ ⑤ Amount of work in other (non-reading) assignments
35. ① ② ③ ④ ⑤ Difficulty of subject matter

Describe your attitudes and behavior in this course, using the following code:

1=Definitely False | 2=More False Than True | 3=In Between | 4=More True Than False | 5=Definitely True

36. ① ② ③ ④ ⑤ I had a strong desire to take this course.
37. ① ② ③ ④ ⑤ I worked harder on this course than on most courses I have taken.
38. ① ② ③ ④ ⑤ I really wanted to take a course from this instructor.
39. ① ② ③ ④ ⑤ I really wanted to take this course regardless of who taught it.
40. ① ② ③ ④ ⑤ As a result of taking this course, I have more positive feelings toward this field of study.
41. ① ② ③ ④ ⑤ Overall, I rate this instructor an excellent teacher.
42. ① ② ③ ④ ⑤ Overall, I rate this course as excellent.

For the following items, blacken the space which best corresponds to your judgment:

1=Definitely False | 2=More False Than True | 3=In Between | 4=More True Than False | 5=Definitely True

43. ① ② ③ ④ ⑤ As a rule, I put forth more effort than other students on academic work.
44. ① ② ③ ④ ⑤ The instructor used a variety of methods--not only tests--to evaluate student progress on course objectives.
45. ① ② ③ ④ ⑤ The instructor expected students to take their share of responsibility for learning.
46. ① ② ③ ④ ⑤ The instructor had high achievement standards in this class.
47. ① ② ③ ④ ⑤ The instructor used educational technology (e.g., Internet, e-mail, computer exercises, multi-media presentations, etc.) to promote learning.

EXTRA QUESTIONS

If your instructor has extra questions, answer them in the space designated below (questions 48-67):

48. ① ② ③ ④ ⑤
49. ① ② ③ ④ ⑤
50. ① ② ③ ④ ⑤
51. ① ② ③ ④ ⑤
52. ① ② ③ ④ ⑤
53. ① ② ③ ④ ⑤
54. ① ② ③ ④ ⑤
55. ① ② ③ ④ ⑤
56. ① ② ③ ④ ⑤
57. ① ② ③ ④ ⑤
58. ① ② ③ ④ ⑤
59. ① ② ③ ④ ⑤
60. ① ② ③ ④ ⑤
61. ① ② ③ ④ ⑤
62. ① ② ③ ④ ⑤
63. ① ② ③ ④ ⑤
64. ① ② ③ ④ ⑤
65. ① ② ③ ④ ⑤
66. ① ② ③ ④ ⑤
67. ① ② ③ ④ ⑤

Use the space below for comments (unless otherwise directed).
Note: Your written comments may be returned to the instructor, You may want to PRINT to protect your anonymity.

Comments: _____

IDEA CENTER SHORT FORM - STUDENT REACTIONS TO INSTRUCTION AND COURSES

Institution:	**Instructor:**
Course Number:	**Time and Days Class Meets:**

IMPORTANT!

Proper Marks ●●●●●●

Improper Marks ⊙⊘⊗⊙◒⊕

Twelve possible learning objectives are listed below. For each, rate your progress in this course compared with your progress in other courses you have taken at this college or university. (Of course, ratings on objectives which were not addressed by the course will usually be low.)

In this course, my progress on this objective was:

1-Low (lowest 10 percent of courses I have taken here)
2-Low Average (next 20 percent of courses I have taken here)
3-Average (middle 40 percent of courses I have taken here)
4-High Average (next 20 percent of courses I have taken here)
5-High (highest 10 percent of courses I have taken here)

Progress on:

1.	①	②	③	④	⑤	Gaining factual knowledge (terminology, classifications, methods, trends)
2.	①	②	③	④	⑤	Learning fundamental principles, generalizations, or theories
3.	①	②	③	④	⑤	Learning to *apply* course material (to improve thinking, problem solving, and decisions)
4.	①	②	③	④	⑤	Developing specific skills, competencies, and points of view needed by professionals in the field most closely related to this course
5.	①	②	③	④	⑤	Acquiring skills in working with others as a member of a team
6.	①	②	③	④	⑤	Developing creative capacities (writing, inventing, designing, performing in art, music, drama, etc.)
7.	①	②	③	④	⑤	Gaining a broader understanding and appreciation of intellectual/cultural activity (music, science, literature, etc.)
8.	①	②	③	④	⑤	Developing skill in expressing myself orally or in writing
9.	①	②	③	④	⑤	Learning how to find and use resources for answering questions or solving problems
10.	①	②	③	④	⑤	Developing a clearer understanding of, and commitment to, personal values
11.	①	②	③	④	⑤	Learning to *analyze* and *critically evaluate* ideas, arguments, and points of view
12.	①	②	③	④	⑤	Acquiring an interest in learning more by asking my own questions and seeking answers

For the remaining questions, use the following code:

1=Definitely False | **2=More False Than True** | **3=In Between** | **4=More True Than False** | **5=Definitely True**

13.	①	②	③	④	⑤	I had a strong desire to take this course.
14.	①	②	③	④	⑤	I really wanted to take a course from this instructor.
15.	①	②	③	④	⑤	I really wanted to take this course regardless of who taught it.
16.	①	②	③	④	⑤	As a result of taking this course, I have more positive feelings toward this field of study.
17.	①	②	③	④	⑤	Overall, I rate this instructor an excellent teacher.
18.	①	②	③	④	⑤	Overall, I rate this course as excellent.

EXTRA QUESTIONS

If your instructor has extra questions, answer them in the space designated below (questions 19-28).

19.	①	②	③	④	⑤	24.	①	②	③	④	⑤
20.	①	②	③	④	⑤	25.	①	②	③	④	⑤
21.	①	②	③	④	⑤	26.	①	②	③	④	⑤
22.	①	②	③	④	⑤	27.	①	②	③	④	⑤
23.	①	②	③	④	⑤	28.	①	②	③	④	⑤

Your comments are invited on how the instructor might improve this course or teaching procedures. Use the space provided on the back of this form for your comments.

Mark Reflex® by NCS MM98921-2 654 ED06 Printed in U.S.A.

Continue on back page

Comments:

DO NOT

WRITE

IN THE

SHADED

AREA

SHORT FORM - STUDENT REACTIONS TO INSTRUCTION AND COURSES

THE IDEA CENTER

Institution:	Instructor:
Course Number:	Time and Days Class Meets:

IMPORTANT! USE NO. 2 PENCIL ONLY

Proper Marks ●●●●●● Improper Marks

Twelve possible learning objectives are listed below, not all of which will be relevant in this class. Describe the amount of progress you made on each (even those not pursued in this class) by using the following scale:

1 - No apparent progress
2 - Slight progress; I made small gains on this objective.
3 - Moderate progress; I made some gains on this objective.
4 - Substantial progress; I made large gains on this objective.
5 - Exceptional progress; I made outstanding gains on this objective.

Progress on:

1. ① ② ③ ④ ⑤ Gaining factual knowledge (terminology, classifications, methods, trends)
2. ① ② ③ ④ ⑤ Learning fundamental principles, generalizations, or theories
3. ① ② ③ ④ ⑤ Learning to *apply* course material (to improve thinking, problem solving, and decisions)
4. ① ② ③ ④ ⑤ Developing specific skills, competencies, and points of view needed by professionals in the field most closely related to this course
5. ① ② ③ ④ ⑤ Acquiring skills in working with others as a member of a team
6. ① ② ③ ④ ⑤ Developing creative capacities (writing, inventing, designing, performing in art, music, drama, etc.)
7. ① ② ③ ④ ⑤ Gaining a broader understanding and appreciation of intellectual/cultural activity (music, science, literature, etc.)
8. ① ② ③ ④ ⑤ Developing skill in expressing myself orally or in writing
9. ① ② ③ ④ ⑤ Learning how to find and use resources for answering questions or solving problems
10. ① ② ③ ④ ⑤ Developing a clearer understanding of, and commitment to, personal values
11. ① ② ③ ④ ⑤ Learning to *analyze* and *critically evaluate* ideas, arguments, and points of view
12. ① ② ③ ④ ⑤ Acquiring an interest in learning more by asking my own questions and seeking answers

For the remaining questions, use the following code:

1=Definitely False	2=More False Than True	3=In Between	4=More True Than False	5=Definitely True

13. ① ② ③ ④ ⑤ As a rule, I put forth more effort than other students on academic work.
14. ① ② ③ ④ ⑤ My background prepared me well for this course's requirements.
15. ① ② ③ ④ ⑤ I really wanted to take this course regardless of who taught it.
16. ① ② ③ ④ ⑤ As a result of taking this course, I have more positive feelings toward this field of study.
17. ① ② ③ ④ ⑤ Overall, I rate this instructor an excellent teacher.
18. ① ② ③ ④ ⑤ Overall, I rate this course as excellent.

EXTRA QUESTIONS

If your instructor has extra questions, answer them in the space designated below (questions 19-38).

19. ① ② ③ ④ ⑤	24. ① ② ③ ④ ⑤	29. ① ② ③ ④ ⑤	34. ① ② ③ ④ ⑤
20. ① ② ③ ④ ⑤	25. ① ② ③ ④ ⑤	30. ① ② ③ ④ ⑤	35. ① ② ③ ④ ⑤
21. ① ② ③ ④ ⑤	26. ① ② ③ ④ ⑤	31. ① ② ③ ④ ⑤	36. ① ② ③ ④ ⑤
22. ① ② ③ ④ ⑤	27. ① ② ③ ④ ⑤	32. ① ② ③ ④ ⑤	37. ① ② ③ ④ ⑤
23. ① ② ③ ④ ⑤	28. ① ② ③ ④ ⑤	33. ① ② ③ ④ ⑤	38. ① ② ③ ④ ⑤

Use the space provided on the back of this form for your comments.

Continue on back page

Comments:

DO NOT WRITE IN THE SHADED AREA

The IDEA Report for **SAMPLE, AX**

Business 0230 (MTU 1:00), Fall 2001-2002
IDEA UNIVERSITY

SAMPLE

IDEA CENTER

Number Enrolled: 34
Number Responding: 29
85.3% Responding

Your results are considered reliable; re-rating by the same students would be unlikely to produce a report resulting in different conclusion. The percentage of enrollees who provided ratings is high; results can be considered representative of the class as a whole.

Sections and Purposes of the Report

Page	Section	Purpose
2	I. Overall Measures of Teaching Effectiveness	Provides **global assessment** of teaching effectiveness. Use with pages 3 and 6 for administrative use in making personnel recommendations.
3	II. Student Ratings of Progress on Relevant Objectives	Provides **student self-report of learning** on objectives identified as relevant (*Important* or *Essential*) by the instructor
4-5	III. Teaching Methods or Style Related to Student Ratings of Progress	Primarily to help develop a **strategy for improving teaching** methods (not intended for use in making personnel recommendations)
6	IV. Course Description/Context	Primarily to **assist in interpreting** the results by considering the context in which the course was taught
7-8	V. Statistical Detail	Primarily to provide details that may help you or your consultants to **understand or interpret** the report accurately

Definitions

Raw Score: Results obtained by using students' numerical ratings, all of which are based on a scale of 1 (low) to 5 (high).

Adjusted Score: Ratings that have been statistically adjusted to take into account factors that affect ratings but are beyond the instructor's control: student desire to take the course regardless of who taught it (item #39); student work habits (item #43); instructor reported class size; student effort not attributable to the instructor (multiple items); and course difficulty not attributable to the instructor (multiple items).

T Score: A statistically derived score that makes it easy to compare various measures. Unlike raw scores, which have different averages and standard deviations (variabilities), T Scores all have an average of 50 and a standard deviation of 10. This means that 40% of all T Scores will be in the range of 45-55, while less than 2% will be below 30 or above 70.

Similar Classes: On Page 4, ratings of specific teaching methods are compared with national averages for classes of "similar size and level of student motivation." Your ratings are compared with those from one of 20 groups defined by considering both class size (less than 15; 15-34; 35-49; 50 or more) and average student response to item *39-I really wanted to take this course regardless of who taught it* (under 2.62; 2.62-3.05; 3.06-3.63; 3.64-4.08; 4.09 or above).

Understanding the Graphs

Most results are presented on graphs. Unadjusted T Scores are shown by the symbol ×; adjusted T Scores are shown by the symbol ◆. In most cases, we use a line on both sides of a symbol to indicate that ratings have a "margin of error"; the line represents ± one standard error of measurement, a statistical indication of the reliability of the measure.

A Few Words of Caution

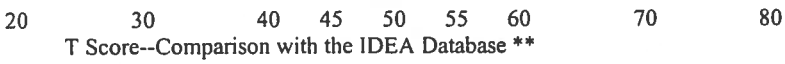
1. Normative information and the process for adjusting scores were updated using classes rated during the 1998-99, 1999-2000, and 2000-2001 academic years. **Exercise caution when comparing T Scores and adjusted scores with those for classes processed prior to December 1, 2001.** The new norms have slightly higher item averages. Therefore, T Scores for a given average will be somewhat lower than those for past years. If results are being summarized with classes processed prior to December 1, 2001, review both T Scores and raw scores to determine if differences are due to a more competitive normative group or if the item averages have actually changed.

2. Student ratings can make a useful contribution to the appraisal of teaching effectiveness and to the development of improvement strategies. However, they have distinct limitations which need to be acknowledged before appropriate use can be made of them. Please read the *Overview of Student Ratings: Value and Limitations* (www.idea.ksu.edu).

Section I. Overall Measures of Teaching Effectiveness

This section compares your results with those for other instructors and courses in the national database on four OVERALL MEASURES OF TEACHING EFFECTIVENESS. **The primary value of this information is to aid in making administrative recommendations; if this is the only use you will make of the report, you need to consult only these results along with page 3 and the context provided by Section IV, page 6.** Please remember that most of the classes included in the database have been taught in a reasonably successful manner; therefore, a rating which is "below average" does not necessarily mean that the quality of instruction was unacceptable. Additional sources of evidence should always be used to review teaching effectiveness.

Overall Measures of Effectiveness	T Score Unadj. / Adj.	2% of all classes	28% of all classes	40% of all classes (Avg. range)	28% of all classes	2% of all classes	Your Average * (5-Point Scale) Raw	Your Average * (5-Point Scale) Adjusted	IDEA Average
1. Progress on Relevant (Essential and Important) Objectives	47 / 51						NA_1	NA_1	NA_1
2. Improved Student Attitude	47 / 51						3.7	3.9	3.9
3. Overall Excellence of Teacher	56 / 60						4.6	4.8	4.2
4. Overall Excellence of Course	50 / 55						3.9	4.2	3.9



T Score--Comparison with the IDEA Database **

⊢×⊣ Unadjusted T Score ± one standard error of measurement

⊢◆⊣ Adjusted T Score ± one standard error of measurement: adjusted for student work habits (item #43); student desire to take the course regardless of who taught it (item #39); instructor reported class size; student effort not attributable to the instructor (multiple items); and course difficulty not attributable to the instructor (multiple items).

You may wish to assign these ratings to categories like those that have been used historically with the IDEA system. Simply assign T Scores to categories as follows: **Low** (lowest 10%)=T Score below 37; **Low Average** (next 20%)=T Score 37-44; **Average** (middle 40%)=T Score 45-55; **High Average** (next 20%)=T Score 56-63; and **High** (highest 10%)=T Score above 63.

1. Progress on Relevant (Essential and Important) Objectives. Because student learning is the central purpose of teaching, and because you chose the objectives considered by this measure, this is probably the most vital measure of effectiveness. A double weight is given to student ratings of progress on objectives you chose as ***Essential***, and a single weight to those chosen as ***Important*** ; objectives identified as being of ***Minor or No Importance*** were ignored in developing this measure.

2. Improved Student Attitude. This shows the average response of students to item 40, "As a result of taking this course, I have more positive feelings toward this field of study." This rating may be most meaningful for courses that are taken by many non-majors. Most teachers hope that such students will develop a respect and appreciation for the discipline even if they choose to take no additional courses in it. The IDEA national average for this item is 3.9.

3. Overall Excellence of Teacher. This shows the average response to item 41, "Overall, I rate this instructor an excellent teacher." Overall impressions of a teacher affect student attitudes, effort, and learning. The IDEA national average for this item is 4.2.

4. Overall Excellence of Course. This shows the average response to item 42, "Overall, I rate this course as excellent." This evaluation is likely determined by a number of factors (e.g., teaching style, student satisfaction with course outcomes, and characteristics such as organization, selection of readings, and/or other influences). The IDEA national average for this item is 3.9.

NA_1: Based on a combination of ratings where an average on a 5-point scale is not comparable.

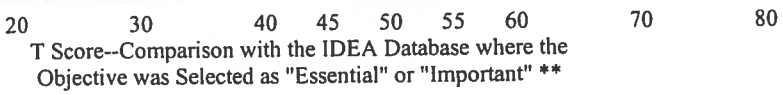
* Statistically, adjustments can exceed 5.0 on the 5-point scale. If this occurs, "Your Average," reported in the table above, will be rounded to 5.0. However, the T Score reported will reflect the actual adjusted score, which may exceed 5.0. Therefore, identical adjusted scores of 5.0 may have different adjusted T Scores.

** Normative information (T Scores) and the process for adjusting scores were updated on December 1, 2001. See page 1 for "A Few Words of Caution."

Section II. Student Ratings of Progress on Relevant Objectives

This graph shows student progress ratings on the objectives you chose as ***Essential*** (Part A) and those you chose as ***Important*** (Part B). To the degree that students make progress on the objectives you emphasize, your teaching has been effective.

Part A. Essential Objectives	T Score Unadj. / **Adj.**	2% of all classes	28% of all classes	40% of all classes (Avg. range)	28% of all classes	2% of all classes	Your Average * (5-Point Scale) Raw	Adjusted	IDEA Average
21. Factual knowledge	44 / **47**						3.7	3.9	4.0
22. Principles and theories	45 / **49**						3.7	3.9	3.9
Part B. Important Objectives									
23. Apply course material	52 / **58**						4.1	4.4	4.0
31. Analysis and critical evaluation	51 / **57**						3.9	4.2	3.8



T Score--Comparison with the IDEA Database where the Objective was Selected as "Essential" or "Important" **

⊢×⊣ Unadjusted T Score ± one standard error of measurement
⊢◆⊣ Adjusted T Score ± one standard error of measurement: adjusted for student work habits (item #43); student desire to take the course regardless of who taught it (item #39); instructor reported class size; student effort not attributable to the instructor (multiple items); and course difficulty not attributable to the instructor (multiple items).

Similar to Section I, you may wish to assign ratings to categories. Simply assign T Scores to categories as follows: **Low** (lowest 10%)=T Score below 37; **Low Average** (next 20%)=T Score 37-44; **Average** (middle 40%)=T Score 45-55; **High Average** (next 20%)=T Score 56-63; and **High** (highest 10%)=T Score above 63.

It is recommended that priority attention be given to ***Essential*** objectives with progress ratings that are *below average*. The second priority might be directed to ***Important*** objectives for which progress ratings are *below average*. A third priority might be ***Essential*** or ***Important*** objectives for which progress ratings are in the *average* range. If all progress ratings are *above the average* range, it is suggested that your present methods of teaching are effective and changes in your teaching style or approaches do not appear to be needed in order to ensure that your teaching promotes student learning. If improvement is needed, strategies can be formulated by examining teaching methods or style associated with progress ratings on the objectives chosen for priority attention. These are identified in **Section III** (pages 4 and 5) of this report.

Note: Students in your class also rated their progress on the objectives that you classified as being of ***Minor or No Importance.*** These ratings are considered irrelevant in judging your teaching effectiveness. However, a review of student ratings on these objectives, found in **Section V** (Statistical Detail pages 7 and 8), may provide you with insights about some "unintended" or "additional" effects of your instruction.

* Statistically, adjustments can exceed 5.0 on the 5-point scale. If this occurs, "Your Average," reported in the table above, will be rounded to 5.0. However, the T Score reported will reflect the actual adjusted score, which may exceed 5.0. Therefore, identical adjusted scores of 5.0 may have different adjusted T Scores.

** Normative information (T Scores) and the process for adjusting scores were updated on December 1, 2001. See page 1 for "A Few Words of Caution."

Section III. Teaching Methods or Style Related to Student Ratings of Progress

This section focuses on specific teaching methods. Results are given in three parts. **Part One** graphically compares ratings of your teaching methods with those of others who teach classes similar to this one in terms of size and level of student motivation (see page 1). **Part Two** identifies the teaching methods most closely related to attaining your ***Important*** and ***Essential*** objectives, providing a basis for developing improvement strategies. **Part Three** highlights potential areas to emphasize for improvement efforts and teaching strengths that should be retained.

Part One: The graphs below show methods that were *more frequently* used (your ratings were at least 0.3 above average for classes of similar size and level of student motivation) and those that were *less frequently* used (your ratings were at least 0.3 below the average of such classes). Not all teaching methods promote progress on every learning objective. The methods that are especially relevant to each of your ***Essential*** and ***Important*** objectives are identified in **Part Two** (page 5).

Teaching Methods and Style

A. Stimulating Student Interest (Mean of 4, 8, 13, 15)

4. Demonstrated the importance and significance of the subject matter
8. Stimulated students to intellectual effort beyond that required by most courses
13. Introduced stimulating ideas about the subject
15. Inspired students to set and achieve goals which really challenged them

B. Fostering Student Collaboration (Mean of 5, 16, 18)

5. Formed "teams" or "discussion groups" to facilitate learning
16. Asked students to share ideas and experiences with others whose backgrounds and viewpoints differ from their own
18. Asked students to help each other understand ideas or concepts

C. Establishing Rapport (Mean of 1, 2, 7, 20)

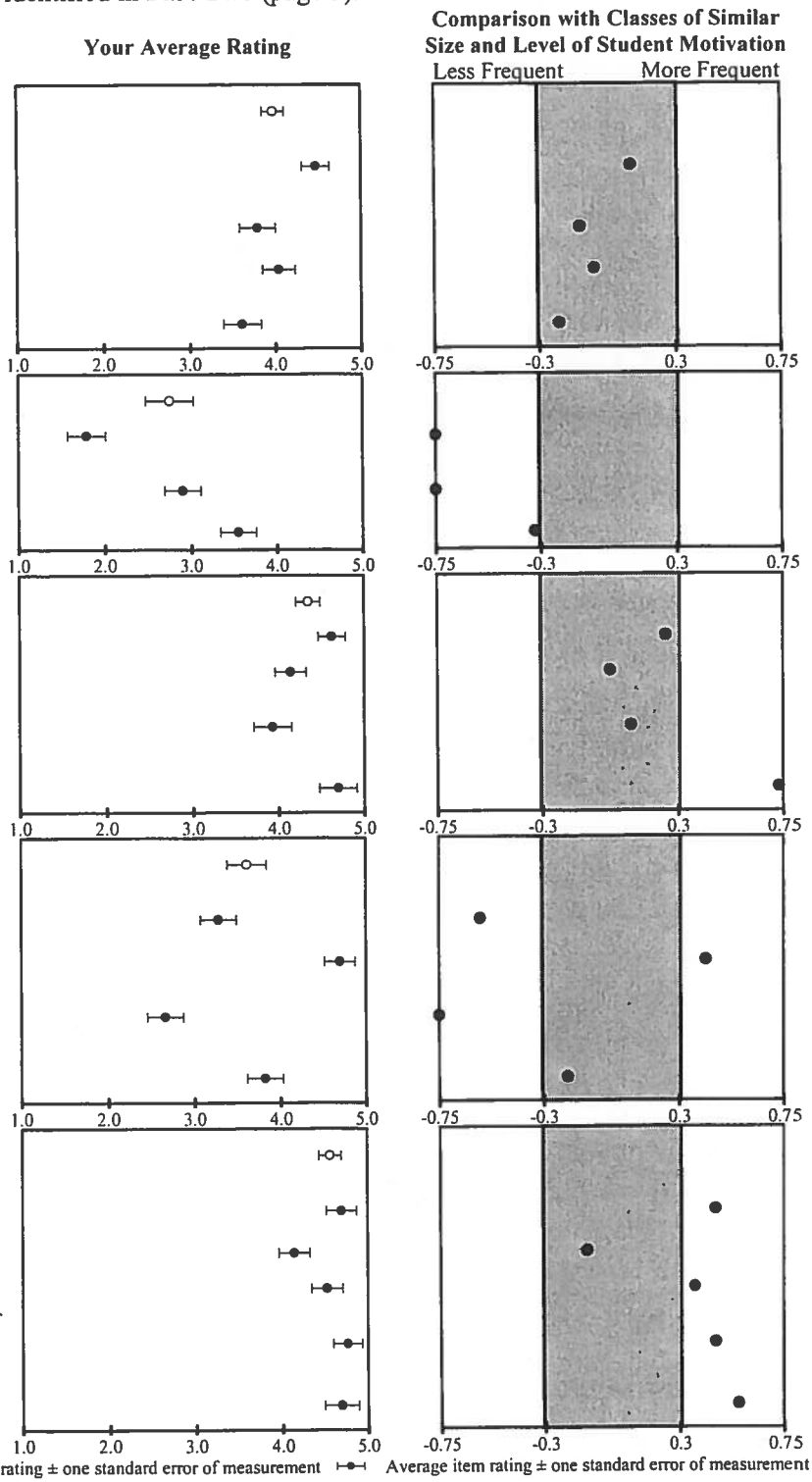
1. Displayed a personal interest in students and their learning
2. Found ways to help students answer their own questions
7. Explained the reasons for criticisms of students' academic performance
20. Encouraged student-faculty interaction outside of class (office visits, phone calls, e-mail, etc.)

D. Encouraging Student Involvement (Mean of 9, 11, 14, 19)

9. Encouraged students to use multiple resources (e.g. data banks, library holdings, outside experts) to improve understanding
11. Related course material to real life situations
14. Involved students in "hands on" projects such as research, case studies, or "real life" activities
19. Gave projects, tests, or assignments that required original or creative thinking

E. Structuring Classroom Experiences (Mean of 3, 6, 10, 12, 17)

3. Scheduled course work (class activities, tests, projects) in ways which encouraged students to stay up-to-date in their work
6. Made it clear how each topic fit into the course
10. Explained course material clearly and concisely
12. Gave tests, projects, etc. that covered the most important points of the course
17. Provided timely and frequent feedback on tests, reports, projects, etc. to help students improve



Section III. Teaching Methods or Style Related to Student Ratings of Progress (continued)

Part Two: Column 1 below again lists those objectives you listed as ***Essential*** or ***Important***. Column 2 lists those teaching methods which in combination are most closely related to progress ratings on your chosen objectives. Column 3 separates out those teaching methods that you used more or less frequently than those teaching classes similar size and motivation. (The numbers in Columns 2 and 3 refer to the teaching methods numbered 1-20 on the graphical presentations in **Part One, page 4**.)

Column 1 Chosen Objectives	Column 2 Most Relevant Teaching Methods *	Column 3 Relevant Methods to be Considered	
		Strengths to Retain	Consider Increasing Frequency
Essential Objectives			
21. Factual knowledge	2,4,6,8,10,12,13,15	10,12	
22. Principles and theories	2,4,6,8,10,12,13,15	10,12	
Important Objectives			
23. Apply course material	1,2,4,6,7,8,10,11,13,15	10,11	
31. Analysis and critical evaluation	2,7,8,13,15,16,18,19		16,18

Part Three: This section summarizes teaching methods to consider for improvement strategies and methods which are effective and should be retained.

Potential Areas to Consider Increasing Frequency of Use

Generally, improvement efforts are most successful if they focus on no more than three teaching strategies at a time. These results suggest that your improvement strategies might best be chosen from the following teaching methods:

16. Asked students to share ideas and experiences with others whose backgrounds and viewpoints differ from their own
18. Asked students to help each other understand ideas or concepts

Strengths to Retain

In doing so, you should take care to retain the methods which are currently effective, including:

10. Explained course material clearly and concisely
12. Gave tests, projects, etc. that covered the most important points of the course
11. Related course material to real life situations

* Underlined item numbers are highly correlated with the learning objective (.60 or above). Others are moderately correlated (.50-.59).
See The IDEA Center's homepage for more information (www.idea.ksu.edu).

Section IV. Course Description/Context

This section describes several aspects of your course. Some of the description summarizes information you supplied when you administered the IDEA form, and some of the information comes from student responses. Information on this page provides the context in which the class was taught, which should guide the interpretation of the ratings. The IDEA Center will conduct additional research on these data to determine more precisely how they can improve interpretation of the report.

Instructor Ratings

Course Description:

Primary Instructional Type: *Lecture*
Secondary Instructional Type: *Other/Not Indicated*
Principal Type of Student: *Underclassmen, majors*
Team Taught: *No*
Distance Learning: *No*

Special Circumstances:

Positive Impact on Learning	Neither Positive nor Negative Impact	Negative Impact on Learning
Previous experience teaching course	*Physical facilities and/or equipment*	*Adequacy of students' background/preparation*
Desire to teach course	*Changes in teaching approach*	
Control over course management decisions	*Student enthusiasm*	
	Student effort	
	Technical/instructional support	

Course Requirements:

Much Required	Some Required	None (or little) Required
	Mathematical/quantitative work	*Writing*
	Critical thinking	*Oral communication*
		Computer applications
		Group work
		Creative/artistic/design endeavor

Student Ratings

Course Description	Number of Students Responding:* 1	2	3	4	5	Average	T Score
33. Amount of reading	1	3	17	8	0	3.1	49
34. Amount of work in other (non-reading) assignments	1	1	12	14	0	3.4	49
35. Difficulty of subject matter	1	1	10	11	5	3.6	54

*1 = Much less than most courses 2 = Less than most courses 3 = About average 4 = More than most courses 5 = Much more than most courses

Self-Ratings	Number of Students Responding:** 1	2	3	4	5	Average	T Score
37. I worked harder on this course than on most courses I have taken.	2	1	6	15	5	3.7	52
39. I really wanted to take this course regardless of who taught it.	4	2	12	9	2	3.1	46
43. As a rule, I put forth more effort than other students on academic work.	1	7	5	13	3	3.3	40

**1 = Definitely false 2 = More false than true 3 = In between 4 = More true than false 5 = Definitely true

Similar to Sections I and II, you may wish to assign ratings to categories. Simply assign T Scores to categories as follows: **Low** (lowest 10%)=T Score below 37; **Low Average** (next 20%)=T Score 37-44; **Average** (middle 40%)=T Score 45-55; **High Average** (next 20%)=T Score 56-63; and **High** (highest 10%)=T Score above 63.

Section V. Statistical Detail: Item Frequencies, Averages, and Standard Deviations

Items 1-20: Teaching Methods

Key: 1=Hardly Ever 2=Occasionally 3=Sometimes 4=Frequently 5=Almost Always

	1	2	3	4	5	Omit	Avg.	s.d.
1.	0	0	1	9	19	0	4.6	0.6
2.	1	0	4	13	11	0	4.1	0.9
3.	0	0	1	7	21	0	4.7	0.5
4.	0	0	1	13	14	1	4.5	0.6
5.	17	2	9	1	0	0	1.8	1.0
6.	1	0	4	13	11	0	4.1	0.9
7.	1	1	5	14	8	0	3.9	1.0
8.	1	1	7	14	6	0	3.8	0.9
9.	2	6	9	6	6	0	3.3	1.2
10.	0	1	1	9	18	0	4.5	0.7
11.	0	0	2	5	22	0	4.7	0.6
12.	0	0	1	5	23	0	4.8	0.5
13.	1	1	5	11	11	0	4.0	1.0
14.	7	6	8	6	2	0	2.7	1.3
15.	1	4	7	9	7	1	3.6	1.1
16.	4	9	8	2	6	0	2.9	1.3
17.	0	0	0	9	20	0	4.7	0.5
18.	3	1	8	11	6	0	3.6	1.2
19.	2	1	4	14	7	1	3.8	1.1
20.	0	0	2	5	22	0	4.7	0.6

Items 21-32: Progress on Objectives

Key: 1=Low 2=Low Average 3=Average 4=High Average 5=High

	1	2	3	4	5	Omit	Avg.	s.d.
21.	**1**	**1**	**9**	**12**	**6**	**0**	**3.7**	**1.0**
22.	**1**	**2**	**8**	**11**	**7**	**0**	**3.7**	**1.0**
23.	**0**	**0**	**8**	**11**	**10**	**0**	**4.1**	**0.8**
24.	1	1	13	5	9	0	3.7	1.1
25.	5	8	7	8	1	0	2.7	1.2
26.	7	7	9	5	1	0	2.5	1.2
27.	6	4	7	9	3	0	3.0	1.3
28.	3	9	5	11	1	0	2.9	1.1
29.	2	4	10	8	5	0	3.3	1.1
30.	1	6	10	9	3	0	3.2	1.0
31.	**0**	**1**	**9**	**10**	**9**	**0**	**3.9**	**0.9**
32.	1	5	10	4	9	0	3.5	1.2

Bold items were selected as ***Essential*** or ***Important***.

Items 33-35: The Course

Key: 1=Much Less than Most Courses 2=Less than Most Courses 3=About Average 4=More than Most Courses 5=Much More than Most Courses

	1	2	3	4	5	Omit	Avg.	s.d.
33.	1	3	17	8	0	0	3.1	0.7
34.	1	1	12	14	0	1	3.4	0.7
35.	1	1	10	11	5	1	3.6	1.0

Items 44-47: Experimental

Key: 1=Definitely False 2=More False Than True 3=In Between 4=More True Than False 5=Definitely True

	1	2	3	4	5	Omit	Avg.	s.d.
44.	3	4	7	3	12	0	3.6	1.4
45.	0	1	1	10	17	0	4.5	0.7
46.	0	0	4	11	14	0	4.3	0.7
47.	1	6	5	4	13	0	3.8	1.3

Items 36-43: Self and Global Outcomes

Key: 1=Definitely False 2=More False Than True 3=In Between 4=More True Than False 5=Definitely True

	1	2	3	4	5	Omit	Avg.	s.d.
36.	2	4	6	13	4	0	3.4	1.1
37.	2	1	6	15	5	0	3.7	1.0
38.	4	4	13	6	2	0	2.9	1.1
39.	4	2	12	9	2	0	3.1	1.1
40.	1	2	9	11	6	0	3.7	1.0
41.	0	1	1	8	19	0	4.6	0.7
42.	1	1	7	11	9	0	3.9	1.0
43.	1	7	5	13	3	0	3.3	1.1

Section V. Statistical Detail: Continued

Items 48-66: Extra Questions

	1	2	3	4	5	Omit	Avg.	s.d.
48.	0	2	8	19	0	0	3.6	0.6
49.	1	0	2	18	8	0	4.1	0.8
50.	1	1	4	19	4	0	3.8	0.8
51.	0	0	2	15	12	0	4.3	0.6
52.	0	0	1	11	17	0	4.6	0.6
53.	0	1	4	10	14	0	4.3	0.8
54.	0	0	1	11	17	0	4.6	0.6
55.	0	1	2	17	8	1	4.1	0.7
56.	0	0	0	0	0	29	N/A	N/A
57.	0	0	0	0	0	29	N/A	N/A

	1	2	3	4	5	Omit	Avg.	s.d.
58.	0	0	0	0	0	29	N/A	N/A
59.	0	0	0	0	0	29	N/A	N/A
60.	0	0	0	0	0	29	N/A	N/A
61.	0	0	0	0	0	29	N/A	N/A
62.	0	0	0	0	0	29	N/A	N/A
63.	0	0	0	0	0	29	N/A	N/A
64.	0	0	0	0	0	29	N/A	N/A
65.	0	0	0	0	0	29	N/A	N/A
66.	0	0	0	0	0	29	N/A	N/A

The IDEA Short Form Report for **SAMPLE, SF**

Design & Applied Arts 0420 (TU 9:30), Fall 2002-2003
IDEA UNIVERSITY
Local Code: 0113

SAMPLE

Number Enrolled: 18 Number Responding: 15 83.3 % Responding	Your results are considered fairly reliable; it is unlikely that re-rating by the same students would produce more than a moderate change in your report. The percentage of enrollees who provided ratings is high; results can be considered representative of the class as a whole.

Sections and Purposes of the Report

Page	Section	Purpose
2	I. Overall Measures of Teaching Effectiveness	Provides **global assessment** of teaching effectiveness. Use with pages 3 and 4 for administrative use in making personnel recommendations.
3	II. Student Ratings of Progress on Relevant Objectives	Provides student **self-report of learning** on objectives identified as relevant (*Important* or *Essential*) by the instructor
4	III. Course Description/Context	Primarily to **assist in interpreting** the results by considering the context in which the course was taught
4	IV. Statistical Detail	Primarily to provide details which may help you or your consultants to **understand or interpret** the report accurately

Definitions

Raw Score: Results obtained by using students' numerical ratings, all of which are based on a scale of 1 (low) to 5 (high).

Adjusted Score: Ratings have been statistically adjusted to take into account factors that affect ratings but are not under the instructor's control: student work habits (item #13); student desire to take the course regardless of who taught it (item #15); and instructor reported class size.

T Score: A statistically derived score that makes it easy to compare various measures. Unlike raw scores which have different averages and standard deviations (variabilities), T Scores all have an average of 50 and a standard deviation of 10. This means that 40% of all T Scores will be in the range of 45-55, while less than 2% will be below 30 or above 70.

Understanding the Graphs

Most results are presented on graphs. Unadjusted T Scores are shown by the symbol ×; adjusted T Scores are shown by the symbol ◆. In most cases, we use a line on both sides of a symbol to indicate that ratings have a "margin of error"; the line represents ± one standard error of measurement, a statistical indication of the reliability of the measure.

A Few Words of Caution

1. Normative information was updated using classes rated during the 1998-99, 1999-2000, and 2000-2001 academic years. **Exercise caution when comparing T Scores with those for classes processed prior to December 1, 2001.** The new norms have slightly higher item averages. Therefore, T Scores for a given average will be somewhat lower than those for past years. If results are being summarized with classes processed prior to December 1, 2001, review both T Scores and raw scores to determine if differences are due to a more competitive normative group or if the item averages have actually changed.
2. The process for adjusting scores was updated on October 7, 2002. Use caution when comparing adjusted scores with classes processed prior to that date.
3. Student ratings can make a useful contribution to the appraisal of teaching effectiveness and to the development of improvement strategies. However, they have distinct limitations that need to be acknowledged before appropriate use can be made of them. Please read ***Overview of Student Ratings: Value and Limitations***. (www.idea.ksu.edu)

Section I. Overall Measures of Teaching Effectiveness

This section compares your results with those for other instructors and courses in the national database on four OVERALL MEASURES OF TEACHING EFFECTIVENESS. **The primary value of this information is to aid in making administrative recommendations; if this is the only use you will make of the report, you need to consult only these results along with page 3 and the context provided by Section III, page 4.** Please remember that most of the classes included in the database have been taught in a reasonably successful manner; therefore, a rating which is "below average" does not necessarily mean that the quality of instruction was unacceptable. Additional sources of evidence should always be used to review teaching effectiveness.

Overall Measure of Effectiveness	T Score Unadj. / Adj.	2% of all classes	28% of all classes	40% of all classes (Avg. range)	28% of all classes	2% of all classes	Your Average * (5-Point Scale) Raw	Adjusted	IDEA Average
1. Progress on Relevant (Essential and Important) Objectives	50 / **50**						NA_1	NA_1	NA_1
2. Improved Student Attitude	53 / **57**						4.1	4.3	3.9
3. Overall Excellence of Teacher	54 / **55**						4.5	4.5	4.2
4. Overall Excellence of Course	51 / **54**						4.0	4.1	3.9

T Score--Comparison with the IDEA Database **

⊢×⊣ Unadjusted T Score ± one standard error of measurement
⊢◆⊣ Adjusted T Score ± one standard error of measurement: adjusted for student work habits (item #13); student desire to take the course regardless of who taught it (item #15); and instructor reported class size.

You may wish to assign these ratings to categories like those that have been used historically with the IDEA system. Simply assign T Scores to categories as follows: **Low** (lowest 10%)=T Score below 37; **Low Average** (next 20%)=T Score 37-44; **Average** (middle 40%)=T Score 45-55; **High Average** (next 20%)=T Score 56-63; and **High** (highest 10%)=T Score above 63.

1. Progress on Relevant (Essential and Important) Objectives. Because student learning is the central purpose of teaching, and because you chose the objectives considered by this measure, this is probably the most vital measure of effectiveness. A double weight is given to student ratings of progress on objectives you chose as ***Essential***, and a single weight to those chosen as ***Important***; objectives identified as being of ***Minor or No Importance*** were ignored in developing this measure.

2. Improved Student Attitude. The graph shows the average response of students to item 16, "As a result of taking this course, I have more positive feelings toward this field of study." This rating is most meaningful for courses that are taken by many non-majors. Most teachers hope that such students will develop a respect and appreciation for the discipline even if they choose to take no additional courses in it. The IDEA national average for this item is 3.9.

3. Overall Excellence of Teacher. This shows the average response to item 17, "Overall, I rate this instructor an excellent teacher." Overall impressions of a teacher affect student attitudes, effort, and learning. The IDEA national average for this item is 4.2.

4. Overall Excellence of Course. This shows the average response to item 18, "Overall, I rate this course as excellent." This evaluation is likely determined by a number of factors (e.g., teaching style, student satisfaction with course outcomes, and characteristics such as organization, selection of readings and/or other influences). The IDEA national average for this item is 3.9.

NA_1: Based on a combination of ratings where an average on a 5-point scale is not comparable.

* Statistically, adjustments can exceed 5.0 on the 5-point scale. If this occurs, "Your Average," reported in the table above, will be rounded to 5.0. However, the T Score reported will reflect the actual adjusted score, which may exceed 5.0. Therefore, identical adjusted scores of 5.0 may have different adjusted T Scores.

** Normative information (T Scores) was updated on December 1, 2001. See page 1 for "A Few Words of Caution."

Section II. Student Ratings of Progress on Relevant Objectives

This graph shows student progress ratings on the objectives you chose as ***Essential*** (Part A) and those you chose as ***Important*** (Part B). To the degree that students make progress on the objectives you stress, your teaching has been effective.

Part A. Essential Objectives	T Score Unadj. / **Adj.**	2% of all classes	28% of all classes	40% of all classes (Avg. range)	28% of all classes	2% of all classes	Your Average * (5-Point Scale) Raw	Adjusted	IDEA Average
2. Principles and theories	57 / **58**						4.3	4.3	3.9
6. Creative capacities	46 / **44**						3.6	3.5	3.9
Part B. Important Objectives									
4. Professional skills, viewpoints	46 / **46**						3.9	3.9	4.0

20 30 40 45 50 55 60 70 80

T Score--Comparison with the IDEA Database where the Objective was Selected as "Essential" or "Important" **

⊢×⊣ Unadjusted T Score ± one standard error of measurement
⊢◆⊣ Adjusted T Score ± one standard error of measurement: adjusted for student work habits (item #13); student desire to take the course regardless of who taught it (item #15); and instructor reported class size.

Similar to Section I, you may wish to assign ratings to categories. Simply assign T Scores to categories as follows: **Low** (lowest 10%)=T Score below 37; **Low Average** (next 20%)=T Score 37-44; **Average** (middle 40%)=T Score 45-55; **High Average** (next 20%)=T Score 56-63; and **High** (highest 10%)=T Score above 63.

These graphs are intended to help you identify a focus for improving your instructional effectiveness. If student progress ratings on ***Important*** or ***Essential*** objectives are disappointing, you are encouraged to discuss improvement strategies with your department head, the campus faculty development specialist, or a colleague. Such strategies could focus on matters such as teaching methods/styles, class activities and assignments, the text and other readings, assessment/feedback, and the need for course pre-requisites. You might also consider using the IDEA Long Form the next time you solicit student ratings, since it is designed to help identify specific teaching methods to use in improvement efforts.

Note: Students in your class also rated their progress on the objectives that you classified as being of ***Minor or No Importance.*** These ratings are considered irrelevant in judging your teaching effectiveness. However, a review of student ratings on these objectives, found in **Section IV** (Statistical Detail), may provide you with insights about some "unintended" or "additional" effects of your instruction.

* Statistically, adjustments can exceed 5.0 on the 5-point scale. If this occurs, "Your Average," reported in the table above, will be rounded to 5.0. However, the T Score reported will reflect the actual adjusted score, which may exceed 5.0. Therefore, identical adjusted scores of 5.0 may have different adjusted T Scores.

** Normative information (T Scores) was updated on December 1, 2001. See page 1 for "A Few Words of Caution."

Section III. Course Description/Context

This section describes several aspects of your course. This description summarizes information you supplied when you administered the IDEA form. Information on this page provides the context in which the class was taught, which should guide the interpretation of the ratings. The IDEA Center will conduct additional research on these data to determine more precisely how they can improve interpretation of the report.

Course Description:

Primary Instructional Type: *Skill/activity*
Secondary Instructional Type: *Other/Not Indicated*
Team Taught: *No*
Distance Learning: *No*
Principal Type of Student: *Upperclassmen, majors*

Instructor's Ratings of Special Circumstances:

Positive Impact on Learning: *Previous experience teaching course, Control over course management decisions*
Neither Positive nor Negative Impact: *Physical facilities and/or equipment, Changes in teaching approach, Desire to teach course , Adequacy of students' background/preparation, Student enthusiasm, Student effort, Technical/instructional support*
Negative Impact on Learning:

Instructor's Ratings of Course Requirements:

Much Required: *Creative/artistic/design endeavor*
Some Required: *Group work, Critical thinking*
None (or little) Required: *Writing, Oral communication, Computer applications, Mathematical/quantitative work*

Section IV. Statistical Detail: Item Frequencies, Averages, and Standard Deviations

Items 1-12: Progress on Objectives

Key: 1=Low 2=Low Average 3=Average 4=High Average 5=High

	1	2	3	4	5	Omit	Avg.	s.d.
1.	0	0	3	5	7	0	4.3	0.8
2.	**0**	**0**	**3**	**5**	**7**	**0**	**4.3**	**0.8**
3.	0	2	4	4	5	0	3.8	1.1
4.	**0**	**2**	**4**	**2**	**6**	**1**	**3.9**	**1.2**
5.	1	1	8	4	1	0	3.2	0.9
6.	**1**	**2**	**4**	**3**	**5**	**0**	**3.6**	**1.3**
7.	0	1	3	6	5	0	4.0	0.9
8.	1	2	6	3	3	0	3.3	1.2
9.	0	1	5	6	3	0	3.7	0.9
10.	1	1	4	4	5	0	3.7	1.2
11.	1	0	4	4	6	0	3.9	1.2
12.	0	1	5	4	5	0	3.9	1.0

Bold items were selected as ***Essential*** or ***Important***.

Items 13-18: Self-Ratings

Key: 1=Definitely False 2=More False Than True 3=In Between 4=More True Than False 5=Definitely True

	1	2	3	4	5	Omit	Avg.	s.d.
13.	1	2	2	3	7	0	3.9	1.4
14.	0	1	3	3	8	0	4.2	1.0
15.	4	2	4	1	4	0	2.9	1.6
16.	0	1	3	5	6	0	4.1	1.0
17.	0	0	3	2	10	0	4.5	0.8
18.	0	1	4	4	6	0	4.0	1.0

Appendix B

Calculating Scores Reported in *The IDEA Report* (Diagnostic Form) for Individual Faculty Members

Appendix A includes a sample of the report participants receive for each class. The figures on this report were computer-generated. For those who would like to calculate these figures by hand, either to check their accuracy or to get a better feel for what goes into a given calculation, Appendix B describes the process that is followed in making calculations.

I. Necessary Raw Data

A. National data base results for progress ratings on "relevant" classes (those in which the instructor identified the objective as "Important" or "Essential").

Objective	Mean	s. d.	R^2
21. Gaining factual knowledge. . .	4.0013	.494	.1761
22. Learning principles, theories. . .	3.9443	.485	.1633
23. Applying course material. . .	3.9874	.516	.2248
24. Developing professional skills, competency. . .	4.0420	.524	.2380
25. Acquiring team skills. . .	3.9285	.632	.1611
26. Developing creative capacities. . .	3.8668	.701	.1940
27. Gaining a broad liberal education. . .	3.6948	.732	.1648
28. Developing communication skills. . .	3.7887	.676	.1930
29. Learning to find and use necessary recourses. . .	3.7322	.571	.1687
30. Values development, clarification. . .	3.7779	.629	.1599
31. Learning to critically evaluate. . . .	3.8438	.589	.1186
32. Acquiring interest in learning more. . .	3.7907	.561	.2056

B. Means and standard deviations of ratings on three "global outcomes" measures.

	Mean	s. d.	R^2
40. Increased positive feelings toward subject. . .	3.8611	.602	.3606
41. Overall, instructor was excellent. . .	4.1815	.642	.0883
42. Overall, course was excellent. . .	3.9198	.607	.2938

C. Information from statistical detail (Section V, page 7, of IDEA Report)

	Mean	
Progress on Essential Objectives	Reported	Calculated
21. Factual knowledge. . .	3.7	3.7241
22. Principles, theories. . .	3.7	3.7241
Progress on Important Objectives		
23. Applying course material. . .	4.1	4.0690
31. Learning to critically evaluate. . .	3.9	3.9310
Global Ratings		
40. Increased positive feelings toward subject. . .	3.7	3.6552
41, Overall, instructor was excellent. . .	4.6	4.5517
42. Overall, course was excellent. . .	3.9	3.8966
Items Needed to Make Adjustments		
39. Course motivation. . .	3.1	3.1034
43. Work habits. . .	3.3	3.3448
Number enrolled (page 1 of IDEA Report)	34	--
8. Stimulated high intellectual effort. . .	3.8	3.7931
33. Amount of reading. . .	3.1	3.1034
34. Amount of other work. . .	3.4	3.3929
35. Difficulty of course. . .	3.6	3.6429
37. Effort (worked harder than normal. . .)	3.7	3.6897

II. Preliminary Calculations

A. Calculating D_N

D_N = Mean of Item 35 minus Predicted Mean of Item 35; or $D_N = X_{35} - \text{Pred } X_{35}$

Pred X_{35} = .13412 X_8 + .23986 X_{33} + .40303 X_{34} +.74331 (Technical Report , p. 37)

= .5097 + .7436 + 1.3703 +.7433 = 3.3669

D_N = 3.6429 – 3.3669 = .2760

B. Calculating E_N

$E_N = X_{37} - \text{Pred } X_{37}$

Pred X_{37} = .35690 X_8 + .11142 X_{33} + .51595 X_{34} + .06562 (Tech Report, p. 37)

= 1.3562 + .3454 + 1.7542 + .0656 = 3.5214

E_N = 3.6897 – 3.5214 = .1683

III. Calculating Adjusted Scores (from formulas on p. 38 of Technical Report)

Adjusted progress rating on Item 21, Gaining factual knowledge. . .

Predicted X_{21} = .27568 X_{39} + .38141 X_{43} + .09434 D_N -.0722 E_N +1.69981
= .8555 +1.2757 +.0260 -.0122 +1.6998 = 3.8448

Residual = X_{21} – Pred. X_{21}= 3.7241-3.8448 = -.1207

Adjusted X_{21} = Grand Mean, Item 21 +(Residual)(1 + R^2)
= 4.0013 + (-1207)(1.1761) = 4.0013 - .1420 = 3.8593 (IDEA Report, p. 3)

Adjusted progress rating on Item 22, Learning principles and theories. . .

Predicted X_{22} = .25225X_{39}+.39835X_{43}-.001N+.09683D_N-.1244E_N+1.67488
= .7828 +1.3324 -.0340 +.0267 -.0209 +1.6750 = 3.7620

Residual = X_{22} – Pred X_{22} = 3.7241 – 3.7620 = -.0379

Adjusted X_{22} = Grand Mean, Item 22 + (Residual)(1 + R^2) =
3.9443 + (-.0379)(1.1633) = 3.9443 - .0441 = 3.9002 (IDEA Report, p. 3)

Adjusted progress rating on Item 23, Applications of course materials

Predicted X_{23} = .27966X_{39}+.43610X_{43}-.003N-.1076D_N-.1221E_N+1.055086
= .8679 +1.4587 -.102 -.0297 -.0206 +1.5509 = 3.7252

Residual = X_{23} – Pred. X_{23} = 4.0690 -3.7252 = .3438

Adjusted X_{23} = Grand Mean, Item 23 + (Residual)(1 + R^2)
= 3.9874 + (.3438)(1.2248) = 3.9874 + .4211 = 4.4085 (IDEA Report, p. 3)

Adjusted progress rating on Item 31, Analysis and critical evaluation

Predicted X_{31} = .13407X_{39}+.42156X_{43}-.004N-.1995D_N-.1523E_N+1.96267
= .4160 +1.4100 -.136 -.0051 -.0256 +1.9627 = 3.5720

Residual = X_{31} – Pred. X_{31} = 3.9310 – 3.5720 = .3590

Adjusted X_{31} = Grand Mean, Item 31 + (Residual)(1 + R^2)
= 3.8438 + (.3590)(1.1186) = 3.8438 + .4016 = 4.2454 (IDEA Report, p. 3)

Adjusted rating, Item 40—Increased positive attitude.

Predicted X_{40} = .51242X_{39}+.33205X_{43}-.001N-.2234D_N.+.0743E_N+1.00177
= 1.5902 +1.1106 -.034 -.0617 +.0125 +1.0018 = 3.6194

Residual = X_{40} – Pred. X_{40} = 3.6552 – 3.6194 = .0358

Adjusted X_{40} = Grand Mean, Item 40 + (Residual)(1 + R^2)
= 3.8611 + (.0358)(1.3606) = 3.8611 + .0487 = 3.9098 (IDEA Report, p. 2)

Adjusted rating, Item 41—Excellence of teacher

Predicted X_{41} = .24024X_{39}+.23139X_{43}-.001N-.1475D_N.-.1819E_N+2.58021
= .7523 +.7740 -.034 -.0407 -.0306 +2.5802 = 4.0012

Residual = X_{41} – Pred. X_{41} = 4.5517 – 4.0012 = .5505

Adjusted X_{40} = Grand Mean, Item 41 + (Residual)(1 + R^2)
= 4.1815 + (.5505)(1.0883) = 4.1815 + .5991 = 4.7806 (IDEA Report, p. 2)

Adjusted rating, Item 42—Excellence of course.

Predicted X_{42} = .47249X_{39}+.28732X_{43}-.001N-.2141D_N.+.0530E_N+1.35036
= 1.4663 +0.9610 -.034 -.0591 +.0089 +1.3504 = 3.6935

Residual = X_{42} – Pred. X_{42} = 3.8966 – 3.6935 = .2031

Adjusted X_{42} = Grand Mean, Item 42 + (Residual)(1 + R^2)
= 3.9198 + (.2031)(1.2938) = 3.9198 + .2628 = 4.1826 (IDEA Report, p. 2)

IV. Calculating T Scores

T Score = 50+[10(Obtained Mean-Grand Mean) divided by s.d.], where Grand Mean is National Mean and s.d is National standard deviation. Obtained mean for unadjusted T Score is the raw mean. The Obtained mean for the adjusted T Score is the adjusted mean calculated above.

	Mean Scores A=Obtained-Nat'l	B=Nat'l s. d.	10(A/B) - IDEA Report Page
Item 21			
Unadjusted	3.7241-4.0013= -.2772	.494	-5.61 (+50 = 44, p. 3)
Adjusted	3.8593-4.0013= -.1420	.494	-2.87 (+50 = 47, p. 3)
Item 22			
Unadjusted	3.7241-3.9443= -.2202	485	-4.54 (+50 = 45, p. 3)
Adjusted	3.9002-3,9443= -.0441	.485	-0.91 (+50 = 49, p. 3)
Item 23			
Unadjusted	4.0690-3.9874= +.0816	.516	1.58 (+50 = 52, p. 3)
Adjusted	4.4085-3.9874= +.4211	.516	8.16 (+50 = 58, p. 3)
Item 31			
Unadjusted	3.9310-3.8438= +.0874	.589	1.48 (+50 = 51, p. 3)
Adjusted	4.2454-3.8438= +.4016	.589	6.82 (+50 = 57, p. 3)
Item 40			
Unadjusted	3.6552-3.8611= -.2059	.602	-3.42 (+50 = 47, p. 2)
Adjusted	3.9098-3.8611= +.0487	.602	0.81 (+50 = 51, p. 2)
Item 41			
Unadjusted	4.5517-4.1815= +.3702	.642	5.77 (+50 = 56, p. 2)
Adjusted	4.7806-4.1815= +.5991	.642	9.53 (+50 = 60, p. 2)
Item 42			
Unadjusted	3.8966-3.9198= -.0232	.607	0.38 (+50 = 50, p. 2)
Adjusted	4.1826-3.9198= +.2628	.607	4.53 (+50 = 55, p. 2)
PRO			
Unadjusted	2(44 +45) + (52 +51) = 178 + 103 = 281 divided by 6 = 46.8 (p. 2)		
Adjusted	2(47 + 49) + (58 + 57) = 192 + 115 = 307 divided by 6 = 51.2 (p. 2)		

This page intentionally left blank.

Appendix C

Regression Coefficients and Constants for Adjusting Ratings on the Revised Short Form Effective October 1, 2002

Adjusted Mean	Constant	CM_{15} C_1	WH_{13} C_2	#Enroll C_3	1+Adj.R^2	Grand Mean
Item 21	1.7559	0.2572	0.3842	0	1.1737	4.0013
Item 22	1.7619	0.2273	0.3941	0	1.1593	3.9443
Item 23	1.7019	0.2663	0.4096	-0.00298	1.2050	3.9874
Item 24	1.5353	0.3139	0.4131	-0.00303	1.2304	4.0420
Item 25	1.6622	0.1700	0.4742	0	1.1119	3.9285
Item 26	1.8617	0.2191	0.4190	-0.01188	1.1201	3.8668
Item 27	1.3038	0.2344	0.4871	-0.00534	1.1174	3.6948
Item 28	2.4763	0.0324	0.3887	-0.00849	1.0599	3.7887
Item 29	1.6477	0.1114	0.5054	-0.00569	1.1252	3.7322
Item 30	1.4258	0.2189	0.4502	0	1.1088	3.7779
Item 31	2.2063	0.1118	0.3839	-0.00432	1.0754	3.8438
Item 32	1.4911	0.2457	0.4491	-0.00624	1.1881	3.7907
Item 40	0.9700	0.5363	0.3222	-0.00162	1.3396	3.8611
Item 41	2.8111	0.2197	0.1912	-0.00182	1.0600	4.1815
Item 42	1.3442	0.4922	0.2748	-0.00191	1.2737	3.9198

CM_{15}=Course Motivation – Short Form Item 15. *I really wanted to take this course regardless of who taught it*.

WH_{13}=Student Work Habits – Short Form Item 13. *As a rule, I put forth more effort than other students on academic work*.

#Enrolled=Number of students enrolled in the course as indicated by the instructor on the Faculty Information Form.

Note: Analyses are based on a more restricted data set. Classes with response rates less than 75% or not reporting the number enrolled were also excluded.