

**UTILIZING COGNITIVE DISSONANCE THEORY TO IMPROVE
STUDENT RATINGS OF COLLEGE FACULTY**

by

REBECCA DAVIS CARSON, B.A., M.Ed., M.S., M.Ed.

A DISSERTATION

IN

HIGHER EDUCATION

**Submitted to the Graduate Faculty
of Texas Tech University in
Partial Fulfillment of
the Requirements for
the Degree of**

DOCTOR OF EDUCATION

Approved

Dear ~~of~~ the Graduate School

December, 1999

AMM 6607

π
801
T3
1949
NO. 130
Cap. 2

Copyright © 1999, Rebecca Davis Carson

ACKNOWLEDGMENTS

I have not made this journey alone and have arrived at my destination with the help of many special individuals. I would like to recognize them and express my deepest appreciation for their support.

My parents, Ann and Howard Davis, are not here anymore; but their love and belief in me from the beginning always inspired my love of learning. My brother, Dr. Phillip Davis, and my friend, Dr. Lisa Henderson, served as great examples and gave me excellent feedback. Chuck, my husband, told me to go for it and loved me. Leanna and Michael added much to my life. My aunt and uncle, Pat and Dale Smiley, gave unconditional love and support. My sisters, Sue, Nancy, and Georgia loved and believed in me. Julie Lanphere was always there for me and gave endless help and support. Dr. Rosemary Wallace and Dr. Paul Lack inspired and guided me. Richard Brozovic and Dr. Lisa Coates-Shrider were tremendously helpful and generous with their knowledge and skills. Drs. Chuck and Rosemary Barke were always insightful and encouraging. Nancy Weir listened with heart. Carole Langdon believed in me. Kari Hurlburt provided positive and uplifting support.

I am truly grateful to my staff at the Education Services Center at Dyess AFB. I never had to worry about work because of their superb professionalism. Barbara Ash's unconditional love and support were unending. I am thankful for

having Terry Agnew, Armando Fuentes, Mary Margaret Mayekawa, Pat Payne, Morgan Phillips, Barbara Schwalb, and Lynn Zemcik in my life.

I sincerely appreciate the support and help of the staff at the Individual Development and Educational Assessment Center at Kansas State University. Dr. Bill Pallett was generous in his guidance and support. Dr. Amy Gross provided excellent feedback and was always helpful. Their professionalism and research added greatly to this study. They are dedicated to teaching excellence.

I would like to express my appreciation to the faculty members who participated in this study. They were enthusiastic, motivated, and willing to volunteer their time to support research.

My gratitude to my friends and faculty at Texas Tech University is heartfelt. Dr. Albert Smith is unendingly patient, supportive, and inspiring. Dr. Arturo Olivarez is incredibly bright and knowledgeable and even made statistics interesting. Dr. Michael Shonrock's positive support of me was always appreciated. I sincerely appreciate their service on my committee. On this journey, my fellow travelers are the main reason I am here. I thank Dr. Derrell Moore, Jan Meyer, and Bill Nixon for all their support and consistent belief in me. I am grateful to my fellow traveler, Dr. Pat Alvoet, who was always there for me and gave me great guidance.

I am truly blessed and for that I am most grateful.

TABLE OF CONTENTS

ACKNOWLEDGMENTS	ii
ABSTRACT.....	viii
LIST OF TABLES	x
CHAPTER	
I. INTRODUCTION TO THE STUDY	1
Introduction.....	1
Challenges Facing Higher Education	1
Évaluation of Instruction	2
Theoretical Framework	3
Statement of the Problem.....	4
Purposes of the Study	5
Hypotheses.....	6
Need for the Study.....	8
Assumptions	8
Delimitations	9
Limitations.....	9
Definition of Terms.....	10
Summary	15
II. REVIEW OF THE LITERATURE	16
Introduction.....	16
Restatement of the Problem	16
Teaching Effectiveness.....	17
Why Teaching Effectiveness—Today’s Challenges	17
Roadblocks to Effective Teaching	19

Lack of Education or Training on Effective Teaching	20
Characteristics of Teaching Effectiveness	22
Improving College Teaching	24
Student Ratings	28
Evaluating Teaching for Effectiveness	29
Student Rating Feedback for Improving College Instruction...	30
Instructional Consultation and Student Feedback	34
Validity of Student Evaluations	37
Student Rating Studies	45
Theoretical Framework	46
Motivation	46
Theory of Cognitive Dissonance...	48
Theory of Cognitive Dissonance Applied	50
Summary	52
 III. METHODOLOGY	 53
Introduction	53
Restatement of the Problem	53
Variables in the Study	54
The Research Design	55
Instrumentation	55
Selection of Subjects	59
Consultation Feedback Workshop	61
Collection of Data	62
Analysis of Data	63
Anticipated Findings and Conclusions	66
Chapter Summary	67

IV. FINDINGS.....	68
Introduction.....	68
Overview of Data Analysis.....	69
Hypothesis One—End of Semester Comparison Between the Three Groups.....	70
Hypothesis Two—Within Group Differences in the Feedback Group.....	76
Hypothesis Three—Within Group Differences in the Consultation Group.....	81
Hypothesis Four—End of Semester Comparison Between the Treatment Groups.....	86
Chapter Summary.....	89
V. SUMMARY, MAJOR FINDINGS DISCUSSION OF FINDINGS, RECOMMENDATIONS, AND CONCLUSIONS.....	91
Introduction.....	91
Summary.....	91
Major Findings.....	96
Discussion of the Findings.....	100
Recommendations for Further Study.....	109
Implications for Policy and Practice.....	112
Conclusions of the Study.....	116
REFERENCES.....	118
APPENDIXES	
A. CONSULTATION WORKSHOP OUTLINE AND NOTIFICATION MEMO.....	125

B.	IDEA SURVEY FORM, DIRECTIONS, AND FACULTY RESPONSE FORM.....	129
C.	FACULTY SELF-RATING FORM	135
D.	IDEA REPORT	137
E.	WRITTEN FEEDBACK ON DISCREPANCY SCORES.....	146
F.	LETTER FROM IDEA CENTER DIRECTOR, DR. PALLETT	149
G.	LETTER TO FACULTY REQUESTING PARTICIPATION.....	151
H.	SCHEDULE FOR STUDENT RATINGS STUDY.....	155
I.	COST PROJECTION SHEET FOR STUDENT RATINGS STUDY.....	157
J.	PROTECTION OF HUMAN SUBJECTS APPROVAL	159
K.	IDEA SHORT PAPERS LIST AND SAMPLE IDEA SHORT PAPER	161
L.	MIDSEMESTER EVALUATIONS AND FEEDBACK.....	168
M.	END OF SEMESTER EVALUATIONS	178
N.	GROUP SUMMARY REPORTS.....	181
O.	T-TESTS RESULTS	206

ABSTRACT

This research in the spring of 1999 investigated how to improve the student ratings of college faculty utilizing the theory of cognitive dissonance. The study explored how dissonance, created when a faculty member experienced lower than expected midsemester student ratings in comparison with his or her self-ratings, could be resolved by the faculty member changing his or her teaching behavior. The purposes were to test this theory and to recommend new procedures for the use of student ratings in faculty evaluations. It was predicted that midsemester written feedback to the faculty would enhance their teaching effectiveness and a consultation workshop at midsemester would enhance teaching effectiveness even more. The three faculty groups included: a control group, a written feedback group, and a consultation group. The null hypotheses stated--there would be no significant difference: (a) among the three groups with respect to end of semester student ratings, (b) between the mid- and end-of-semester student ratings for faculty in the feedback group, (c) between the mid- and end-of-semester student ratings for faculty in the consultation group, and (d) in the differences between the consultation and feedback groups.

The experimental design used was a Pretest-Posttest Control-Group design. The student rating instrument used was the Individual Development and Educational Assessment (IDEA) Student Rating of Instruction System. The sample population consisted of sixty-one faculty members from a small, private

liberal arts college. The student ratings were processed at the IDEA Center in Manhattan, Kansas. Data analysis included analysis of covariance and variance.

Although statistically significant differences in the end-of-semester student ratings were not found among or between the groups, the student rating means in most of the comparisons resulted in the predicted positive increase in ratings. The consultation group's end-of-semester means exceeded those of the feedback group and those of the control group in all but one case. The feedback group's end-of-semester means exceeded the control group's means. All of the within consultation group's end-of-semester mean changes were in a positive direction.

The results of this study indicate that: (a) student evaluations of faculty can improve student ratings/teaching effectiveness; (b) midsemester self-evaluation by faculty members can result in improved end-of-semester student ratings; (c) discrepancy scores between faculty self-ratings and student evaluations can provide valuable feedback to faculty at midsemester; and (d) a workshop consultation, coupled with the discrepancy score feedback, can improve student ratings. Suggestions for new policies, practices, and research are provided.

LIST OF TABLES

1.	Human Motivation Continuum.....	47
2.	Dependent Variable Means Used in Between Group Comparisons for Hypothesis One	72
3.	Wilks' Lambda Statistics for the Multivariate Analysis of Covariance (N = 58).....	72
4.	A Comparison of the End of the Semester Five Dependent Variable Means for the Three Study Groups.....	75
5.	Wilks' Lambda Statistics for the Multivariate Analysis of Variance (N = 58).....	75
6.	Differences Between End of Semester Student Rating Means and Midsemester Student Rating Means for Each Dependent Variable for the Feedback Group (N = 7).....	78
7.	Hotelling's T^2 Statistics for the Within Group Differences in the Feedback Group (N = 7)	79
8.	Differences Between End of Semester Student Rating Means and Midsemester Student Rating Means for Each Dependent Variable for the Feedback Group (N = 19).....	80
9.	Hotelling's T^2 Statistics for the Within Group Differences in the Feedback Group with All Members (N = 19).....	80
10.	Differences Between End of Semester Student Rating Means and Midsemester Student Rating Means for Each Dependent Variable for the Consultation Group (N = 9).....	83
11.	Hotelling's T^2 Statistics for the Within Group Differences in the Consultation Group (N = 9)	84
12.	Differences Between End of Semester Student Rating Means and Midsemester Student Rating Means for Each Dependent Variable for the Consultation Group (N = 20).....	85
13.	Hotelling's T^2 Statistics for the Within Group Differences in the Consultation Group with All Members (N = 20).....	86

14.	Differences Between the Differences of End of Semester Student Rating Means and Midsemester Student Rating Means for the Consultation and Feedback Groups for Each of the Five Dependent Variables	88
15.	Wilks' Lambda Statistics for the Between Groups Comparison of the Consultation and Feedback Groups (N = 39).....	89
16.	A Comparison of the End of the Semester Five Dependent Variable Means for the Three Study Groups.....	97
17.	Comparison of Means of Consultation Group and Control Group on IDEA Evaluation Questionnaire with 20 Teaching Behaviors	207
18.	Comparison of Means of Consultation Group and Feedback Group on IDEA Evaluation Questionnaire with 20 Teaching Behaviors	208
19.	Comparison of Means of Feedback Group and Control Group on IDEA Evaluation Questionnaire with 20 Teaching Behaviors	209

CHAPTER I

INTRODUCTION TO THE STUDY

Introduction

This study addressed the problem of improving teaching effectiveness at the postsecondary level. In this chapter, an understanding of the background of this problem and study is established. This chapter contains the following sections: (a) the challenges facing higher education, (b) the evaluation of instruction, (c) the problem addressed by this study, (d) the purposes for conducting this research, (e) the hypotheses proposed in this study, (f) the theoretical framework supporting this study, (g) the need for the study, (h) assumptions held by the researcher entering the study, (i) the scope of the research based on delimitations, (j) the limitations of the study, (k) definitions of terms used in the study, and (l) a summary of this chapter.

Challenges Facing Higher Education

Ever increasing higher education costs, older students seeking employment survival, thousands of under-prepared traditional students, unparalleled diversity, dwindling financial support, and accountability of higher education and its teachers are the challenges facing higher education today (Frye, 1994). In order to meet many of these challenges, college teaching must be more effective than ever (Frye, 1994; Roueche, Roueche, & Milliron, 1995). Improving teaching effectiveness is one way to meet some of the challenges

facing higher education. Feedback from the evaluation of instruction by students may be one means of achieving more effective teaching. Even more potent, student feedback with faculty consultation should significantly improve teaching effectiveness.

Evaluation of Instruction

The quality of instruction by faculty is assessed in a number of ways including evaluation by peers, administrators, self, or students. Student evaluation of faculty is frequently used to evaluate the effectiveness of instruction (Aubrecht, 1981; Cashin, 1988; Centra, 1973, 1993; Cohen, 1980, 1981; Overall & Marsh, 1980). Formal student evaluations are conducted at most colleges for both full-time and part-time faculty with the assumption that faculty will use this information to improve their teaching (Centra, 1973). Some studies indicated that student feedback had a positive effect on teaching performance and that student ratings were moderately correlated with student learning (Centra, 1973, 1993). Overall ratings correlated significantly with augmentation of feedback (Cohen, 1980). Cohen (1980) recommended that more studies need to be done to verify the impact of student ratings on teaching behavior. This study, based on an experiment by Centra (1973), addressed using student ratings to improve teaching effectiveness (student ratings) of university faculty. This study addressed not only using student ratings but also augmenting student ratings with faculty consultation to improve teaching effectiveness.

Theoretical Framework

The experiment by Centra (1973) was based on the theory of cognitive dissonance. When teaching was evaluated less favorably than expected by the faculty, it was presumed that faculty valued the opinions of their students enough to change their instructional methods to be more responsive to students needs (Centra, 1973). Several theories provide justification for this assumption (Daw & Gage, 1967; Festinger, 1957; Gage, Runkle & Chaterjee, 1963; Heider, 1958; Newcomb, 1959). The theory of cognitive dissonance holds that when a discrepancy exists between an individual's perceptions and behavior, the individual seeks to make the perceptions and the behaviors more congruent, thereby resolving the dissonance. Even though perceptions are defined in part in terms of a disposition to behave, sometimes a great difference exists between perceptions and behavior. When this inconsistency exists, perceptions often change to match the behavior. Festinger (1957) proposed the theory of cognitive dissonance to explain the tendency of perceptions and behavior to seek consistency with each other. When an inconsistency exists between perception and behavior, the individual is uncomfortable. This discomfort motivates the individual to do what he can to reduce the discomfort, or the dissonance.

This theory indicates that if perceptions and behaviors are incongruent, a cognitive dissonance occurs in the individual. The individual will then change his/her perceptions or behavior to be more congruent and resolve the dissonance. As applied to this study, the independent variables of: (a) the written feedback of the discrepancies between the faculty member's self-ratings

and his/her student ratings at midsemester provided to the feedback group and (b) the group consultation, a one-hour workshop which included with the written feedback and discussion of the feedback, provided to the consultation group were expected to influence or explain the dependent variable, i.e., higher end of semester student ratings reflecting improvements in teaching behaviors. If the students' midsemester ratings were lower than the self-ratings of the faculty, the faculty would be expected to improve their teaching behaviors in order to be more congruent with their students' higher expectations.

Statement of the Problem

This research investigated, utilizing the theory of cognitive dissonance, how to improve the student ratings of college faculty. This study explored how the dissonance, created when a faculty member experienced lower than expected midsemester student ratings in comparison with his or her own midsemester self-ratings, could be resolved by moving toward the needed teaching improvements reflected in the midsemester student ratings. It was assumed that, based on written student ratings feedback, significant movement to improve the teaching behaviors rated lower than expected by students would enhance the teaching effectiveness of the faculty, i.e., raise his/her student ratings. It was further assumed that improvement in teaching effectiveness (higher student ratings) would be even greater when the midsemester feedback from the student ratings was augmented with a faculty workshop consultation.

Purposes of the Study

This study was based on Centra's (1973) study in which his primary purpose was to research the effects of student feedback on teaching at the college level. Centra (1973) included as variables in his study the instructor's gender, teaching experience, subject area of the course, and self-ratings. Three faculty groups participated in Centra's (1973) study: (a) the feedback group, which self-rated their teaching, administered a rating form to their students at midsemester and received a summary of results (feedback) and discrepancy scores within a week; (b) the no-feedback group had student ratings collected, but these were withheld at midsemester; and (c) the posttest group used the rating form only at the end of the semester in order to determine whether the midsemester ratings had a sensitizing effect on student raters or teachers. Centra (1973) did not find significant effects based on the instructor's gender, teaching experience, or the subject area of the course. However, discrepancies in the self-ratings, as compared to the student ratings, did result in significant effects. Specifically, it was hypothesized that student feedback would lead to improved instruction for those instructors who rated themselves much better than their students had rated them. Centra (1973) found general support for this hypothesis. Cohen (1980) confirmed student-rating feedback resulted in a modest yet significant improvement in college teaching. Brinko (1990) found that student-rating feedback augmented with individual consultation resulted in an even more significant improvement in college teaching.

The purposes of this study paralleled Centra's (1973) study. One of the purposes of this experimental study was to test the theory of cognitive dissonance that compared discrepancies in student/faculty ratings to changes in faculty's teaching behaviors as measured by end of the semester student ratings. The independent variables were defined as: (a) the written feedback of the discrepancies between the faculty member's self-ratings and his/her student ratings at midsemester provided to the feedback group and (b) the group consultation, a one-hour workshop which included with the written feedback and discussion of the feedback, provided to the consultation group. The dependent variables were defined as the changes in teaching effectiveness (behaviors) as measured by changes in the student ratings at midsemester compared to those ratings at the end of the semester. Another purpose for this study was to recommend new policies and procedures for faculty evaluation systems. In addition, recommendations were made for additional needed research.

Hypotheses

The hypotheses for this study were based on the following three groups.

1. In the first group, identified as the control group, faculty members were rated by the students at the end of the semester. They only received feedback after the end of the semester.
2. In the first treatment group, identified as the feedback group, faculty members rated themselves at midsemester and were rated by students at midsemester. They received prompt, within two weeks, feedback on discrepancies between

their ratings and the students' ratings. At the end of the semester, they were rated again by their students.

3. In the second treatment group, identified as the consultation group, faculty members rated themselves at midsemester and were rated by students at midsemester. They received prompt, within two weeks, feedback on their ratings and the students' ratings. In addition to the prompt feedback, they received group consultation with their feedback. At the end of the semester, they were rated again by their students.

The research question was "what effect did faculty self and student ratings feedback have on teaching behaviors, as measured by student ratings"? The specific hypotheses for this study were as follows:

H₀₁: Having statistically controlled for student motivation, there is no significant difference among the three groups of instructors with respect to end of semester student ratings.

H₀₂: There is no significant difference between the midsemester student ratings and the end of semester student ratings for faculty in the feedback group who rated themselves better than their students rated them at midsemester.

H₀₃: There is no significant difference between the midsemester student ratings and the end of the semester student ratings for faculty in the consultation group who rated themselves better than their students rated them at midsemester.

H₀₄: Having statistically controlled for student motivation, there is no significant difference in the differences between midsemester student ratings and end of semester student ratings for the consultation group and the differences between midsemester student ratings and end of semester student ratings for the feedback group.

Need for the Study

This study was important for a number of reasons. Teaching at the college level is more challenging than ever. These challenges include: (a) students who are underprepared for college, (b) nontraditional students with high expectations, (c) increasing technology for teaching including computer based applications in most academic areas, (d) competitiveness with other training sources, and (e) the increasing demands by legislatures and boards of trustees that colleges be held accountable for student outcomes (Roueche et al., 1995). If this study adds to the body of knowledge indicating that student evaluations can positively impact teaching effectiveness, this process can be used by colleges as a new, relatively inexpensive method to improve teaching effectiveness.

Assumptions

Assumptions that were made regarding this study included:

1. Improved teaching effectiveness (student ratings) is an important answer to questions of accountability in higher education.

2. Cognitive dissonance is a reliable theory with real application potential for improving teaching effectiveness (student ratings) among college faculty.
3. Faculty members value the opinions of their students enough to change their instruction methods to be more responsive to students' needs.
4. Student feedback in the form of student ratings and dissonance scores is a useful method for improving teaching effectiveness among college faculty.
5. Student feedback, augmented with consultation, is a useful method for improving teaching effectiveness among college faculty.
6. This study advances knowledge related to the improvement of teaching effectiveness among college faculty.

Delimitations

The delimitations of this study included:

1. Faculty members who participated were limited to certain disciplines.
2. This study was not conducted over time to determine long term effects of the improvement procedures.
3. This study was conducted only at a small, private, religious-affiliated undergraduate college.

Limitations

The limitations in this study included the following:

1. This study was conducted only with faculty in a small, private college; and findings may not apply to faculty at larger public or private colleges.

2. This study is limited in generalizability as the sample population was volunteers.
3. Individual consultation was not used due to limited resources. Group workshop consultations were provided instead of individual consultation.

Definition of Terms

The following terms were the key terms and operational definitions for this research.

Cognitive Dissonance Theory is the theory that purports that, when the perceptions and behaviors of an individual are perceived to be incongruent, cognitive dissonance occurs; and the individual changes his/her perceptions or behaviors to be more congruent in order to reduce or eliminate the dissonance (Festinger, 1957).

Cognitive Dissonance for this study was defined as the psychological process by which the faculty members changed their teaching behaviors that resulted in increased teaching effectiveness, as measured by end of the semester student ratings. More specifically cognitive dissonance for this study was the discrepancy between a faculty member's self-rating and the mean ratings of his/her students at midsemester as represented by a positive or negative discrepancy score for each of 20 faculty behavior items.

Consultation was defined as the verbal and written feedback provided in this study to the faculty in a group workshop (outline at Appendix A). The written feedback included: (a) the Individual Development and Educational Assessment

(IDEA) Center Report, from Kansas State University (KSU)--a summary feedback form of the student ratings and (b) a written feedback form showing the discrepancy scores resulting from the faculty member's self-rating and his/her student evaluations. The consultation included faculty interaction in a 60-minute, group workshop setting with explanations of the midterm feedback by the researcher and written suggestions provided in the form of the IDEA Center Short Papers, developed at Kansas State University. These Short Papers are a series of brief research papers dealing with numerous topics of effective teaching. Many of the Short Papers are related to the 20 instructor-rating items looked at in this study, but there is not a Short Paper specifically for each of the 20 items.

Discrepancy score was the difference between the faculty member's self-rating on an IDEA teaching behavior item and the mean rating of his/her students on that same item. A negative discrepancy score indicated that the faculty member's rating was higher than his/her students' average rating on the same item. This resulted in 20 plus or minus scores for each instructor. These 20 discrepancy scores were then added together and divided by 20 to achieve an average plus or minus discrepancy score. If an instructor had a negative score, he or she had rated himself or herself on the average higher than his or her class had.

Effective teaching was defined as those behaviors identified in the literature on student evaluations, specifically identified in the evaluation form

which was used for this study which is the IDEA Survey Form (Appendix B.).

These behaviors included the following regarding the instructor:

1. Displayed a personal interest in students and their learning;
2. Found ways to help students answer their own questions;
3. Scheduled course work (class activities, test, projects) in ways which encouraged students to stay up-to-date in their work;
4. Demonstrated the importance and significance of the subject matter;
5. Formed “teams” or “discussion groups” to facilitate learning;
6. Made it clear how each topic fit into the course;
7. Explained the reasons for criticisms of students’ academic performance;
8. Stimulated students in intellectual effort beyond that required by most courses;
9. Encouraged students to use multiple resources (e.g., data banks, library holdings, outside experts) to improve understanding;
10. Explained course material clearly and concisely;
11. Related course materials to real life situations;
12. Gave tests, projects, etc. that covered the most important points of the course;
13. Introduced stimulating ideas about the subject;
14. Involved students in “hands on” projects such as research, case studies, or “real life” activities;
15. Inspired students to set and achieve goals which really challenged

them;

16. Asked students to share ideas and experiences with others whose backgrounds and viewpoints differ from their own;
17. Provided timely and frequent feedback on tests, reports, projects, etc., to help students improve;
18. Asked students to help each other understand ideas or concepts;
19. Gave projects, tests, or assignments that required original or creative thinking; and
20. Encouraged student-faculty interaction outside of class (office visits, phone calls, e-mail, etc.).

End of the semester was the two weeks before final examinations.

Faculty were those who taught full-time or part-time at the institution.

Faculty self-ratings were ratings the faculty members gave themselves at midsemester, indicating their perceptions of their own instruction in one of their courses on the 20 Teaching Method and Style items found on the IDEA evaluation form (Appendix C).

IDEA Report was the report from KSU of results from the student evaluations on the IDEA Survey Form – Student Reactions to Instruction and Courses (Appendix D)

Midsemester was at the 5th through the 7th week in a 16-week semester.

Motivation was used as a covariate in this study. The level of student motivation was determined by item #39 on the IDEA Survey Form (Appendix D) which states, “I really wanted to take this course regardless of who taught it.”

The end of the semester class averages on this item for each group were averaged together to determine the motivation level for the consultation group, the written feedback group, and the control group.

Student evaluations were the forms used by students to evaluate how each instructional practice listed in the evaluation contributed to their learning in the course and to report the level of effectiveness they experienced. The form used in this study was the IDEA Survey Form-Student Reactions to Instruction and Courses (see Appendix B). There were a total of 47 questions in areas including instructor behaviors (20), progress on twelve learning objectives (12), the course (3), and self-rating (12). Optional additional questions could have been added by specific instructors if desired.

Student ratings were the 20 instructor behavior ratings given by the students on the IDEA Student Rating Forms, participating in this study, at both midsemester and at the end of the semester. (Ratings by the students on the other 27 IDEA items were collected but not used in this study except for the student motivation factor, Item #39.) Five rating levels were available on the first 20 items including: hardly ever (1), occasionally (2), sometimes (3), frequently (4), and almost always (5). The IDEA Student Rating instrument is described in greater detail in the Methodology section.

Written feedback was the feedback provided in a written format to the participating faculty member in which the average ratings from his/her students on each of the 20 IDEA teaching behavior items were compared with the 20 self-rating scores of the faculty member on the same items. Discrepancy scores in

which the faculty member rated him or herself higher than his/her students' averages were indicated with a negative sign (Appendix E).

Summary

In summary, there are numerous challenges facing higher education today. In response to some of the quality issues and challenges, teaching effectiveness needs to be improved. One aspect of teaching effectiveness is the teaching behavior displayed by the instructor. Student evaluations are conducted by most institutions of higher education with the goal of improving student ratings of instructors and thereby improve teaching effectiveness. This study attempted to use cognitive dissonance theory to improve the student ratings of college faculty. Further, this study explored augmenting end of the semester student ratings feedback with midsemester feedback in the form of discrepancy scores and group consultation to improve teaching effectiveness.

While this chapter introduced research parameters, Chapter II provides a review of literature that encompasses: (a) teaching effectiveness, (b) student ratings, and (c) cognitive dissonance. Chapter III describes the methodological framework for the study. Chapter IV presents the research findings. Conclusions and implications for further research are discussed in Chapter V.

CHAPTER II

REVIEW OF THE LITERATURE

Introduction

The literature on: (a) characteristics of teaching effectiveness, (b) student-ratings, and (c) cognitive dissonance theory is reviewed and presented in Chapter II. The chapter begins with a restatement of the problem addressed in this study. Different aspects of teaching effectiveness are then reviewed. The effectiveness of student rating feedback for improving college instruction (Centra, 1973), research upon which this study is based, is then discussed. The augmentation of student rating feedback with student/faculty discrepancy scores and consultation is also reviewed. Theoretical frameworks for the study are also explored, particularly the theory of cognitive dissonance.

Restatement of the Problem

This research investigated, utilizing the theory of cognitive dissonance, how to improve the student ratings of college faculty. This study explored how the dissonance, created when a faculty member experiences lower than expected midsemester student ratings in comparison with his or her own midsemester self-ratings, could be resolved by moving toward the needed teaching improvements reflected in the midsemester student ratings. It was assumed that, based on written student ratings feedback, significant movement to improve the teaching behaviors rated lower than expected by students would

enhance the teaching effectiveness of the faculty, i.e., raise his/her student ratings. It was further assumed that improvement in teaching effectiveness (higher student ratings) would be even greater when the midsemester feedback from the student ratings was augmented with a faculty workshop consultation.

Teaching Effectiveness

Teaching behaviors which increase student learning and encourage student development reflect effective teaching. This section will look at the challenges facing higher education today as well as some of the roadblocks to effective teaching. How college teaching can be improved will also be explored.

Why Teaching Effectiveness--Today's Challenges

Ever increasing higher education costs, older students seeking employment survival, thousands of under-prepared traditional students, unparalleled diversity, dwindling financial support, and criticism of higher education and its teachers are the challenges of today (Frye, 1994). These challenges require that college teaching be effective. Weimer (1990) believed that with the critical look at higher education in our society improving college teaching is essential. Consumers of higher education are asking serious questions about teaching and whether or not it is effective and if they are getting their money's worth. State legislatures are looking very critically at education and demanding some type of accountability and assessment results to prove that they should continue to approve funding for higher education programs.

Teaching college in the 1990s is complicated by the increasing numbers of multi-cultural and multi-lingual students and the significant technologies available to teach (Greive, 1991). These changes, as well as the increasing accountability of higher education to society and to legislatures, require instructors to be well prepared to meet the challenges of teaching in this environment. The faculty member must be prepared with instructional objectives and strategies for teaching and utilize technology to maximize learning experiences (Greive, 1991).

The information explosion is a reality and the content of courses is also exploding with new information everyday (Weimer, 1990). More and more essential information needs to be fit into courses which are the same length of time--a semester long--as they were twenty years ago. Students need to learn the academic content of their courses as well as learn skills to handle the massive amount of information available in general, i.e., via the Internet. Students need to learn how to think critically, how to analyze, synthesize, and evaluate information, how to question, and how to articulate ideas clearly (Farquharson, 1995; Weimer, 1990).

Faculty often presume that students, by simply being in academic courses, will learn how to think, solve problems, critically assess, and know what to do with the information they are learning (Weimer, 1990). However, this does not necessarily happen when a professor is teaching only content. To help prepare students to be productive citizens in today's society, faculty must cease viewing the conveying of content as the sole aim of education and start seeing education as a means by which larger objectives are met. Farquharson (1995)

emphasized that effective instructors should teach questioning and critical thinking skills. They should encourage their students to frame questions that have personal relevance and pursue answers to those questions.

The above outlines many of the challenges facing higher education in general. In the next section, the roadblocks to effective teaching are explored.

Roadblocks to Effective Teaching

Faculty attitudes, attitudes ingrained within the profession, and institutional environments can result in roadblocks to effective teaching according to Weimer (1990). Faculties assume that if they know it, they can teach it. Course content and knowledge of their discipline are paramount to many faculty members.

Graduate school preparation is only focused on knowing as much as possible about the subject to be taught but there is usually little preparation for the actual task of teaching itself. In equating content mastery with teaching effectiveness, focus is lost on teaching as a separate activity which needs to be addressed in addition to just knowing course content (Weimer, 1990). Faculty members often assume that good teachers are born, not developed; and that effectiveness results from personal characteristics (Guskey & Easton, 1983; Weimer, 1990).

Other major roadblocks to improving college teaching are some of the attitudes displayed in the college teaching profession itself. Many faculty members do not see the need for instruction on improving their teaching. Teaching can become a comfortable habit with a nothing-ventured-nothing-lost

teaching philosophy. The implications of changing student populations for new teaching strategies have not been recognized by many faculty (Weimer, 1990).

Within the academic environment, Weimer (1990) proposed two major factors, which also impede the improvement of college teaching. The first factor is the declining resources of most colleges today. Classrooms are often in decay, which reflects that the institution's priorities are not on teaching. More and more adjunct faculty members are used by faculty and administrators. Teaching assistants, with little knowledge of teaching, are also used more. Other declining resources are indicated by class sizes which are larger, resulting in even less student-faculty interaction; and instructional resources and services receive in some cases less financing than ever. The second factor inhibiting effective college teaching is the institutional focus on research at many institutions with teaching being relegated to one of the bottom rungs of priorities. As long as higher education emphasizes research far more than teaching, the motivation to improve teaching will be limited.

This section outlined roadblocks to effective teaching. The following section describes the lack of education or training of college faculty on effective teaching.

Lack of Education or Training on Effective Teaching

College faculty tend to receive little education on effective teaching methods (Weimer, 1990). Education courses are relegated to the departments preparing teachers for the elementary and secondary teaching careers only.

Teaching courses to prepare faculty to teach at institutions of higher education are virtually non-existent except in the case of some innovative departments or Higher Education programs. At the college level, faculty members are expected to be content experts in the disciplines they teach. They are not expected to be knowledgeable about effective teaching and how adults learn best. (Many faculty members teach the way they were taught (Weimer, 1990). Faculty members need to ask if the way they are teaching is meeting the needs of their students (Bonwell & Eison, 1991). The most common teaching method that most faculty members experienced in their own education was a lecture format with little student interaction. Faculty members continue this tradition. Although the research suggests the need for active learning (Cross, 1991), passive learning using the lecture style continues to dominate college teaching. Often, teaching is based upon instructor habit and not upon the instructor's course objectives or content to be taught that day.

On campuses across the nation, many college functions and teaching behaviors are pretty much as they have always been (Weimer, 1990). However, in our society at large, changes abound. Our society is faced with ever increasing technological advances and an information explosion with a large, and growing larger, population of citizens underprepared to function well with these changes. Now is an opportune time to look at how faculty members are teaching and what can make teaching even more effective (Weimer, 1990).

Characteristics of Teaching Effectiveness

Several characteristics of effective teaching have been identified. These characteristics include: (a) clarity in the structure and presentation of lectures; (b) instruction which results in students being enthusiastic in their own learning; (c) reliable and valid assessment of student learning; (d) evaluation of own teaching; (e) sincere interest in students and their work, helpfulness with students' problems; and (f) knowledge of the subject matter (Noble & Cannon, 1995; Smith, 1993). Teaching is complex and subtle, and there is no single or simple road to success (Setterfield, 1974). Effective teachers are dedicated, exceptionally well organized, systematic in their teaching, student-oriented, subject matter experts, vary their teaching methods, explain effectively, motivate students, enthusiastic, and keep up-to-date (Guskey & Easton, 1983; Valek, 1988). Effective teaching is related to student learning and deals with establishing conditions for facilitating learning (Braskamp, Brandenburg, & Ory, 1984). Input, process, and product should all be used in evaluating teaching. Sherman, Armistead, Fowler, Barksdale, and Reif (1987) identified characteristics, which are regularly and consistently applied to excellent instructors: enthusiasm, clarity, preparation/organization, and stimulating presentation. Characteristics of effective teachers are teaching characteristics and instructional practices, not necessarily personal characteristics (Guskey & Easton, 1983).

Seven principles of effective undergraduate education were developed by Chickering and Gamson (1987). First, students learn from contact with teachers

including informal and formal, outside of class and in class. Students are influenced by this contact and feel that their learning is important. Within class, teacher contact is most helpful when: (a) lectures are interspersed with clarifications, (b) there is checking for understanding, (c) teachers relate the material to material already covered, and (d) faculty show students how to apply this new information. Second, students learn better in collaboration with other students not just solo. Study groups and projects can encourage this type of collaboration. Third, students learn more through active learning rather than passive learning. Required class activities and participation result in active learning opportunities. Fourth, student learning increases when students receive prompt and constructive feedback. Students have more chance for learning and growth within the course time frame when they understand what they have missed or where they need improvement. Fifth, students learn best when they must devote focused and sustained attention to the subject matter. This approach includes both in-class time as well as outside assignments. Sixth, clear communication of high expectations increases student learning. Students must be challenged yet these challenges must be attainable. Lastly, instructors must recognize that students vary in the way they learn. A variety of instructional methods should be used.

Katz (1988) argued that focusing too much on preparing lectures and assignments is not effective teaching. Effective teaching asks what impact the lectures and assignments have on our students. Many faculty members believe students learn when the faculty members lecture, and they try to present as

much of the content as possible in the allotted time. Katz (1988) proposed that learning takes place when students talk. When one professor was asked how he handles the glut of information, he responded he simply talks faster (Katz, 1988). Faculty members often focus on the transmission of information but need to focus more on the competencies students need to have when they graduate. According to Katz (1988), analytical thinking, creativity, and self-confidence are achieved through active learning. Katz (1988) concluded that effective teaching results in active learning.

Improving College Teaching

Davis (1993) proposed that effective postsecondary teaching requires teachers to use the many options they have when teaching. These instructors need to have a consistent instructional model to incorporate the bits and pieces of advice into an overall scheme. Effective teachers do not enter their classrooms haphazardly but use teaching strategies, and their teaching is under their control. Their teaching strategies are based upon concepts of how people learn. Lowman (1995) presented a systematic approach to teach instructors fundamental teaching skills. He outlined how to present intellectually challenging lectures, to lead engaging discussions, and to relate to students in ways to encourage learning. An emphasis on the intellectual and interpersonal aspects of teaching forms the basis of his suggested techniques.

Weimer (1990) stated the first step in improving college teaching is involving the faculty in the improvement process. Faculty resistance to improving

their teaching is grounded in the feeling of being threatened by the idea that there is a need for improvement. Hammons and Wallace (1976) stated that the failure to involve faculty in the planning of their own development results in resistance to faculty development programs. The need for improvement could imply incompetence (Weimer, 1990). Since faculty members are usually subject matter experts, this implication could be threatening. Also, many faculty have been teaching for years without any questions as to their competence and the attention to their teaching could result in showing that they have been doing something "wrong" in all these years of teaching. Teaching is also a personal involvement with students for all faculty members and self-reflection can be difficult. Often the faculty's previous efforts on teaching improvement have not been productive. Sometimes these efforts have been used against professors in personnel decisions. Evaluations are often written in global terms and do not give the instructors any specific information for improvement. Weimer (1990) recommended these factors all need to be considered in the process of involving faculty in the teaching improvement process.

Weimer (1990) outlined four techniques to encourage faculty participation in this improvement process. The first technique is to involve all faculty members in the process and not to focus on just specific faculty members who may need improvement more than others do. No matter how well a professor teaches, improvement can always be made. Working with excellent faculty members, who are improving their own skills, positively impacts faculty members who are not as skilled but who can benefit from this process. The second strategy is that the

individual teacher needs to be in charge of his or her own improvement. The faculty member determines the extent of his own involvement. This technique also involves student evaluations, which can remain with the faculty member and protect confidentiality of feedback for the faculty member. The professor can then select what she wants to improve and does what she wants, not what she must do. The institution must at this point provide resources and services to support the improvement process (Weimer, 1990). The institution needs to provide an “instructional improver” to act as a consultant to faculty in their improvement efforts. Faculty participation is encouraged when someone knowledgeable about teaching is available, the institution is willing to devote some resources to support efforts, and it is recognized that to teach well college teachers need support (Weimer, 1990).

An approach to improving college teaching involving five steps was outlined by Weimer (1990). The first step is to develop instructional awareness in order to clarify and correct the faculty member’s understanding of how she teaches. This is accomplished through using checklists to guide self-observation, looking at taped teaching sessions, reviewing course materials, and reading to stimulate thinking. Step two is to compare the instructor’s understanding of how he teaches with the feedback of others through feedback forms from students, visiting colleagues classes and having them visit his, attending teaching seminars, and interviewing past and present students about their learning experiences in his classes. Step three is to decide what to change and how to change it. This is done by activities such as reviewing which

practices to change in view of educational objectives and priorities, considering the order in which to change the instruction, and determining how to change these practices based upon the feedback in steps one and two. Step four is to implement the changes in teaching gradually, in a systematic and wholehearted way. Step five is to determine the impact of these changes through self-assessment, gathering information from students and colleagues, implementing further needs as indicated, and assessing needs in an on-going manner (Weimer, 1990).

In summary, there are many characteristics of effective teaching. These characteristics include: (a) clarity in the structure and presentation of lectures, (b) instruction which results in students being enthusiastic in their own learning, (c) reliable and valid assessment of student learning, (d) evaluation of one's own teaching, (e) sincere interest in students and their work, (f) helpfulness with students' problems, and (g) knowledge of the subject matter (Noble & Cannon, 1995; Smith, 1993). Effective teachers are: (a) dedicated, (b) exceptionally well organized, (c) systematic in their teaching, (d) student-oriented, and (e) subject matter experts. They also: (a) vary their teaching methods, (b) explain effectively, (c) motivate students, (d) convey enthusiasm, and (e) keep up-to-date (Guskey & Easton, 1983; Valek, 1988). Sherman et al. (1987) identified characteristics, which are regularly and consistently applied to excellent instructors: enthusiasm, clarity, preparation/organization, and stimulating presentation. Characteristics of effective teachers are teaching characteristics and instructional practices, not necessarily personal characteristics (Guskey &

Easton, 1983). Seven principles of effective undergraduate education (Chickering & Gamson, 1987) include: (a) students learn from contact with teachers, (b) students learn better in collaboration with other students not just solo, (c) students learn more through active learning rather than passive learning, (d) student learning increases when students receive prompt and constructive feedback, (e) students learn best when they must devote focused and sustained attention to the subject matter, (f) clear communication of high expectations increases student learning, and (g) a variety of instructional methods should be used. Katz (1988) proposed effective teaching asks what impact the lectures and assignments have on our students and concluded that effective teaching results in active learning. Davis (1993) believed that effective teaching strategies are based upon concepts of how people learn.

Administrators and faculty need to use student rating forms that measure these types of characteristics/behaviors of effective teaching. The student evaluation form, the IDEA Survey Form (Appendix B), used in this study incorporates many of these behaviors.

The characteristics of effective teaching and how college teaching can be improved have been outlined. The next section looks at utilizing student ratings of effective teaching behaviors to improve teaching effectiveness.

Student Ratings

The purpose of this section is to look at studies which have been conducted on how student ratings have been used to improve teaching

effectiveness. The following areas are discussed: (a) evaluating teaching for effectiveness, (b) the effectiveness of student-rating feedback for improving college instruction, (c) using instructional consultation in addition to student feedback to change instructor behavior, (d) the validity of student evaluations, and (e) student ratings studies.

Evaluating Teaching for Effectiveness

Braskamp et al. (1984) believed that effective teaching results in student learning and instructors must establish conditions to facilitate learning. Input, the skills of the students coming into the institution; process, the education the institution provides to the students; and product, the learning which has taken place, should all be used in evaluating teaching. There is no single instructional strategy, which is always superior to others. Instructors should be aware of their own unique skills, abilities, and preferences and should use them. In evaluating teaching effectiveness, the following should be considered: (a) communication skills, (b) rapport with students, (c) course organization, (d) student self-rated accomplishments, (d) course difficulty, and (e) grading and examinations. More recently, changes in educational technology, instructional approaches, educational purposes and objectives, and in teaching-learning conceptualizations require new evaluation approaches (Hoyt, Chen, Pallett, & Gross, 1999).

Student Rating Feedback for Improving College Instruction

A meta-analysis was conducted by Cohen (1980) of 22 studies on the effectiveness of student-rating feedback on improving college instruction. Feedback was found to have a modest but significant effect on improving college instruction (increasing student ratings). The feedback was enhanced when augmentation or consultation was provided along with the ratings at the end of the semester.

Improving instruction in Cohen's (1980) review covered two areas, including general improvement of teaching abilities and within-class improvement. Student ratings appear to be best utilized for within-class improvement. Three main advantages of with-in class improvement strategies are listed as follows. First, students may receive better instruction as the semester progress. Second, the instructor may be more responsive to the improvement process when it is viewed as facilitative rather than judgmental. Third, the satisfaction the instructor feels about teaching should increase as the sense of competence improves.

Cohen (1980) conducted this meta-analysis to answer three questions. How effective is student-rating feedback in the typical comparative study? Is student-rating feedback specifically effective for certain dimensions of instruction? Under which conditions does student-rating feedback appear to be most effective?

The student ratings of the instructor included several areas (Cohen, 1980). Skill, rapport, structure, difficulty, interaction, feedback to students, and the

overall teaching effectiveness were assessed in this analysis. The results of these ratings were examined to look at the overall size and significance of the effects of student-rating feedback. The feedback group received overall higher ratings at the end of the semester than the no feedback group in 20 out of 22 of the studies. Overall, there was a modest effect on the instructors who received feedback compared to instructors who did not receive feedback.

Other comparisons in Cohen's (1980) research included how students perceived their learning in a course. Four comparisons reflected positively on the feedback group, but only one comparison was statistically significant. On comparisons of students' attitudes toward the subject, the students were significantly more positive if their instructor had received feedback. Student achievement only showed a small effect when these groups were compared. Three comparisons showed greater achievement by students whose instructors received feedback; however, none of these findings were statistically significant.

Cohen (1980) concluded that student-rating feedback resulted in a modest yet significant improvement in college teaching. Feedback does not increase student ratings on all dimensions of teaching. For example, difficulty and interaction, could reflect more subject matter differences and class size than instructor skills. If feedback is specific, such as the dimension of feedback to students, this can be more useful to instructors and allow for greater chances of instructional change.

Cohen (1980) found little relationship between methodological features and study outcomes in the 22 studies he reviewed. The instructors were

randomly assigned in almost all of the studies. The settings did not seem to impact the findings. The length of time was not significant whether the comparison lasted one semester or longer than one semester. The different types of institutions did not impact the findings. The findings were also the same for instructors regardless of the amount of teaching experience.

Overall instructor rating outcomes correlated significantly with augmentation of feedback (Cohen, 1980). Large effect sizes were reflected in studies in which feedback was augmented with individual consultation. In studies, which used only student-rating feedback, much smaller effects were seen in the faculty members' student rating. Therefore, individual expert consultation to augment student feedback appears key for the most significant improvement in student ratings to occur. According to Cohen (1980), change on all teaching dimensions cannot be achieved, and instructors should only receive midterm feedback on dimensions of teaching they can modify. Cohen (1980) concluded specific rating items and dimensions are more useful than global ratings.

In Centra's (1973) study, teacher ratings for the three faculty groups did not differ when: (a) subject area, (b) gender of instructor, (d) college, or (e) amount of teaching experience were taken into account. Current research indicated, in general, the following instructor variables were not related to student ratings: (a) age and teaching experience (Cashin, 1995; Feldman, 1983b; Marsh & Hocevar, 1991); (b) gender of instructor (Cashin, 1995; Feldman, 1993); (c) race (Cashin, 1995); (d) personality (Braskamp & Ory, 1994; Cashin, 1995;

Centra, 1993); and (e) research productivity (Cashin, 1995; Centra, 1993).

Student variables usually not related to student ratings in past research included age, gender, level of the student, GPA, and personality (Cashin, 1995). Cashin (1995) found that class size was not related to student ratings.

The variables in the preceding paragraph have been thought to bias student ratings. However, Cashin (1995) found they were not correlated with student ratings in any significant way. Some other variables have been correlated with student ratings and may possibly require control (Cashin, 1995).

Full-time faculty usually received higher ratings than teaching assistants (TAs). However, Cashin (1995) proposed this variable did not need to be controlled for as full-time faculty as a group were more effective teachers than TAs.

Expressiveness of the faculty member tended to enhance learning and did not need to be controlled (Cashin, 1995). Student variables which may need control include motivation and expected grades (Cashin, 1995). Motivation to take a course was correlated with the other items on the IDEA Survey, indicating this variable required control (Cashin, 1995). Expected grades had positive but low correlations ranging from .10 to .30. According to Cashin (1995), course variables to consider included level of course, academic field, and

workload/difficulty. The higher level courses tended to receive higher ratings, but the differences were small. The academic field did show different ratings, however it was not clear why (Cashin, 1995). In addition, workload and difficulty of course correlated positively with student ratings. However, the correlations were not large and these variables did not require control (Cashin, 1995; Centra,

1993). Cashin (1995) found that the administrative variables related to student ratings included: (a) non-anonymous ratings, (b) instructor present while students complete ratings, and (c) purpose of ratings.

Instructional Consultation and Student Feedback

Faculty development programs to improve teaching were established in many institutions of higher education beginning in the 1970's. Individual instructional consultation with feedback is one means used for faculty development. Many of the consultants who provide this type of consultation do not have much formal training on what constitutes effective practice (Brinko, 1990). A meta-analysis of the effects of student evaluation feedback showed that feedback from student ratings alone produced a significant, but small, improvement in teaching. Further, when student ratings feedback was augmented by individual consultation, the small effect quadrupled. This analysis was limited however because few studies included individual consultation and the effect was not consistent across studies (Brinko, 1990). It appears that some consultations are more effective than others because of the significant variation in the effect size.

Brinko (1991) examined the verbal interactions between instructional consultants and their faculty clients to hopefully increase the understanding of the process of individual instructional consultation with feedback. Brinko (1991) found there is no one way that consultation is done; rather, within the consultation process, there are several common behavior patterns shared by

instructional consultants. The four phases of instructional consultation with feedback include: (a) initial contact, (b) conference, (c) information collection, and (d) information review and planning session. Four models appear to be the most useful in this type of consultation. In the product model, the consultant is seen as the expert and the client is seeking this expertise. In the prescription model, also known as the medical model, the consultant identifies, diagnoses, and solves the problem and the client is the receiver of this diagnosis. In the collaborative/process model, the consultant is the facilitator of change and the client is the content expert and together they have a synergistic relationship. In the affiliative model, the consultant is an instructional consultant and psychological counselor and the client is seeking both personal and professional growth. Brinko (1991) also identified a fifth model—the confrontational model in which the consultant plays the devil's advocate and the client is forced into the role of defender or acceptor.

Brinko (1991) proposed that instead of the consultant's style of interaction, practitioners/researchers need to consider the consultative style that emerges from the interaction between the consultant and the client. The use of only one style of consultation limits the effectiveness and the opportunities for productive consultation. Brinko (1991) recommended further research to compare successful and unsuccessful consultation, to determine which consultation practices are most effective, and in what situations are they effective.

Overall and Marsh (1979) conducted a study of 751 students in 30 sections of a course in computer science. They found that instructors, who were

given feedback from student ratings collected at midterm and met individually with consultants to discuss strategies for improvement, received better student ratings at the end of the semester. Their students also had better final examination scores and more favorable affective outcomes. The students in the sections in which the instructors received feedback from the midterm ratings scored similarly to other students on pretests and midterms. The results of their study confirmed that feedback from student ratings in conjunction with individual consultation improves teaching effectiveness.

A study of the effectiveness of Students' Evaluations of Teaching Effectiveness (SETs) to improve university teaching reconfirmed that SET feedback coupled with individual consultation improve teaching effectiveness (Marsh & Roche, 1993). Ninety-two instructors completed self-evaluations and were evaluated by students in the middle of Semester 1 and at the ends of Semesters 1 and 2. Groups received feedback and individual consultation intervention at midterm of Semester 1 (MT), at the end of Semester 1 (ET), or received no intervention (control). Certain teaching dimensions were targeted for the MT and ET groups. The ratings for all the groups showed improvement over time. The ratings for the ET group improved significantly more than the control group. The targeted teaching dimensions for both the MT and ET groups showed greater improvement than teaching dimensions which were not targeted.

Wilson (1986) concluded that an individual consultation process, in which the instructors received guidance on improving their lowest rated items, resulted in greater teaching effectiveness for 52 percent of the faculty clients than just

written scores. Faculty showed the most change on items when the suggestions were most concrete, specific, and behavioral. A group of non-client faculty which received only the computer profiles of their students' ratings and no suggestions about improving their teaching showed no significant change in the ratings of their teaching (Wilson, 1986).

In changing teaching to effect significant improvement in teaching, Wilson (1986) looked at two aspects of the change process. The first aspect is knowing what to do to change or to improve a teaching behavior. Client faculty were presented with different techniques which they previously did not have to improve their teaching. The second aspect of the change process dealt with acting upon the new knowledge and techniques the client faculty receive in the consultation process. Sometimes application of new knowledge is a stumbling block. However, the consultation process seems to have created an implied expectation that the new techniques would be used.

Validity of Student Evaluations

The validity of students' evaluations of teaching effectiveness is frequently questioned (Marsh, 1977, 1982). A major problem is the lack of universally accepted criterion of good teaching. However, a number of researchers use a construct validation method in which student ratings and other measures thought to reflect effective teaching are shown to be related. If the two indicators show agreement, validity is indicated. Several researchers have used the performance on a final examination in a multi-section course as an indicator of effective

teaching. The teachers who were rated higher had students who performed best on the standardized exam (Centra, 1977a; Frey, 1973, 1978; Frey, Leonard, & Beatty, 1975; Marsh, Fleiner, & Thomas, 1975).

Marsh (1982) believed that faculty would recognize the usefulness of student ratings if validity criteria applicable across a wide variety of courses were used. He selected the instructors' evaluations of their own teaching effectiveness as his criterion. A correlation of about .20 has been determined between faculty self-evaluations and students ratings (Blackburn & Clark, 1975; Centra, 1973). Other studies have resulted in correlations ranging from .31 to .65 (Braskamp, Caulley, & Costin, 1979; Doyle & Crichton, 1978; Marsh, Overall, & Kesler, 1979a, 1979b). Marsh (1982) based his study on the earlier study by Marsh and others (1979b), but: (a) added several new evaluation factors to the survey instrument, (b) included courses taught by teaching assistants as well as undergraduate and graduate courses taught by faculty, and (c) the sample size was increased. Marsh (1982) was thus able to use a multitrait-multimethod analysis to test convergent and divergent validity. Convergent validity indicated the correlation between student and instructor ratings on the same evaluation dimensions. Divergent validity reflected the distinctiveness of the different evaluation factors. Marsh (1982) proposed the divergent validity would support evidence against the practice of using a single overall summary item or a simple average score across a broad set of evaluation items. In order to fully utilize student ratings, faculty and administrators need to be convinced that these ratings are valid.

In a study of 329 college instructors in which the faculty evaluated their own teaching effectiveness with the same 35-item rating that was used by their students, Marsh (1982) found student ratings reflected good agreement with instructor self-evaluations of teaching effectiveness. The validity of student ratings was verified at both the undergraduate and graduate level. Marsh (1982) concluded that using multi-factor evaluation instruments is important.

Marsh et al. (1979b) conducted a study of students' evaluations of teaching which were validated against both cognitive and affective criteria of effective teaching. Previous criticism by faculty that student ratings fail to reflect effective teaching was noted. However, numerous researchers have conducted construct-validation studies in which student ratings are measured along with other criteria indicative of effective teaching such as instructors' self-evaluation, retrospective ratings of alumni, and follow-up ratings of the same students several years after graduation. These studies have established correlation levels which confirm that student ratings do reflect a measure of teaching effectiveness.

Correlations between end-of-term ratings and the teaching effectiveness criteria were generally positive (Marsh et al., 1979a). This study provided support for the validity of student evaluations. The design of this study eliminated many alternative explanations for the correlation between ratings and the criteria of effective teaching. Support for the validity of student evaluations in general was offered by this study, however, which components of the ratings were most valid was not established. Marsh et al. (1979a) confirmed the importance of using multiple criteria in the evaluation of effective teaching.

Marsh (1983) emphasized the importance of the multidimensionality of student ratings. The ratings reflected the many dimensions of teaching including areas such as enthusiasm/skill, learning/accomplishments, structure, clarity, group interaction, individual rapport, grading/examinations, breadth of coverage, workload/difficulty, instructor's knowledge, elocutionary skills, and others. The instruments used to measure teaching effectiveness showed that students do distinguish between these various areas of effective teaching. The results of the Students' Evaluation of Education Quality (SEEQ), the student instrument developed and used by Marsh (1983) to evaluate faculty, demonstrated significant student-teacher agreement on the factors assessed in this instrument. This agreement was not a unidimensional agreement which could be generalized across several teaching behavior factors. Agreement on a factor was independent of agreement on other teaching behavior factors. This instrument could now be used to accurately reflect certain teaching behaviors. Other instruments that may have a hodgepodge of items and for which there are average scores or overall ratings do not necessarily provide a good basis for knowing what is being measured.

In order to measure the multidimensionality of students' evaluations of teaching effectiveness, the survey instrument should be appropriate (Marsh & Roche, 1993). Evaluations need to be viewed as teaching needs to be viewed-- from a multidimensional perspective. For example, an instructor could be well organized yet lack enthusiasm. The purposes of the ratings should also be clear. Evaluations are done for a number of purposes. These purposes can include:

(a) to provide feedback to faculty regarding the effectiveness of their teaching, (b) to be used as a measure of teaching effectiveness for personnel decisions, (c) to give students information about teachers to help students select which section of a class to take, and (d) to contribute to data used for research purposes. Marsh (1991) emphasized that for all of these purposes multidimensionality is important; however, for personnel decisions, single scores are often used.

Marsh (1991) noted that there are a number of well-constructed student evaluation instruments. These instruments measure distinct components of teaching effectiveness. The documented development of these instruments and the factor analyses conducted on the items measured provide further credence that students' evaluations measure distinct components of teaching effectiveness.

Feldman (1976, 1983, 1984, 1986, 1987) developed an extensive listing of categories of effective teaching as shown in Figure 1 (adapted from the aforementioned studies). Feldman categorized the different characteristics of effective university teachers from the student's point of view by reviewing research that asked students to specify these characteristics or that inferred characteristics through correlational studies.

Feldman's Categories

1. Teacher's stimulation of interest in the course and subject matter
 2. Teacher's enthusiasm for subject or for teaching
 3. Teacher's knowledge of the subject
 4. Teacher's intellectual expansiveness and breadth of coverage
 5. Teacher's preparation and organization of the course
 6. Clarity and understandability of presentations and explanations
 7. Teacher's elocutionary skills
 8. Teacher's sensitivity to, and concern with, class level and progress
 9. Clarity of course objectives and requirements
 10. Nature and value of the course material including usefulness and relevance
 11. Nature and usefulness of supplementary materials and teaching aids
 12. Perceived outcome or impact of instruction
 13. Teacher's fairness and impartiality of evaluation: quality of exams
 14. Personal characteristics (personality)
 15. Nature, quality, and frequency of feedback from teacher to students
 16. Intellectual challenge and encouragement of independent thought
 17. Teacher's concern and respect for students: friendliness of the teacher
-

Figure 1. Categories of Effective Teaching Identified by Feldman
(1976, 1983, 1984, 1986, 1987)

Feldman's Categories

18. Teacher's availability and helpfulness
 19. Difficulty and workload of the course
 20. Teacher's encouragement of questions and discussion, and openness to the opinion of others
-

Figure 1. Continued.

Marsh (1991) again emphasized that most of the literature supports that the purposes for which evaluations are used are better served by multidimensional scores rather than a single summary score. Most instruments do not measure a well-defined set of evaluation factors and the need for using these types of instruments remains. Marsh (1991) responded to a critique (Abrami & d'Apollinia, 1991) of his use of multidimensionality with the response that as opposed to a global score there are many ways in which an instructor can be effective and many ways an instructor can be ineffective but few instructors are consistently excellent or consistently poor across many teaching behavior dimensions.

Marsh (1984) conducted an overview of findings and research regarding students' evaluations of teaching effectiveness. He concluded that class-averages of student ratings are: (a) multidimensional, (b) reliable and stable,

(c) primarily reflect on the instructor not on the course being taught, (d) are valid in comparison with indicators of effective teaching, and (e) are relatively free of variables hypothesized as potential biases. Further, these ratings are seen as useful by faculty as feedback on their teaching, by students to determine course selection, and by administrators in personnel decisions.

Since the validity of students' ratings is frequently supported by research findings, Marsh (1984) questioned why they are seen as so controversial. He offered that some of the reasons are obvious. University faculty are content experts, but usually have not had any training on effective teaching methods; yet, their tenure and promotions depend, in part, on the evaluation of their teaching effectiveness. This issue is further complicated by the lack of a universally accepted definition of effective teaching. Although university faculty are also evaluated based on their research productivity, the evaluation of teaching remains more contested.

Marsh (1984) discussed concerns with questions of the validity of multisection studies. One approach to validate student ratings with objective criterion is to measure teaching effectiveness correlated with student learning as measured by the results of an objective examination used in multisections of the same course, taught by different instructors. In the study by Rodin and Rodin (1963), a negative correlation was found between section-average grade and section-average instructor evaluations. However, Marsh (1984) assessed serious methodological problems with the Rodin and Rodin study. Marsh (1984) found studies which did meet the criteria for a multisection validity study that

further validated the use of student evaluations in determining teaching effectiveness.

Marsh (1984) also discussed the Dr. Fox effect in which instructor expressiveness may have an overriding influence on the students' evaluations of teaching. Results from Dr. Fox studies have been interpreted to say that an enthusiastic lecturer can sway students into a favorable evaluation even when the lecture is not meaningful. Marsh (1984) found that instructor expressiveness did impact ratings, however, it was strongest in the area of instructor enthusiasm and did not bias overall results.

Student Rating Studies

L'Hommedieu, Menges, and Brinko (1990) cited their 1988 study in which a complete review and statistical integration of the research on the feedback faculty received from student ratings resulted in an overall effect size of .342. Although a consistent positive effect was noted, this had modest practical significance. This study looked at threats to validity and found they diluted the measured effects of student ratings feedback. However, these effects may be stronger than the research indicated.

A meta-analysis of 28 studies was conducted by L'Hommedieu et al. (1990). The studies in the meta-analysis included only those which: (a) investigated postsecondary instruction, (b) used student ratings as the primary source of feedback, (c) were conducted in classroom settings, (d) used a no-feedback control group, and (e) stood apart from larger training programs in

which the effects of feedback could not be sorted out from the effects of training. Overall, these 28 studies indicated a small but consistently positive effect from written feedback alone on student ratings and a considerably increased effect when written feedback was given along with personal consultation.

Theoretical Framework

Theories for exploring change in behavior include a number of theories under the general concept of motivation. Theories which include both extrinsic and intrinsic motivators are explored in this section. The theory of cognitive dissonance provided the framework for this study and is looked at in detail.

Motivation

The force that drives people to work, to play, to achieve, or to be content with what they have is motivation. Motivation can energize, maintain, and control human behavior. In Table 1, theories for understanding motivation can be viewed along a continuum (Cummings, Long, & Lewis, 1988). One end of the continuum is the mental perspective in which the basic assumption is that internal motivators create the force behind human behavior. Theorists at this end of the continuum include Freud, Murray, Maslow, McClelland, and Herzberg. The other end of the continuum is the environmental perspective in which the basic assumption is that external motivators create the force behind human behavior. Theorists at this end of the continuum include Pavlov, Thorndike, Skinner, and Locke. The middle of the continuum reflects a perspective that

motivation is a combination of intrinsic and extrinsic factors. Theorists in this middle range include Osgood et al.; Vroom; Porter and Lawler; Thibaut and Kelley; and Festinger (Cummings et al., 1988).

Table 1. Human Motivation Continuum

Motivation Continuum		
Mentalistic	Middle	Environmentalistic
<p>Basic Assumption: Internal motivators create the force behind behavior</p> <p>Theorists: Freud Murray Maslow McClelland Herzberg</p>	<p>Basic Assumption: Motivation is a combination of intrinsic and extrinsic factors</p> <p>Theorists: Osgood et al. Vroom Porter and Lawler Thibaut and Kelley Festinger</p>	<p>Basic Assumption: External motivators create the force behind behavior</p> <p>Theorists: Pavlov Thorndike Skinner Locke</p>

Source: Cummings et al., 1988, p. 223

Herzberg developed the two-factor theory of motivation (Cummings et al., 1988). The two factors are motivational factors and hygiene factors (environmental). Herzberg believed that environmental factors are necessary, but not sufficient, to motivate employees. For him, motivation came from within an individual. Hygienic factors could prevent motivation but could not produce motivation.

The middle theorists reject the purists' positions of the mentalistic and the environmentalistic (Cummings et al., 1988). The middle perspective reflects that both internal and external conditions are important. The theorists in the middle range do vary in the emphasis they place on the internal and the external influences.

Festinger approached the concept of motivation similarly to Lewin and his field theory (Cummings et al., 1988). Field theory purports that behavior is a function of the field (the environment and the individual) which exists at the time the behavior occurs. To understand behavior, one must analyze the whole field and differentiate it into the many parts that affect behavior.

Theory of Cognitive Dissonance

The theory of cognitive dissonance (Cummings et al., 1988; Festinger, 1957) reflects Festinger's interest in how people make decisions. Prior to making a decision, an individual is in a state of conflict over which action to take. This conflict is an internal state characterized as a state of tension or dissonance. This dissonance becomes a motivator. The process of managing the dissonance is an action one takes on the environment. Festinger (1957) proposed that post-decision tension occurs after a decision is made, and there is a period of justification. During this period of justification, the person ignores any information that indicates a bad decision was made. Reinforcement of the decision is sought in the environment.

Festinger appears to be both a mentalist and an environmentalist (Cummings et al., 1988). His theory reflects people's need for homeostasis, the need to have things in balance. The fact that he bases his theory on this mental state makes him a mentalist. Festinger was also interested in how the environment and the people interacting with the individual in an environment can create dissonance in a person as a means of motivating that person. The individual is seen as an information processor. The environmental conditions can be manipulated to create internal dissonance. The external and internal states combine to stimulate the person to behave in certain ways. This can be desirable to a person seeking to change the way another behaves.

Osgood and his associates began as Pavlovian learning theorists (Cummings et al., 1988). However, they became more concerned with the mentalist perspective and incorporated these concepts into their theory. Their theory of meaning is a variant of the classical conditioning model. The individual has an acquired or learned predisposition to behave in certain ways. An individual is, therefore, predisposed to behave in certain ways. To motivate a person, the person needs to be conditioned to have certain types of meanings. These meanings would then predispose the person to behave as desired.

More current research on dissonance reduction focuses on this issue in relation to self-esteem. Steele and Liu (1981, 1983) found that cognitive dissonance and its accompanying attitude changes could be eliminated by the affirmation of a valued portion of the self-concept. These results indicate that dissonance is not based on a need for general consistency among cognitions,

instead it is based on a need for congruency between a self-view and a second cognition or action. These studies show that dissonance is closely linked to the self-concept in the sense that the dissonance arises from an inconsistency between self-threat and the self-concept.

Thibodeau and Aronson (1992) supported the neodissonance position as described in Steel and Liu (1981, 1983). However, classical dissonance theorists adhere to Festinger's model in which dissonance may arise when two disparate, non-consonant cognitions are generated by an individual, irrespective of the self-concept's involvement. As neodissonance theorists, Thibodeau and Aronson (1992) proposed that dissonance reduction is a mechanism which allows an individual to cope with the cognitive inconsistencies inherent to the specific type of self-threat which emerges in the free-choice situation.

Although there are some studies which expand the concept of cognitive dissonance, Festinger's theory of cognitive dissonance was the theoretical model selected for this study.

Theory of Cognitive Dissonance Applied

When teaching is evaluated less favorably than expected, it is presumed that faculty value the opinions on their students enough to change their instruction methods to be more responsive to students needs (Centra, 1973). Several theories provide justification for this belief (Daw & Gage, 1967; Festinger, 1957; Gage et al., 1963; Heider, 1958; Newcomb, 1959). The theory of cognitive dissonance holds that when a discrepancy exists between one's

attitudes and behavior, it can be a main cause of changed attitudes. Even though attitudes are defined in part in terms of a disposition to behave, sometimes a great difference exists between attitudes and behavior. When this inconsistency exists, attitudes often change to match the behavior. Festinger (1957) proposed the theory of cognitive dissonance to explain the tendency of attitudes to sometimes shift to be consistent with behavior. When an inconsistency exists between attitude and behavior, one is uncomfortable. This discomfort motivates one to do what he can to reduce the discomfort, or the dissonance.

This theory indicates that if beliefs or perceptions and actions are incongruent, a cognitive dissonance occurs and the individual will change the beliefs or perceptions or actions to be more congruent and resolve the dissonance. As applied to this study, the independent variables, student/faculty ratings and discrepancy scores, should influence or explain changes in the dependent variable, the faculty's teaching (end of semester student ratings). If the student ratings at midsemester are incongruent with the self-ratings of the faculty at midsemester, the faculty will change its teaching behaviors in an effort to increase the student ratings on those items where their ratings exceeded their student ratings at midsemester.

Summary

In summary, this review of the literature presented a restatement of the problem as well as literature which supported this study. The challenges facing higher education today were discussed in view of how improving teaching effectiveness can help meet these challenges. The roadblocks to effective teaching and the lack of education on effective teaching were also considered. The characteristics of effective teaching, as identified in research studies, provided insight into the multifaceted nature of this issue. The theoretical basis of cognitive dissonance was also explored and its application to this problem was discussed. Evaluating teaching for effectiveness can be a means for improving teaching effectiveness.¹ Specifically, the effectiveness of student rating feedback as a method for improving college instruction was investigated in this literature review. Additionally, this review included looking at the use of one-on-one consultation in conjunction with student rating feedback as a way of to increasing student ratings (teaching effectiveness). In the following Methodology Section, the steps taken in this study to investigate the impact of discrepancy scores and group consultation on teaching effectiveness, as measured by student ratings, are discussed.

CHAPTER III

METHODOLOGY

Introduction

The experimental approach employed for this study is outlined in this chapter. The sections in this chapter include: (a) a restatement of the problem, (b) the variables in the study, (c) the hypotheses, (d) the research design, (e) the instrumentation, (f) the sample population, (g) the data collection, (h) the analyses of the data, and (i) the anticipated findings and conclusions. This chapter was based on an approach similar to that used by Centra (1973), and it was hoped the results would agree with his findings that teachers who rated themselves better than their students would change their teaching behaviors in a significant way after receiving midsemester feedback. Further, it was hoped that the findings would confirm, as indicated in the research literature, that feedback augmented with midsemester consultation would result in even greater changes in faculty behavior as measured by end of semester student ratings.

Restatement of the Problem

This research investigated how to improve the student ratings of college faculty utilizing the theory of cognitive dissonance. This study explored how the cognitive dissonance, created when a faculty member experienced lower than expected midsemester student ratings in comparison with his or her own midsemester self-ratings, could be resolved by moving toward the needed

teaching improvements reflected in the midsemester student ratings. It was assumed that, based on written student ratings feedback, significant movement to improve the teaching behaviors rated lower than expected by students would enhance the teaching effectiveness of the faculty, i.e., raise his/her student ratings. It was further assumed that improvement in teaching effectiveness (higher student ratings) would be even greater when the midsemester feedback from the student ratings was augmented with a faculty workshop consultation.

Variables in the Study

The independent variables were: (a) the written feedback of the discrepancies between the faculty member's self-ratings and his/her student ratings at midsemester provided to the feedback group and (b) the group consultation, a one-hour workshop which included with the written feedback and discussion of the feedback, provided to the consultation group. The dependent variables were the changes in the teaching effectiveness (behaviors) as measured by changes in the student ratings at midsemester compared to those ratings at the end of the semester. The level of student motivation for each of the three groups in this study was used as a covariate. Cashin (1995) found that the student variables of motivation and expected grades may need to be controlled. Therefore, motivation was used as a covariate. Cashin (1995) determined that the administrative variables related to student ratings included: (a) non-anonymous ratings, (b) instructor present while students complete ratings, (c) purpose of ratings. In this study, these administrative variables were controlled

for by having: (a) anonymous ratings, (b) student administered evaluations; and (c) the directions stated that these ratings were used for the instructor only for improvement.

The Research Design

This experimental study assessed the impact of three forms of student feedback on the teaching effectiveness (student ratings) of faculty teaching in a small, private college. The experimental design was a Pretest-Posttest Control-Group design. This design controlled for the eight threats to internal validity: history, maturation, testing, instrumentation, statistical regression, differential selection, experimental mortality, and selection-maturation interaction. However, the external validity of this design could have been affected by an interaction between the pretest and the experimental treatment (Gall, Borg, & Gall, 1996).

Instrumentation

The research conducted by the staff of the Individual Development and Educational Assessment (IDEA) Center at Kansas State University focuses on the assessment and improvement of teaching and learning at colleges and universities. Dr. William H. Pallett, Director of the IDEA Center, provided excellent support in acquiring the instrument for this study (see Appendix F). The instrument used in this study, the IDEA Student Rating of Instruction System, is designed to improve student learning (Hoyt & Cashin, 1977). This system recognizes the multidimensionality of teaching and tailors each report to fit the

instructor's teaching goals by weighting the objectives for each course. The instructor is rated on what he or she is trying to teach.

The evaluation form consists of 47 items to measure teaching effectiveness (see Appendix B). Questions 1-20 deal with specific teaching behaviors. Questions 21-32 rate students' progress in twelve possible learning objectives, which can then be compared to faculty ratings regarding their teaching priorities. Questions 33-57 focus on the course and on the students' self-rating. The last section allows for up to 15 individual questions by the individual instructor.

The results of the evaluations are reported per class. The IDEA Report to the instructor consists of seven sections (see Appendix D). The first section reports the overall measures of teaching effectiveness. The second section identifies the student ratings of progress on specific objectives and is used to identify teaching objectives where improvement is needed most. The third section reflects the teaching methods or style related to student ratings of progress to help develop a strategy for improving teaching methods. This section was used in this study in the calculation of the discrepancy scores on the 20 items dealing with specific teaching behaviors. The fourth section focuses on the course description/context to assist in interpreting the results by considering the context in which the course was taught. The fifth section outlines statistical detail to help the instructor and consultants to interpret the report accurately. Section six identifies errors resulting from incomplete information provided on the Faculty Information Form.

The reliability of the IDEA Survey Form for student ratings was established through a correlation study (Hoyt & Cashin, 1977). To estimate reliabilities for the ratings, data were examined for 184 medium-size classes with 30 to 49 students. The students in each class were numbered consecutively. Then, for each measure, two average scores were obtained for each class. One score for the odd-numbered students was obtained, and one score for the even-numbered students was obtained. These two "scores" were correlated for the 184 classes. The results were taken as an estimate of the reliability of the various measures when the number of the observers was half the average number in these medium-sized classes. The estimated reliabilities ranged from .81 to .94, and averaged .87. Standard errors of measurement averaged about 0.3

The validity of the IDEA Survey Form was established in a number of ways (Hoyt & Cashin, 1977). The survey asks students to give the same kind of ratings as other student rating systems. Thus, the validity of those parallel systems can be applied as well to the IDEA system. Further validity was established by validating certain aspects which are unique to the IDEA system including: (a) students' reports of progress, (b) the relationships between teaching methods and objectives, and (c) the influences of class size and student motivation. It was not possible to test directly in each course the students' ratings of their progress. An indirect test was conducted which correlated the students' average progress ratings on each objective with the instructors' ratings of the importance of the objective. The results indicated that the self-ratings of progress were made with acceptable validity. Another important validity question

concerned the relationship between teaching methods and progress ratings. This question was approached in two ways. First, multiple regression equations were developed for predicting mean student progress ratings for scores on the *a priori* methods section. Second, item analyses were performed to determine the relationship between a given progress rating and a given teaching behavior. The multiple regression resulted in all positive correlations. The item analyses resulted in establishing that 47 of 58 individual trial items were linearly related to effectiveness to a degree which was both statistically and practically significant. The third question was related to class size and student motivation. When student ratings of progress were used as the criteria for effective teaching, instead of a single model of excellent teaching, the IDEA system included a multitude of models. This allowed for sensitivity to the variations among courses. Based on the item analyses, the IDEA system developers were able to control for student motivation.

In addition to the IDEA system, a discrepancy feedback sheet was developed by the researcher. These sheets were utilized to provide written feedback to faculty members. This feedback sheet (see Appendix E) consists of Items 1-20: Teaching Methods from the IDEA system. The class averages on each item, the instructor's self-rating on each item, and the discrepancy scores on each item were listed.

Selection of Subjects

All faculty members at a small, private college were invited to participate in this study by the Vice President of Academic Affairs (see letter at Appendix G). Approximately 73 faculty members are full-time and approximately 85 are part-time. Sixty-one faculty members volunteered to participate in this study (59 were full-time faculty members and 2 were part-time faculty members). Random selection, based on a random numbers table, was used to assign volunteers to one of three groups. The time schedule (Appendix H) and the cost projection (Appendix I) were coordinated with the Vice President of Academic Affairs. The protection of human subjects request was sought from the researcher's university and the approval letter is in Appendix J.

The hypotheses for this study were based on the following three groups:

1. In the first group, identified as the control group, faculty members were rated by the students at the end of the semester. They received feedback after the end of the semester.
2. In the first treatment group, identified as the feedback group, faculty members rated themselves at midsemester and were rated by students at midsemester. They received prompt feedback on discrepancies between their self-ratings and the students' ratings. At the end of the semester, they were rated again by their students.
3. In the second treatment group, identified as the consultation group, faculty members rated themselves at midsemester and were rated by students at midsemester. They received prompt feedback on their ratings and the

students' ratings. In addition to the prompt feedback, they received group consultation with their feedback. At the end of the semester, they were rated again by their students.

Twenty participants were assigned to the control group (all 20 were full-time faculty). Nineteen members completed the study. Consistent with the university's practice of obtaining evaluations, feedback was only solicited from students at the end of the semester. For the purposes of this study, the IDEA Student Report was the selected feedback tool.

Twenty participants were assigned to the feedback group (all 20 were full-time faculty). Nineteen of the twenty faculty members assigned to this group completed the study. Subjects in this group received the results of the mid-semester student ratings and their own self-rating on the first 20 items, which were teaching behaviors, at midsemester. Discrepancy scores were given on the first 20 items with an emphasis (negative sign) on those that the instructor predicted himself or herself to have a higher rating than the class average on each of these 20 items. This feedback was given in written feedback (see Appendix E) at midsemester with suggestions to work on all discrepancy items. This group did not have a group consultation workshop regarding their results. The same set of IDEA Short Papers (see Appendix K) provided to the consultation group was made available on reference in the Library. This group was informed of the availability of these papers in a cover memorandum sent to each individual along with their midsemester self-ratings, student mean ratings, and their discrepancy scores (see Appendix L). They also received their end of

semester student evaluations on the IDEA Student Report (see Appendix D) three weeks after the end of the semester.

Twenty-one participants were assigned to the consultation group (19 were full-time faculty members and 2 were part-time members). Twenty of the 21 members assigned to the group completed this study (2 part-timers and 18 full-time faculty members). This group received the results of the midsemester student ratings in the IDEA Student Report format (see Appendix D) and the discrepancy score analysis on special feedback sheets at midsemester (see Appendix E). Additionally, these faculty members had a group consultation regarding their results in the form of a one-hour workshop (see Appendix L). Six workshops were offered at midsemester for this treatment group to maximize the possibility that all group members would be able to participate in one of the workshops. Three individuals were met with individually due to time conflicts. The workshop included suggestions in the form of IDEA short papers and interactions among faculty members (see Appendix A).

Consultation Feedback Workshop

The consultation feedback workshop is outlined in Appendix A. This one-hour workshop was offered six times at midsemester to provide ample opportunity for all 21 participants to attend. The objective of the workshop was to explain in general the IDEA form and specifically to focus on the discrepancy feedback sheet. Suggestions for improvement of the instructors' lowest scores were provided both in open discussion and with relevant handouts including

IDEA Short Papers (see Appendix K) with emphasis, in the discussion, placed on the lowest five scores on the discrepancy feedback sheet (see Appendix E).

Collection of Data

The researcher worked with the Vice President of Academic Affairs in December, 1998 to obtain volunteers from the faculty for this study (see Appendix F). The researcher worked with the administrative assistant to the Vice President of Academic Affairs to obtain the evaluations at midsemester and at the end of the semester. The IDEA evaluation forms were processed by the IDEA Center at KSU in Manhattan, Kansas. The instructors' self-rating forms were processed by the researcher who calculated the 20 discrepancy scores for the 39 participants in the two experimental groups.

The evaluation forms were handled in the same manner as the other student ratings at this college. The forms were picked up by the faculty member. Then a student was selected by the faculty member to distribute the forms in class without the instructor present. The student collected the rating sheets after they were completed. The student then returned the forms in a sealed envelope to the vice president's office. Once all of the forms were returned, they were packed and shipped by the researcher to the IDEA Center for processing. The same process was followed at both midsemester and at the end of the semester (see Appendix M).

Analysis of Data

The research question was what effect did student ratings feedback have on teaching behaviors, as measured by student ratings.

All part-time and full-time faculty at the college were asked to participate in this project as a pilot study. Three groups of 20 faculty members per group were required. Faculty members were assured that only they and the researcher would see their individual rating reports. Instructors were randomly assigned to one of the three groups. Each instructor was asked to use the evaluation form in one class of his or her choice with an enrollment of 15-30 students.

Hoyt , Chen, Pallett, and Gross (1999) grouped the 20 teaching behaviors (items 1-20 on the IDEA Survey Form) into the following five factors: (a) student-faculty contact (items 1, 2, 20); (b) involving students (items 5, 9, 14, 16, 18); (c) establishing expectations (items 3, 4, 8, 13, 15); (d) clarity of communication (items 6, 10, 11); and (e) assessment/feedback (items 7, 12, 17, 19). The 20 items are grouped into these five factors for analysis on the IDEA Reports. These same five factors were used to represent the dependent variables, teaching behaviors, in the data analyses of this study.

The first hypothesis was as follows:

H_{01} : Having statistically controlled for student motivation, there is no significant difference among the three groups of instructors with respect to end of semester student ratings.

This hypothesis was tested using multivariate analysis of covariance (Glass & Hopkins, 1996; Harris, 1975; Popham & Sirontrnik, 1992). The

dependent variables were the five factors of teaching behaviors including: (a) student-faculty contact, (b) involving students, (c) establishing expectations, (d) clarity of communication, and (e) assessment/feedback. Pearson correlations on these five factors showed them to be highly correlated, thus a multivariate analysis of covariance was appropriate. The control variable was student motivation. The Wilks' lambda, Λ , statistic, also referred to as the U-statistic, was used to test this hypothesis. If a statistically significant Λ was found, univariate analyses of variance on each separate dependent measure was to be done. If a significant F was found, pairwise post hoc Tukey's tests were to be conducted.

The second hypothesis was as follows:

H₀₂: There is no significant difference between the midsemester student ratings and the end of semester student ratings for faculty in the feedback group who rated themselves better than their students rated them at midsemester.

This hypothesis was tested using a multivariate analysis of variance. Hotelling's T^2 was used; and, if significance was found, follow-up t tests were to be done on each dependent variable. To be in this group, a faculty member's total score on the 20 items in the self-rating had to be greater than the sum of his/her students' rating means on these same 20 items, thus resulting in a negative total discrepancy score for that instructor (see Appendix E).

The third hypothesis was as follows:

H₀₃: There is no significant difference between the midsemester student ratings and the end of the semester student ratings for faculty in the consultation group who rated themselves better than their students rated them at midsemester.

This hypothesis was also tested using a multivariate analysis of variance. Hotelling's T^2 was used; and, if significance was found, follow-up t tests were to be done on each dependent variable. To be in this group, a faculty member's total score on the 20 items in the self-rating had to be greater than the students' rating means on these same 20 items, thus resulting in a negative total discrepancy score for that instructor (see Appendix E).

The fourth hypothesis was as follows:

H₀₄: Having statistically controlled for student motivation, there is no significant difference in the differences between midsemester student ratings and end of semester student ratings for the feedback with consultation group and the differences between midsemester student ratings and end of semester student ratings for the feedback group.

This hypothesis was tested with a multivariate analysis of covariance (Harris, 1975; Popham & Sironnik, 1992). The dependent variables were the five factors of teaching behaviors including: (a) student-faculty contact, (b) involving students, (c) establishing expectations, (d) clarity of communication, and (e) assessment/feedback. The control variable was student motivation. The Wilks' lambda, Λ , statistic, also referred to as the U-statistic, was used to test this hypothesis. If a statistically significant Λ was found, univariate analyses of variance on each separate dependent measure were to be done. If a significant F was found, pairwise post hoc Tukey 's tests were to be conducted.

All members of the feedback group and all members of the consultation group were used in this analysis (whether or not they had rated themselves better than their students had rated them).

Anticipated Findings and Conclusions

As indicated in the meta-analysis conducted by Cohen (1980), student feedback has a positive impact on improving teaching effectiveness and student rating feedback plus individual consultation has an even more positive impact. Brinko (1990) confirmed that student feedback coupled with individual consultation has an even greater impact on improving teaching effectiveness than student feedback alone. Centra's (1973) study, on which this study is based, resulted in improvement of teaching effectiveness (student ratings) based upon student feedback. In this study, it was anticipated that the written feedback on student ratings would result in improvements of teaching effectiveness (student ratings). Further, it was anticipated that when the written feedback on student ratings was augmented with group consultation an even greater improvement of teaching effectiveness (student ratings) would result. Although the literature consistently mentions individual consultation resulting in greater teaching effectiveness, limited time and resources of the researcher required group workshop consultations as opposed to individual consultations.

This study was designed to evaluate methods by which faculty evaluation programs can be improved. It was anticipated that two approaches incorporating student feedback would be helpful. First, the discrepancy scores between

instructors' self-ratings and students' ratings using the IDEA system or the institution's current system were expected to be a tool by which faculty could improve the effectiveness of their teaching (their student ratings). Second, group consultation coupled with discrepancy scores was expected to result in even greater improvement (even higher student ratings) than just discrepancy scores (in the form of written feedback) themselves.

Chapter Summary

This chapter presented the methodological blueprint employed to collect research data. Chapter IV outlines the findings of this study. Conclusions and implications for further research are outlined in Chapter V.

CHAPTER IV

FINDINGS

Introduction

The results of this study are outlined in this chapter. Group summary reports from the IDEA Center on each group are at Appendix N. This chapter contains the following sections: (a) an overview of the data analysis; (b) the results and findings regarding H_{o1} : Having statistically controlled for student motivation, there is no significant difference among the three groups of instructors with respect to end of semester student ratings; (c) the results and findings regarding H_{o2} : There is no significant difference between the midsemester student ratings and the end of semester student ratings for faculty in the feedback group who rated themselves better than their students rated them at midsemester; (d) the results and findings regarding H_{o3} : There is no significant difference between the midsemester student ratings and the end of the semester student ratings for faculty in the consultation group who rated themselves better than their students rated them at midsemester; (e) the results and findings regarding H_{o4} : Having statistically controlled for student motivation, there is no significant difference in the differences between midsemester student ratings and end of semester student ratings for the consultation group and the differences between midsemester student ratings and end of semester student ratings for the feedback group; and (f) a summary of this chapter.

Overview of Data Analysis

The Statistical Program for Social Sciences (SPSS) was utilized to process all of the raw data on each individual in each group with the level of student motivation included in the raw data. Student motivation was determined by item #39 on the IDEA Survey Form (Appendix D) which states, "I really wanted to take this course regardless of who taught it." The end of the semester class averages on this item for each group were averaged together to determine the motivation level for the consultation group (3.2), the written feedback group (3.1), and the control group (3.0).

An alpha level of .05 was used for all statistical tests. Originally 61 faculty members (59 full-time faculty members and 2 part-time faculty members) volunteered to participate. All faculty members were randomly assigned to one of the three groups. Twenty-one volunteers were randomly assigned to the consultation group. Twenty were assigned to the feedback group, and twenty were assigned to the control group. Of the 61 volunteers, 58 completed the study (three full-time faculty members dropped out). Twenty faculty members participated in the consultation group (18 full-time faculty members and 2 part-time faculty members). Nineteen faculty members (all full-time faculty members) participated in the feedback group. Nineteen faculty members (all full-time faculty members) participated in the control group, which received no midsemester feedback.

Hypothesis One—End of Semester Comparison Between the Three Groups

The first null hypothesis tested in this study stated that “having statistically controlled for student motivation, there is no significant difference among the three groups of instructors with respect to end of semester student ratings.” It was anticipated that there would be a significant difference between the groups. Specifically, it was hoped that: (a) the consultation group would have higher end of semester student ratings than the feedback group and the control group, and (b) the feedback group would have higher end of semester student ratings than the control group.

This hypothesis was tested in SPSS with a multivariate analysis of covariance using student motivation as the control variable (Harris, 1975; Popham & Sironnik, 1992). The five dependent variables were the five factors of teaching behaviors including student-faculty contact, involving students, establishing expectations, clarity of communication, and assessment/feedback. Hoyt et al. (1999) grouped the 20 teaching behaviors (items 1-20 on the IDEA Survey Form, see Appendix B) into the following five factors: (a) student-faculty contact (items 1, 2, 20); (b) involving students (items 5, 9, 14, 16, 18); (c) establishing expectations (items 3, 4, 8, 13, 15); (d) clarity of communication (items 6, 10, 11); and (e) assessment/feedback (items 7, 12, 17, 19). As stated above, the control variable was student motivation. The Wilks' lambda, Λ , statistic, also referred to as the U-statistic, was used. It was assumed that if a

statistically significant Λ was found, then univariate analyses of variance on each separate dependent measure would be done.

Table 2 contains the five dependent variable means of the three groups used in calculating the Wilks' lambda, Λ , statistic. These means were calculated as follows. First, student rating means were calculated on each of the 20 teaching behaviors items for each of the 58 faculty members in the study. Then, dependent variable means were calculated for each instructor using the appropriate dependent variable item means for each dependent variable, i.e., item means for 1, 2, and 20 were added together and divided by 3 to achieve the mean of means for the student-faculty contact factor. These calculations resulted in five dependent variable means for each instructor. All of the dependent variable means for the individual instructors were then averaged within the three groups to obtain a group mean of means for the five dependent variables. For example, the means for the "student-faculty contact" variable/factor for all 20 instructors in the consultation group were averaged, resulting in a mean of means of 4.08 as shown on Table 2. The five factor or dependent variable means are shown as the means for each of the three groups on Table 2. In all cases, except one, one can see that the dependent variable means were greater for the consultation group except in the case of the dependent variable, "involving students." In this case, the feedback group had a higher mean (3.57) than the consultation group (3.53). The means in Table 2 were used in the multivariate analysis with the results shown in Table 3.

Table 2. Dependent Variable Means Used in Between Group Comparisons for Hypothesis One

Dependent Variables	Groups	Dependent Variables Means	Standard Deviation	N
Student-Faculty Contact	Consultation	4.08	.45	20
	Feedback	4.06	.48	19
	Control	3.98	.43	19
Involving Students	Consultation	3.53	.68	20
	Feedback	3.57	.76	19
	Control	3.35	.68	19
Establishing Expectations	Consultation	4.00	.49	20
	Feedback	3.97	.48	19
	Control	3.84	.53	19
Clarity of Communication	Consultation	4.21	.33	20
	Feedback	4.11	.45	19
	Control	3.97	.59	19
Assessment/ Feedback	Consultation	3.99	.50	20
	Feedback	3.96	.50	19
	Control	3.87	.53	19

Table 3. Wilks' Lambda Statistics for the Multivariate Analysis of Covariance (N = 58)

Effect	Value	F	Hypothesis df	Error df	P value
Motivation	.809	2.364	5	50.	.053
Group	.932	.359	10	100.	.961

The multivariate test, the Wilks' Lambda, was used to analyze the differences among the dependent variable means for each of the three study groups. Student motivation was the control variable used in this analysis. The results of this multivariate test are outlined in Table 3. As indicated on Table 3, the results did not reflect the anticipated significant differences between the end of the semester student ratings of the groups. The student motivation covariate did result in significance. This significance had been expected based on the previous literature review.

The results reported in Table 3 indicated there was a statistically significant difference between the three groups with respect to the covariate, student motivation, $F = 2.364$, $p = .053$. However, there was no statistically significant difference between the three groups of instructors with respect to end of semester student ratings, $F = .359$, $p = .961$.

Even though there was no statistically significant difference between the groups of instructors, with respect to the end of the semester dependent variable student ratings means, all of the five dependent variable means, except one, were consistent with the expected mean value. For example, it was expected that the consultation group would have higher value means than the feedback group and the feedback group would have higher, or more positive means, than the control group. Table 4 contains all of the dependent variable means for comparison purposes. The only mean that did not reflect the higher predicted value was the mean for the factor, "involving students," which was larger for the feedback group (3.57) than for the consultation group (3.53). All of the

dependent variable means (except for the involving students mean) were greater for the consultation group than for the feedback group or the control group. All of the dependent variable means for the feedback group were greater than those of the control group. This finding in itself provides some support for the conclusion that written feedback combined with a one-hour group consultation appears to have a positive effect on teaching effectiveness.

T-tests on all 20 teaching behaviors were also conducted (see Appendix O). Only one significant difference (question #6 between the consultation and control group comparison) was found between the t-values in the 58 comparisons conducted. However, differences in the student rating means across the three groups supported the predicted mean values with 17 of the 20 means of the consultation group being higher than the means of the control group, 13 of the 20 means of the consultation group being higher than the means of the feedback group, and 20 of the 20 means of the feedback group being higher than the means of the control group (see Appendix O).

To determine if there was a significant difference between the three groups of instructors without motivation as a covariate, a multivariate analysis of variance was completed using only the five dependent variables (see Table 5). However, as shown in Table 5, this analysis also did not result in a significant difference between the end of the semester student ratings of the three groups.

Table 4. A Comparison of the End of the Semester Five Dependent Variable Means for the Three Study Groups (N = 58)

Dependent Variables	Consultation Group	Feedback Group	Control Group
Student-Faculty Contact	4.08	4.06	3.98
Involving Students	3.53	3.57	3.35
Establishing Expectations	4.00	3.97	3.84
Clarity of Communication	4.21	4.11	3.97
Assessment/ Feedback	3.99	3.96	3.87

Table 5. *Wilks' Lambda* Statistics For the Multivariate Analysis of Variance (N = 58)

Effect	Value	F	Hypothesis df	Error df	P value
Group	.922	.425	10	102.	.931

It was hoped that perhaps removing the covariate of student motivation would result in differences being shown between the dependent variable mean values for the three groups. However, based on these results, having eliminated motivation as a covariate, there remained no statistically significant difference between the three groups of instructors with respect to end of semester student ratings, $F = .425$, $p = .931$ (see Table 5).

Hypothesis Two—Within Group Differences in The Feedback Group

The second null hypothesis stated that “there is no significant difference between the midsemester student ratings and the end of semester student ratings for faculty in the feedback group who rated themselves better than their students rated them at midsemester.” The feedback group had a total of 19 faculty. Out of the 19 faculty members, 7 faculty members rated themselves higher than their students rated them. Therefore, this hypothesis was tested using the mid- and end of semester student ratings for these seven faculty members.

To determine who rated themselves better than their students rated them, the following procedure was used. The faculty member’s midsemester self - rating was subtracted from the average rating of his/her class on each of the 20 teaching behavior items. This resulted in 20 plus or minus scores for each of the 19 instructors in the feedback group. These 20 discrepancy scores were then added together and divided by 20 to achieve an average plus or minus discrepancy score for each of the feedback group’s faculty members. (See

Appendix E for an example of these calculations for one faculty member.) If a faculty member's average discrepancy score was negative, that faculty member was identified as one who rated himself or herself higher than the class rated him or her. These calculations resulted in a total of 7 of the 19 feedback group members being classified as individuals who had rated themselves higher than their students did at midsemester. (This same procedure for classifying faculty as having rated themselves higher than their students at midsemester was followed for the consultation group.)

It was anticipated that the seven faculty members in the feedback group, who on the average had rated themselves higher than their students at midsemester, would have significantly higher end of semester versus midsemester student rating means on the five dependent variables. Table 6 shows the differences between end of semester and midsemester student ratings for each of the feedback group's dependent variables. Negative mean differences in Table 6 indicate a larger midsemester than end of semester student rating means for the seven instructors on four of the five dependent variables. This finding was not what the researcher had expected. Given the assumption that these seven instructors should have experienced some significant cognitive dissonance at midsemester, it was expected that they would have worked to improve their end of semester student ratings. Instead, four of the five end of semester dependent variable ratings were lower than their dependent variable ratings at mid-semester. The only area where these instructors appear to have improved themselves was in the area of "involving

students.” In this area they managed to increase their student rating mean by .05 (see Table 6).

Table 6. Differences Between End of Semester Student Rating Means and Midsemester Student Rating Means for Each Dependent Variable for the Feedback Group (N =7)

Dependent Variables	Differences Between End of Semester and Midsemester Student Rating Means	Standard Deviation
Student Faculty Contact	-.13	.24
Involving Students	+.05	.23
Establishing Expectations	-.06	.25
Clarity of Communication	-.12	.25
Assessment /Feedback	-.07	.27

Hotelling's T^2 was used to test this within group hypothesis. Table 7 outlines the results of this multivariate test. These results did not reflect the anticipated significant differences between the midsemester student ratings and the end of the semester student ratings of the seven instructors in the feedback group who, on the average, rated themselves higher than their students rated them at midsemester.

Table 7. Hotelling's T^2 Statistics for the Within Group Differences in the Feedback Group (N = 7)

Effect	Value	F	Hypothesis df	Error df	P value
Within Group	5.64	2.24	5.0	2.0	.335

Based on the results outlined in Table 7, there was no statistically significant difference between the midsemester student ratings and the end of semester student ratings for the seven faculty in the feedback group who rated themselves better than their students rated them at midsemester, $F = 2.24$, $p = .335$.

To determine if the midsemester feedback had an effect on the feedback group in general (N = 19), a Hotelling's T^2 was conducted on the differences on the five dependent variables comparing the end of the semester means to the midsemester means. The descriptive statistics are shown in Table 8.

In Table 8, the differences between end of semester and midsemester student rating means for the entire feedback group (19) reflected the predicated positive change in two areas, i.e., involving students (.10) and assessment/feedback (.01). However, three dependent variable means did not reflect the predicted positive change, they were: student-faculty contact (-.08), establishing expectations (-.03), and clarity of communication (-.11). The results of the Hotelling's T^2 calculations are shown in Table 9. These results did not support

the anticipated difference between the midsemester and end of semester student rating means for this group.

Table 8. Differences Between End of Semester Student Rating Means and Midsemester Student Rating Means for Each Dependent Variable for the Feedback Group (N = 19)

Dependent Variables	Differences Between End of Semester and Midsemester Student Rating Means	Standard Deviations
Student-Faculty Contact	-.08	.20
Involving Students	+.10	.41
Establishing Expectations	-.03	.25
Clarity of Communication	-.11	.26
Assessment/ Feedback	+.01	.27

Table 9. Hotelling's T^2 Statistics for the Within Group Differences in the Feedback Group With All Members (N = 19)

Effect	Value	F	Hypothesis df	Error df	P value
Within Group	.781	2.187	5.0	14.0	.114

The results in Table 9 indicate there was no statistically significant difference between the end of semester dependent variable means and the midsemester dependent variable means for all members of the feedback group, $F = 2.187$, $p = .114$.

Hypothesis Three—Within Group Differences in the Consultation Group

The third null hypothesis stated that “there is no significant difference between the midsemester student ratings and the end of semester student ratings for faculty in the consultation group who rated themselves better than their students rated them at midsemester.” This hypothesis was tested using a multivariate analysis of variance, Hotelling's T^2 . If significance had been found, follow-up t tests would have been done on each dependent variable. This group had a total of 20 faculty. Out of the 20 faculty members, nine faculty members rated themselves higher than their students rated them. Therefore, this hypothesis was tested using data from these nine faculty members.

To determine who rated themselves better than their students rated them, the same procedure used for the second hypothesis was used for this hypothesis. These calculations resulted in a total of 9 of the 20 consultation group members being classified as individuals who had rated themselves higher than their students did at midsemester.

It was anticipated that the faculty members in the consultation group, who on the average had rated themselves higher than their students at midsemester, would have higher end of semester student rating means on the five dependent

variables. This hypothesis was tested using a multivariate analysis of variance. Hotelling's T^2 was used. Table 10 shows the differences between end of semester and midsemester student rating means for the nine faculty members on the five dependent variables. These differences were calculated by subtracting the midsemester student rating means for the nine faculty members from the end of semester student rating means on the study's five dependent variables. The consultation group had a total of 20 faculty. Out of the 20 faculty members, 9 faculty members on the average rated themselves higher than their students rated them at midsemester. Therefore, this hypothesis was tested using the student rating means for these nine faculty members.

Even though there was no statistically significant difference between this group of instructors' (N = 9) midsemester student rating means and the end of semester student rating means, all of the mean comparisons were consistent with the predicated positive direction, i.e., end of semester student rating means exceeded midsemester student rating means for these nine faculty members. Table 10 contains all of the mean differences that were used in this comparison. This finding in itself provides some support for the conclusion that written feedback combined with a one-hour group consultation appeared to have a positive effect on teaching effectiveness as measured by end of semester student rating means.

Table 10. Differences Between End of Semester Student Rating Means and Midsemester Student Rating Means for Each Dependent Variable for the Consultation Group (N = 9)

Dependent Variables	Differences Between End of Semester and Midsemester Student Rating Means	Standard Deviation
Student Faculty Contact	.12	.38
Involving Students	.25	.39
Establishing Expectations	.09	.32
Clarity of Communication	.13	.40
Assessment/ Feedback	.17	.34

Hotelling's T^2 was used to test this within group hypothesis. Table 11 contains the results of this multivariate test. These results did not reflect the anticipated significant differences between the midsemester student rating means and the end of the semester student rating means of the nine instructors who rated themselves on the average higher than their students rated them on the average at midsemester.

Table 11. Hotelling's T^2 Statistics for the Within Group Differences in the Consultation Group (N = 9)

Effect	Value	F	Hypothesis df	Error df	p factor
Within Group	.958	.767	5.0	4.0	.619

Although no statistically significance difference was found between the midsemester student ratings and the end of semester student ratings for faculty in the consultation group who rated themselves better than their students rated them at midsemester, $F = .767$, $p = .619$; all five of the dependent variable mean differences were consistent with the predicated positive direction (increase in end of semester rating means).

To determine if the midsemester feedback had an effect on the consultation group in general (with all 20 faculty members), a Hotelling's T^2 was conducted using the mean differences for the five dependent variables which were calculated by subtracting midsemester student rating means from the end of semester student rating means. The descriptive statistics are shown in Table 12. All of the mean differences shown in this table are consistent with the predicted positive increase in end of semester of student rating means. Table 12 contains the results of the dependent variable mean comparisons. The finding that the end of the semester student rating means exceeded the midsemester student rating means for the group by .06 or more provides some support for the

conclusion that written feedback combined with a one-hour group consultation appears to have a positive effect on teaching effectiveness.

Table 12. Differences Between End Of Semester Student Rating Means and Midsemester Student Rating Means for Each Dependent Variable for the Consultation Group (N = 20)

Dependent Variables	Differences Between End of Semester and Midsemester Student Rating Means	Standard Deviation
Student-Faculty Contact	.06	.29
Involving Students	.18	.39
Establishing Expectations	.08	.25
Clarity of Communication	.10	.34
Assessment/ Feedback	.17	.35

The results of the Hotelling's T^2 are shown in Table 13. The anticipated positive differences between the midsemester and end of the semester student rating means for the consultation group are not reflected in these results.

Table 13. Hotelling's T^2 Statistics for the Within Group Differences in the Consultation Group With All Members (N = 20)

Effect	Value	F	Hypothesis df	Error df	p value
Within Group	.404	1.21	5.0	15.0	.350

Although no statistically significant difference was found between the midsemester student rating means and the end of semester student rating means for all members of the feedback with consultation group, $F = 1.21$, $p = .350$; all of the mean differences for the five dependent mean variable comparisons were consistent with the predicated positive change from midsemester to the end of the semester.

Hypothesis Four—End of Semester Comparison
Between the Treatment Groups

The fourth null hypothesis tested in this study stated that “having statistically controlled for student motivation, there is no significant difference in the differences between midsemester student ratings and end of semester student ratings for the feedback with consultation group and the differences between midsemester student ratings and end of semester student ratings for the feedback group. It was anticipated that the differences in the student mean ratings for the consultation group would be greater than the differences in the student mean ratings for the feedback group. This hypothesis was tested with a multivariate analysis of covariance (Harris, 1975; Popham & Sirontnik, 1992).

The dependent variables were the five areas of teaching behaviors including student-faculty contact, involving students, establishing expectations, clarity of communication, and assessment/feedback. The control variable was student motivation. The Wilks' lambda, Λ , statistic, also referred to as the U-statistic, was used. It was assumed that if a statistically significant Λ was found, then univariate analyses of variance on each separate dependent measure would be done. However, no significance was found between the groups.

The descriptive statistics are shown in Table 14. These were the midsemester and end of semester student rating mean differences found for the consultation and the feedback groups. All of the means for the consultation group reflect the predicated positive change, however, only two of the mean differences for the feedback group reflect the predicted positive change.

The Wilks' lambda was used to test this between group hypothesis. Table 15 outlines the results of this multivariate test. The anticipated statistically significant difference between the consultation and the feedback groups is not reflected.

Although there was no statistically significant difference between the differences between midsemester student rating means and end of semester student rating means for the consultation group and the differences between midsemester student rating means and end of semester student rating means for the feedback only group, $F = 1.21$, $p = .327$; three of the differences between the means reflected the predicted positive direction, while two of the differences

between the means did not. There was also no statistically significant difference on the covariate of motivation, $F = 1.20$, $p = .329$.

Table 14. Differences Between the Differences of End of Semester Student Rating Means and Midsemester Student Rating Means for the Consultation and Feedback Groups for Each of the Five Dependent Variables

Dependent Variables	Treatment Group	Differences Between End Of Semester And Midsemester Student Rating Means	Differences Between the Consultation and Feedback Groups' Mean Differences	N
Student-Faculty Contact	Consultation	.06	-.02	20
	Feedback	-.08		19
Involving Students	Consultation	.18	.08	20
	Feedback	.10		19
Establishing Expectations	Consultation	.08	.05	20
	Feedback	-.03		19
Clarity of Communication	Consultation	.10	-.01	20
	Feedback	-.11		19
Assessment/ Feedback	Consultation	.17	.16	20
	Feedback	.01		19

Table 15. Wilks' Lambda Statistics for Between Groups Comparison of Consultation and Feedback Groups (N= 39)

Effect	Value	F	Hypothesis df	Error df	p value
Motivation	.842	1.205	5.0	32.0	.329
Group	.841	1.211	5.0	32.0	.327

Chapter Summary

This chapter presented the findings of this study. Conclusions and implications for further research are outlined in Chapter V.

Although unexpected by the researcher, the null hypotheses could not be rejected. There were no statistically significant differences found in any of the mean comparisons conducted to test these four null hypotheses. However, overall the mean differences did support the predicted positive direction of the end of semester rating means compared to the midsemester rating means. The four hypotheses tested in this study were as follows:

H₀₁: Having statistically controlled for student motivation, there is no significant difference among the three groups of instructors with respect to end of semester student ratings.

H₀₂: There is no significant difference between the midsemester student ratings and the end of semester student ratings for faculty in the feedback group who rated themselves better than their students rated them at midsemester.

H_{o3}: There is no significant difference between the midsemester student ratings and the end of the semester student ratings for faculty in the consultation group who rated themselves better than their students rated them at midsemester.

H_{o4}: Having statistically controlled for student motivation, there is no significant difference in the differences between midsemester student ratings and end of semester student ratings for the consultation group and the differences between midsemester student ratings and end of semester student ratings for the feedback group.

Although the findings of this study were not significant, the literature review and the positive mean differences lend support to the premise of this study. Centra (1973) did not find significant effects based on the instructor's gender, teaching experience, or the subject area of the course. However, discrepancies in the self-ratings, as compared to the student ratings, did result in significant effects. Specifically, it was hypothesized that student feedback would lead to improved instruction for those instructors who rated themselves much better than their students had rated them. Centra (1973) found general support for this hypothesis. Cohen (1980) confirmed student-rating feedback resulted in modest, yet significant, improvements in college teaching. Brinko (1990) found that student-rating feedback augmented with individual consultation resulted in an even more significant improvement in college teaching. The discussion in the next chapter should offer further understanding of the limitations of this study as well as the future promise for further study in this area.

CHAPTER V
SUMMARY, MAJOR FINDINGS, DISCUSSION OF FINDINGS,
RECOMMENDATIONS, AND CONCLUSIONS

Introduction

The major findings of this study are outlined in this chapter. This chapter contains the following sections: (a) a summary of the study, (b) the major findings of the study, (c) a discussion of the findings, (d) recommendations for further study, and (e) conclusions of the study.

Summary

This study was based on Centra's (1973) research in which his primary purpose was to examine the effects of student feedback on teaching at the college level. Centra (1973) included as variables in his study the instructor's gender, teaching experience, subject area of the course, and self-ratings. Three faculty groups participated in Centra's (1973) study: (a) the feedback group, which self-rated their teaching, administered a rating form to their students at midsemester, and received a summary of results (feedback) and discrepancy scores within a week; (b) the no-feedback group had student ratings collected, but these were withheld at midsemester; and (c) the posttest group used the rating form only at the end of the semester in order to determine whether the midsemester ratings had a sensitizing effect on student raters or teachers. Centra (1973) did not find significant effects based on the instructor's gender, teaching experience, or the subject area of the course. However, discrepancies

in the self-ratings, as compared to the student ratings, did result in significant effects. Specifically, it was hypothesized that student feedback would lead to improved instruction for those instructors who rated themselves much better than their students had rated them. Centra (1973) found general support for this hypothesis. Cohen (1980) confirmed student-rating feedback resulted in a modest yet significant improvement in college teaching. Brinko (1990) found that student-rating feedback augmented with individual consultation resulted in an even more significant improvement in college teaching.

The purposes of this study paralleled Centra's (1973) study. One of the purposes of this experimental study was to test the theory of cognitive dissonance that compared discrepancies in student/faculty ratings to changes in faculty's teaching behaviors as measured by end of the semester student ratings. The independent variables were defined as: (a) the written feedback of the discrepancies between the faculty member's self-ratings and his/her student ratings at midsemester provided to the feedback group and (b) the group consultation, a one-hour workshop which included with the written feedback and discussion of the feedback, provided to the consultation group. This study differed from Centra's (1973) in that not just written feedback was provided, one treatment group received a group consultation workshop. The dependent variables were defined as improvement in teaching effectiveness (behaviors) as measured by improvement in the student ratings from midsemester to the end of the semester. Another purpose for this study was to recommend new policies and

procedures for faculty evaluation systems. In addition, recommendations were made for additional needed research.

This research investigated, utilizing the theory of cognitive dissonance, how to improve the student ratings of college faculty. This study explored how the dissonance, created when a faculty member experienced lower than expected midsemester student ratings in comparison with his or her own midsemester self-ratings, could be resolved by moving toward the needed teaching improvements reflected in the midsemester student ratings. It was assumed that, based on written student ratings feedback, significant movement to improve the teaching behaviors rated lower than expected by students would enhance the teaching effectiveness of the faculty, i.e., raise his/her student ratings. It was further assumed that improvement in teaching effectiveness (higher student ratings) would be even greater when the midsemester feedback from the student ratings was augmented with a faculty workshop consultation.

The hypotheses for this study were based on the following three groups:

1. In the first group, identified as the control group, faculty members were rated by the students at the end of the semester. They received feedback after the end of the semester.
2. In the first treatment group, identified as the feedback group, faculty members rated themselves at midsemester and were rated by students at midsemester. They received prompt feedback on discrepancies between their self ratings and the students' ratings. At the end of the semester, they were rated again by their students.

3. In the second treatment group, identified as the consultation group, faculty members rated themselves at midsemester and were rated by students at midsemester. They received prompt feedback on their ratings and the students' ratings. In addition to the prompt feedback, they received group consultation with their feedback. At the end of the semester, they were rated again by their students.

The instrument used in this study, the IDEA Student Rating of Instruction System, is designed to improve student learning (Hoyt & Cashin, 1977). This system recognizes the multidimensionality of teaching and tailors each report to fit the instructor's teaching goals by weighting the objectives for each course. The instructor is rated on what he or she is trying to teach. The evaluation form consists of 47 items to measure teaching effectiveness (see Appendix B). Questions 1-20 deal with specific teaching behaviors. Hoyt et al. (1999) grouped the 20 teaching behaviors (items 1-20 on the IDEA Survey Form) into the following five factors: (a) student-faculty contact (items 1, 2, 20); (b) involving students (items 5, 9, 14, 16, 18); (c) establishing expectations (items 3, 4, 8, 13, 15); (d) clarity of communication (items 6, 10, 11); and (e) assessment/feedback (items 7, 12, 17, 19). These same five factors were used to represent the dependent variables, teaching behaviors, in the data analyses of this study.

The first hypothesis was as follows, H_{01} : Having statistically controlled for student motivation, there is no significant difference among the three groups of instructors with respect to end of semester student ratings. This hypothesis was analyzed with a multivariate analysis of covariance (Glass & Hopkins, 1996;

Harris, 1975; Popham & Sironnik, 1992). The dependent variables were the five factors of teaching behaviors including, (a) student-faculty contact, (b) involving students, (c) establishing expectations, (d) clarity of communication, and (e) assessment/feedback. The control variable was student motivation.

The second hypothesis was as follows, H_{02} : There is no significant difference between the midsemester student ratings and the end of semester student ratings for faculty in the feedback group who rated themselves better than their students rated them at midsemester. This hypothesis was analyzed using a multivariate analysis of variance. To be in this group, a faculty member's total score on the 20 teaching behavior items in the self-rating had to be greater than the total score on the 20 items by the class which was rating the instructor, resulting in a negative total discrepancy score (see Appendix E).

The third hypothesis was as follows, H_{03} : There is no significant difference between the midsemester student ratings and the end of the semester student ratings for faculty in the consultation group who rated themselves better than their students rated them at midsemester. This hypothesis was also analyzed using a multivariate analysis of variance. To be in this group, a faculty member's total score on the 20 teaching behavior items in the self-rating had to be greater than the total score on the 20 items by the class which was rating the instructor, resulting in a negative total discrepancy score (see Appendix E).

The fourth hypothesis was as follows, H_{04} : Having statistically controlled for student motivation, there is no significant difference in the differences between midsemester student ratings and end of semester student ratings for the

consultation group and the differences between midsemester student ratings and end of semester student ratings for the feedback group. This hypothesis was analyzed with a multivariate analysis of covariance (Harris, 1975; Popham & Sirontnik, 1992). The dependent variables were the five factors of teaching behaviors including: (a) student-faculty contact, (b) involving students, (c) establishing expectations, (d) clarity of communication, and (e) assessment/feedback. The control variable was student motivation.

Major Findings

Regarding the first hypothesis, having controlled for student motivation; there was no statistically significant difference between the three groups of instructors with respect to end of semester student ratings, $F = .359$, $p = .961$. As shown in Table 16 below, in all cases, except one, one can see that the dependent variable means were greater for the consultation group except in the case of the dependent variable, "involving students." In this case, the feedback group had a higher mean (3.57) than the consultation group (3.53). Although the null hypothesis cannot be rejected, the positive direction of the student rating means indicates partial support for the anticipated outcome in which the end of semester ratings for the consultation group would be larger than those for the feedback and control groups and the end of semester ratings for the feedback group would be greater than those of the control group. In a further analysis of the data for the three groups, there was also no significant difference between

the three groups of instructors' end of semester student ratings when the covariate, motivation, was removed from the analysis.

Table 16. A Comparison of the End of the Semester Five Dependent Variable Means for the Three Study Groups (N = 58)

Dependent Variables	Consultation Group	Feedback Group	Control Group
Student-Faculty Contact	4.08	4.06	3.98
Involving Students	3.53	3.57	3.35
Establishing Expectations	4.00	3.97	3.84
Clarity of Communication	4.21	4.11	3.97
Assessment/ Feedback	3.99	3.96	3.87

T-tests on all 20 teaching behaviors were also conducted (see Appendix O). Only one significant difference (question #6 between the consultation and control group comparison) was found between the t-values in the 58 comparisons conducted. However, differences in the student rating means across the three groups supported the predicted student rating mean values with 17 of the 20 means of the consultation group being higher than the means of the control group, 13 of the 20 means of the consultation group being higher than the

means of the feedback group, and 20 of the 20 means of the feedback group being higher than the means of the control group (see Appendix O).

Based on the results of the analysis of the second hypothesis, there was no statistically significant difference between the midsemester student ratings and the end of semester student ratings for faculty in the feedback group who rated themselves better than their students rated them at midsemester; $F = 2.24$, $p = .335$. This null hypothesis cannot be rejected. Only one of the means of the five dependent variables: (a) student-faculty contact, (b) involving students, (c) establishing expectations, (d) clarity of communication, and (e) assessment/feedback, reflected the predicated positive direction. Four means did not reflect the predicted positive direction of increased ratings from midsemester to the end of the semester. This group had a total of 19 faculty members, however, only 7 of those instructors rated themselves higher than their students rated them. A multivariate analysis of variance conducted on the entire group also resulted in no significant difference between the end of the semester ratings and the midsemester ratings for all members of the feedback group.

Regarding the third hypothesis, there was no statistically significant difference between the midsemester student ratings and the end of semester student ratings for faculty in the consultation group who rated themselves better than their students rated them at midsemester; $F = .767$, $p = .619$. However, all of the means of the five dependent variables, (a) student-faculty contact, (b) involving students, (c) establishing expectations, (d) clarity of communication, and (e) assessment/feedback resulted in the predicted positive direction.

Although the null hypothesis cannot be rejected, the positive direction of the means indicates partial support for the anticipated outcome in which the end of semester ratings for the consultation group would be greater than their midsemester ratings. This group had a total of 20 faculty members; however, only 9 of those instructors rated themselves higher than their students. A multivariate analysis of variance conducted on the entire group also resulted in no significant difference between the end of the semester ratings and the midsemester ratings for all members of the feedback group. However, all of the means resulted in the predicted positive direction; again lending support to the anticipated finding that the end of the semester ratings for the consultation group would be greater than their midsemester ratings.

Regarding the fourth hypothesis, there was no statistically significant difference between the differences between midsemester student ratings and end of semester student ratings for the consultation group and the differences between midsemester student ratings and end of semester student ratings for the feedback group; $F = 1.211$, $p = .927$. However, three of differences of the means reflected the predicted positive direction, while two of the differences of the means did not. Although the null hypothesis cannot be rejected, the positive direction of three of the differences of the means indicates partial support for the anticipated outcome in which the end of semester ratings for the consultation group would be greater than the end of the semester ratings for the feedback group. There were no statistically significant differences on the covariate of motivation.

Discussion of the Findings

Regarding the first hypothesis, having controlled for student motivation, there was no statistically significant difference among the three groups of instructors with respect to end of semester student ratings, $F = .359$, $p = .961$. The anticipated outcome hoped for was that the end of semester ratings for the consultation group would be significantly greater than those for the feedback and control groups and the end of semester ratings for the feedback group would be significantly greater than those of the control group. As shown in Table 5, four of the five dependent variable means for the consultation group were greater than the feedback group. All five of the five dependents variable means of the consultation group were greater than those of the control group. All five of the five dependents variable means of the feedback group were greater than those of the control group. There was also no statistically significant difference among the three groups of instructors with respect to end of semester student rating means in a multivariate analysis of variance, which eliminated the covariate of motivation.

This lack of significance could have resulted from a number of possible reasons. These include: (a) the extensive exposure to faculty evaluations, (b) the short one semester time frame, (c) the length of the IDEA long form, (d) the sample size, and (e) the lack of individual consultation at midsemester.

One possible explanation for the lack of significance could be the much greater exposure that faculty members and students have to evaluations in today's universities and colleges. When Centra (1973) conducted his study,

student evaluation of college faculty was not common. The instructors Centra studied had never been evaluated in this manner. Over the last twenty-five years, faculty evaluation usage has grown tremendously and most colleges utilize some form of student evaluation of faculty. For example, the university where this study was conducted requires evaluations be completed for every class every semester. Since the end of the semester evaluations completed in this study were completed at the same time as the other evaluations, perhaps there was some degree of student apathy in completing these additional evaluations. The faculty volunteered to participate in this study; however, their receptiveness to change compared to the faculty members in Centra's study could have been less because of their repeated exposure to evaluations. Additionally, this overexposure to faculty evaluations could have resulted in inflated or deflated ratings, which may have impacted the results.

Perhaps the lack of significance was influenced by the short time available for change. Centra's faculty implemented teaching improvements within a one-semester time period. This study also used a one-semester time period. Although some faculty members said they liked getting feedback at midsemester in order to make changes to better meet their current students' needs, for some of the faculty maybe the one semester time frame was too short to implement meaningful change. This short time frame combined with the extensive exposure to evaluations could have reduced the probability for significant change.

Another possible reason for the lack of significance could have been influenced by the evaluation form itself. The IDEA Long form is an excellent tool

and provides extensive information to instructors. However, the long form is much longer than the current form that had been and was being used by the faculty and students who participated in this study. The IDEA long form contains 47 questions. The student rating form typically used by the students to evaluate the faculty in this study contained only 14 questions. Since both the faculty and the students were more familiar with their shorter rating form, perhaps the IDEA Long form resulted in inaccurate or rushed evaluations by the students, which impacted the overall results.

The sample size could have contributed to the lack of significance. The sample included 61 faculty members originally, with three groups projected to have 21 members in one group and 20 members in the other two groups. The completion rate was excellent with 58 of the 61 faculty members completing the study. Although the sample size was adequate, perhaps a larger number of faculty members would have resulted in more significant findings. All of the previous studies (Brinko, 1990; Centra, 1973; Cohen, 1980) cited had larger samples.

The consultation in this study was provided as a group consultation workshop whereas in Brinko's (1990) study, the consultations were individual consultations. This difference might have contributed to the lack of significance. Wilson (1986) looked at two aspects of the change process. The first aspect was knowing what to do to change or to improve a teaching behavior. Client faculty members were presented with different techniques, which they previously did not have, to improve their teaching. The second aspect of the change process dealt

with acting upon the new knowledge and techniques the client faculty received in the consultation process. Sometimes application of new knowledge was a stumbling block. However, the consultation process seems to have created an implied expectation that the new techniques would be used. This implied expectation could be stronger in an individual consultation situation compared to a group consultation.

There was a statistically significant difference between the three groups with respect to student motivation, $F = 2.364$, $p = .053$. Student motivation was controlled as a covariate in this analysis. The level of student motivation was determined by item #39 on the IDEA Survey Form (Appendix D) which states, "I really wanted to take this course regardless of who taught it." The end of the semester class averages on this item for each group were averaged together to determine the motivation level for the consultation group (3.2), the written feedback group (3.1), and the control group (3.0). The significance of student motivation supports the use of this factor as a covariate. The literature indicated that many factors do not significantly impact student ratings; however, student motivation was a factor which needed to be controlled (Cashin, 1995). Even though motivation was significant, the elimination of this factor in a multivariate analysis of variance on these three groups did not result in significance.

Although there was not a statistically significant difference between the three groups with respect to the five dependent variable means, the dependent variable means in all cases, except one, were in the predicted direction. The dependent variable means of the consultation group exceeded the dependent

variable means of the feedback group and the control group except in the case of the dependent variable "involving students" between the consultation group and the feedback group. Also, the dependent variable means of the feedback group exceeded the dependent variable means of the control group in all five comparisons. These differences between the three groups indicated support for the studies from Centra (1973), Cohen (1980), and Brinko (1990). Centra's (1973) study resulted in improved student ratings for the feedback group. Cohen found that written, within-class feedback had a small but significant effect. Brinko (1990) determined an even greater effect when written feedback was coupled with feedback in the form of individual consultation.

Based on the results of the analysis of the second hypothesis, there was no statistically significant difference between the midsemester student ratings and the end of semester student ratings for faculty in the feedback group who rated themselves better than their students rated them at midsemester, $F = 2.24$, $p = .335$. This group had a total of 19 faculty members, but only 7 of those instructors rated themselves higher than their students rated them on the average over the 20 teaching items. This lack of statistical significance on this hypothesis could have been due to the small number of faculty members who rated themselves, on the average, higher than their students rated them. However, a multivariate analysis of variance conducted using data from the entire group also resulted in no significant difference between the end of the semester dependent variable ratings and the midsemester dependent variable ratings for all members of the feedback group. Although Centra's (1973) study

indicated statistically significant end of semester student rating changes within a semester, perhaps the short time period for this study did not allow time for the involved faculty members to incorporate desired teaching behavior changes. In 1973, student evaluations of faculty were relatively rare (Centra, 1973); perhaps the uniqueness of that new student rating experience contributed to the statistically significant differences Centra found. The instructors who participated in Centra's study might have been more interested in the feedback than instructors in this study since the experience of student evaluations was newer to them than it was to this written feedback group. The mean differences between the midsemester and end of the semester student ratings with respect to the five dependent variables reflected the predicated positive change in only one area while the four other mean differences did not reflect the predicted positive change. The positive increase of one of the five dependent variable means lent support for the prediction that written feedback at midsemester can result in better student ratings at the end of the semester.

Regarding the third hypothesis, there was no statistically significant difference between the midsemester student ratings and the end of semester student ratings for faculty in the feedback with consultation group who rated themselves better than their students rated them at midsemester; $F = .767$, $p = .619$. This group had a total of 20 faculty members; however, only 9 of those instructors rated themselves higher than their students on the average over the 20 teaching items. This lack of significance could be due to the small number of nine faculty members who rated themselves higher than their students rated

them. However, a multivariate analysis of variance conducted on the entire group of 20 also resulted in the finding of no statistically significant difference between the end of the semester ratings and the midsemester ratings for all members of the consultation group. As noted in the preceding paragraph regarding hypothesis two, although Centra's study (1973) indicated statistically significant student rating changes within a semester, perhaps the short time period did not allow time for these faculty members to incorporate changes. In 1973, student evaluations of faculty were relatively rare (Centra, 1973); perhaps the uniqueness of that experience contributed to the significance Centra found. The instructors who participated in his study might have been more interested in the feedback than the instructors in this study since this group of 20 instructors already experienced student ratings for quite some time.

Although there was no statistically significant difference between the midsemester student ratings and the end of semester student ratings for faculty in the consultation group who rated themselves better than their students rated them at midsemester, all of the end of the semester means of the five dependent variables were in the predicted positive direction. This positive change lends support to the assumption based on Brinko's (1990) study (in which individual consultations were provided) that instructors who received a consultation workshop in addition to their written feedback would improve their student ratings from midsemester to the end of the semester.

Regarding the fourth hypothesis, there was no statistically significant difference between the differences between midsemester student ratings and

end of semester student ratings for the consultation group and the differences between midsemester student ratings and end of semester student ratings for the feedback group; $E = 1.211$, $p = .927$. There was also no statistically significant difference on the covariate of motivation. This finding might have been expected since the data analysis related to the first hypothesis did not result in any significant differences between the end of semester student ratings for the three groups. This hypothesis was focused on what was anticipated to be a relatively small, but expected, significant difference between the student rating differences found in these two groups. Although no significant difference was found, three of the differences between the means reflected the predicted positive direction, while two of the differences between means did not. The three positive differences between means lend support to the assumption, based on Brinko's (1990) study (in which individual consultations were provided), that instructors who received consultation with their written feedback would reflect greater improvement in teaching effectiveness than instructors who received written feedback only.

A number of assumptions were made regarding this study. The following briefly looks at these assumptions in light of the findings. The assumption that improved teaching effectiveness (student ratings) is an important answer to questions of accountability in higher education remains accurate. The faculty members who participated in the workshops remarked on the importance of improving teaching (student ratings) in order for their department and their institution to remain competitive. The findings did provide some positive support

for the position that cognitive dissonance is a reliable theory with real application potential for improving teaching effectiveness (student ratings) among college faculty. This theory focused on the instructors who rated themselves higher at midsemester than their students rated them. However, the more positive end of semester student rating means for all members of the two treatment groups indicates that feedback in general is valuable.

The assumption that faculty members value the opinions of their students enough to change their instruction methods to be more responsive to students' needs was supported to a degree based on the positive directions of all of the means, except one, on the five dependent variables between the three groups. Additionally, in the consultation workshops, faculty members frequently remarked that they liked the IDEA form because it gave them feedback on their students' perceived progress on their teaching objectives. This type of feedback was not part of their current student rating form.

The assumption that student feedback in the form of student ratings and dissonance scores at midsemester is a useful method for improving teaching effectiveness among college faculty was only minimally supported with two positive changes for the feedback group. This assumption still needs to be explored as Cohen's study (1980) did show the feedback group received higher ratings at the end of the semester than the no feedback group in 20 out of 22 studies.

The assumption that student feedback, augmented with group consultation, was a useful method for improving teaching effectiveness among

college faculty had merit in that all five of the means for the consultation group reflected a positive change in direction from midsemester to the end of the semester. Although this study did not find statistical significance in these changes, Brinko's study (1990) supported this assumption with statistically significant findings. Her more positive results may have been due to the individual consultation used in her study rather than the group consultation utilized in this research.

The final assumption that this study advanced knowledge related to the improvement of teaching effectiveness among college faculty was supported. While this study did not result in statistically significant findings, the predicted positive direction of change of the student rating means from midsemester to end of semester implied some validity related to the four hypotheses.

Recommendations for Further Study

Recommendations for further study include: (a) repeating this study with a larger sample; (b) repeating this study over a two-semester period; (c) conducting this type of study with only the institution's own instrument; (d) conducting this study with the IDEA system at institutions which presently do not use this system with both the long and the short IDEA forms; (e) conducting this study in a qualitative format with interviews with students and with faculty members after each step of the study; (f) conducting this type of study with only new faculty or part-time faculty; and (g) conducting this study using individual as opposed to group consultation.

Repeating this study with larger sample groups might lead to the null hypotheses of this study being rejected. All of the major previous studies to this one (Centra, 1973; Cohen, 1980; Brinko, 1990) had larger samples and found statistically significant differences between groups in each of their studies. Given greater resources, perhaps this type of study could be repeated with larger groups in a number of colleges. The positive direction of the end of the semester student rating means indicates that significance may be found.

Repeating this study over a two-semester period would allow more time for the instructors to integrate the feedback on their ratings into their teaching. Perhaps given more time, change would be more likely and this would result in statistically significant changes in teaching effectiveness (student ratings). The advantage to the midsemester feedback is that the current students can profit from the instructor's addressing their specific concerns in that semester. Instructors may want to include their own informal evaluation at midsemester to meet these needs in the future. For more formal feedback such as student evaluations, the two semester format would be good approach to further test the basic premises of this study.

Conducting this type of study with the institution's own instrument first is recommended based on costs and familiarity with the instrument. An initial impetus of this study was to improve student ratings in a cost-effective manner. The system used in this study, the IDEA system, is an excellent one. The validity and reliability have been established and ratings can be compared to national norms. For many institutions, the IDEA system would in many ways be ideal.

One of the major advantages of the IDEA system is that it provides feedback on the students' reported progress based on the teaching objectives of the specific instructor. Often the institutionally self-developed faculty evaluations do not have this excellent aspect. However, this type of study could be done with an institution's own instrument. This approach might be much more feasible for many institutions with limited resources.

Another recommendation is to conduct this study with the IDEA system at institutions, which presently do not use this system, with both the long and the short forms. The IDEA system provides excellent feedback to the instructors as well as providing a broad, overview institutional report. Contrasting the results based on the long forms with the results based on the short forms could give the institution basic data to determine which form might be better for that particular institution as well as for measuring greater teaching effectiveness.

Another recommendation is to conduct this study in a qualitative format with interviews with students and faculty members at critical stages of the research. Even though statistical significance was not found, many of the instructors informally made positive comments on the value of the consultation workshop and the IDEA Report, which provided them with the feedback on their results. If a similar study was conducted using a qualitative method, a more complete picture could be developed of the effect of student feedback on improving teaching effectiveness and on changing teacher behavior.

Another recommendation would be to conduct this type of study with new faculty or part-time faculty. The lack of significant findings could have resulted

from the repeated and frequent exposure by most of the faculty members in this study to student evaluations. If this study were conducted with new faculty members or part-time faculty members, perhaps their responses would be more like that of the faculty members in the original study who had not experienced this type of evaluation.

The final recommendation would be to conduct this study with individual consultations as opposed to a group consultation. Brinko's (1991) article has suggestions for different types of consultation. A study with the different consultation formats and styles discussed by Brinko could provide valuable information on which formats or consultant styles would be more appropriate for which situation. The group consultation format should also be studied again, as it might be more cost effective for some institutions.

Implications for Policy and Practice

The implications of this study for policies and practices include the following: (a) doing fewer evaluations per instructor per year (i.e., two classes per instructor per semester with short evaluation forms) with more extensive (i.e., using a longer student rating form such as the IDEA long form) evaluations done every third year; (b) student evaluation of faculty is an important means to improve teaching effectiveness; (c) the type of faculty evaluation system is important; (d) self-evaluation by faculty members can result in positive insights to teaching effectiveness; (e) discrepancy scores between self and student evaluations can provide valuable information to faculty members on which

teaching behaviors they are doing well and on which teaching behaviors they may need to improve; and (f) a workshop consultation approach to student ratings feedback can be an effective means to improve teaching effectiveness.

Centra (1976b) surveyed 453 department heads and asked them to rate the use and importance of fifteen kinds of data in evaluating teaching. The number one source was the chairman's evaluation and tied for number two were colleagues' opinions and systematic student ratings. Cashin (1989) maintained that the chairman's evaluation and colleagues' opinions are not data for evaluation. He questioned how the chairman and colleagues know whether or not a faculty member is an effective teacher—do they listen to complaints from a few students, the gossip in the faculty lounge, or comments overheard passing by the classroom. He has asked whether colleges have a systematic approach using student evaluations, surveys of faculty, and classroom observations. Cashin (1989) has stated that, along with many others, student ratings are the only primary data that are systematically obtained at many colleges and universities.

If universities and colleges conducted fewer evaluations, faculty and students may give more significance to the overall evaluation process. Institutions could do fewer evaluations per instructor per year (i.e., two classes per instructor per semester with short evaluation forms) with more extensive (i.e., using a longer student rating form such as the IDEA long form) evaluations done every third year. Then, the ratings by some students would less likely be casual or haphazard. With fewer evaluations to fill out, students would not feel they

needed to rush through the evaluations given in every class by every instructor in order just to get them done. Students might be more accurate in their ratings if evaluations were not so common and so frequent. If students were oriented to the fact that longer evaluations are only done on an intermittent or limited schedule, then their responses might be completed with more thought and accuracy. Instructors may be more responsive to intermittent feedback because they might give it greater validity. Instructors understand that when a system requires an evaluation for every class section every semester that students are more than likely not giving these evaluations as much thought.

The type of faculty evaluation system at an institution of higher learning is important. In this study, the IDEA system was used. This is a nationally normed system with excellent reliability and validity. The long form provides excellent feedback. In this study, the length of the form (47 questions) may have had some negative impact. However, the implementation of any new system presents transitional challenges. Institutions will want to determine what student rating system best suits their unique needs perhaps by experimenting with a nationally normed system such as the IDEA system or with their own evaluation tool. If institutions develop their own tool, it is important to determine its validity and reliability before it is used for evaluation purposes.

In this study, the comments made by faculty members in the consultation workshop indicated that self-evaluation by faculty members can result in positive insights to teaching effectiveness. Institutions, which do not use some type of self-evaluation by the faculty, could add this aspect to their evaluation system.

Cashin (1989) recommended this evaluation take the form of a self-report. It should be mostly descriptive rather than evaluative. The instructor needs to understand not just whether the teaching went well or poorly but also why it went well or poorly.

Centra's (1973) study was based on the theory of cognitive dissonance. His results support the approach that discrepancy scores between self and students evaluations collected at midsemester can provide valuable information to faculty members on which teaching behaviors they are doing well and on which teaching behaviors they may need to improve. The positive direction of most of the dependent variable means of teaching behavior in this study also implies support for this theory and approach. The simplicity and economy of this midsemester intervention should also be appealing to institutions and to faculty members. It is a different approach and could provide a new perspective as to how an institution might revise its faculty evaluation system for the better.

Brinko's (1990) study found that individual consultation had a stronger effect on teaching effectiveness than written feedback alone. In developing this study, a workshop consultation was more feasible than individual consultation. It was hoped that this format would result in the significant findings as Brinko's (1990) study did. It may be that the key to significant change lies in the use of individual rather than the more limited, less costly group consultation approach. Although significance was not found, the predicted positive direction of the five dependent variable means imply some support for the group consultation approach. The workshop approach could prove to be more economical than

individual consultation with instructors and just as effective with more experimentation. Workshops consultations could be done at midsemester alone, at the end of the semester alone, or used both at midsemester and at the end of the semester. Institutions will need to determine which type of consultation and when evaluations are most effective for their specific needs. In developing policies and practices for their faculty evaluation systems, institutions need to assess the reasons for the evaluations and the impact this has on the evaluations, the frequency of evaluations, the validity and reliability of the evaluation instrument, and how the evaluations can best lead to improving teaching effectiveness for their institution.

Conclusions of the Study

Although the lack of statistically significant findings was unexpected, the researcher believes that the premise of the study remains valid. The predicted positive direction of the student rating means and the literature cited support exploring this type of feedback further. Higher education faces continuing challenges, which are greater today than ever. Hunt (1999) believes higher education will be more critical to the nation in the 21st century than at any other time in our history. He expresses serious concerns: (a) that opportunities are becoming more limited to those who need higher education more than ever; (b) that these students are not succeeding in completing college; and (c) that these students are not prepared at the K-12 level to perform at the college level.

These challenges reflect that the quality of teaching effectiveness in colleges and universities remains an important issue.

Higher education today continues to face numerous challenges. In response to some of these challenges, teaching effectiveness needs to be improved. One aspect of teaching effectiveness is improved teaching behaviors. Student evaluations are conducted by most institutions of higher education with the goal of improving student ratings of instructors and thereby improving teaching effectiveness. This study examined utilizing cognitive dissonance theory to improve the student ratings of college faculty. Further, this study explored augmenting student ratings feedback with midsemester feedback in the form of discrepancy scores and group consultation to improve teaching effectiveness.

Although statistically significant findings were not found in this study, the positive direction of most of the student rating means in the hypotheses lent support to the premise that this type of student feedback can improve teaching effectiveness. The recommendations for further study should provide better insight into which feedback approach offers the best results.

REFERENCES

- Abrami, P. C. & d'Apollonia, S. (1991). Multidimensional students' evaluations of teaching effectiveness—Generalizability of "N = 1" research: Comment on Marsh (1991). Journal of Educational Psychology, 83 (3), 411-415.
- Aubrecht, J. D. (1981). Reliability, validity, and generalizability of student ratings of instruction (IDEA Paper No. 6). Manhattan, KS: Kansas State University, Center for Faculty Evaluation and Development. (ERIC Document Reproduction Service No. ED 213 296).
- Blackburn, R. T., & Clark, M. J. (1975). An assessment of faculty performance: Some correlates between administrator, colleague, student, and self ratings. Sociology of Education, 48, 242-246.
- Bonwell, C. C., & Eison, J. A. (1991). Active learning: Creating excitement in the classroom. Washington, DC: George Washington University, School of Education and Human Development. (ASHE-ERIC Higher Education Report No. 1).
- Braskamp, L. A., Brandenburg, D. C., & Ory, J. C. (1984). Evaluating teaching effectiveness. Newbury Park, CA: Sage.
- Braskamp, L. A., Caulley, D., & Costin, F. (1979). Student ratings and instructor self-ratings and their relationship to student achievement. American Educational Research Journal, 16, 295-306.
- Braskamp, L. A. & Ory, J. C. (1994). Assessing faculty work: Enhancing individual and institutional performance. San Francisco: Jossey-Bass.
- Brinko, K. (1990). Instructional consultation with feedback in higher education. Journal of Higher Education, 61 (1), 65-83.
- Brinko, K. (1991, Winter). Effective practices for improving teaching. New directions for teaching and learning, 48, 39-49.
- Cashin, W. E. (1988). Student ratings of teaching: A summary of the research (IDEA Paper No. 20). Manhattan, KS: Kansas State University, Center For Faculty Evaluation and Development.
- Cashin, W. E. (1989). Defining and evaluating college teaching (IDEA Paper No. 21). Manhattan, KS: Kansas State University, Center For Faculty Evaluation and Development.

- Cashin, W. E. (1995). Student ratings of teaching: The research revisited (IDEA Paper No. 32). Manhattan, KS: Kansas State University, Center For Faculty Evaluation and Development.
- Centra, J. A. (1973). Effectiveness of student feedback in modifying college instruction. Journal of Educational Psychology, *65* (3), 395-401.
- Centra, J. A. (1977a). Student ratings of instruction and their relationship to student learning. American Educational Research Journal, *14*, 17-24.
- Centra, J. A. (1977b). How universities evaluate faculty performance: A survey of department heads. (Report GREB No. 75-5br) Princeton, NJ: Educational Testing Service.
- Centra, J. A. (1993). The development of the student instructional report II. Princeton, NJ: Educational Testing Service.
- Chickering, A. W., & Gamson, Z. F. (1987). Seven principles for good practice In undergraduate education. AAHE Bulletin, *39*, (7), 3-7.
- Cohen, P. A. (1980). Effectiveness of student-rating feedback for improving college instruction: A meta-analysis of findings. Research in Higher Education, *13*, 321-341.
- Cohen, P. A. (1981). Student ratings of instruction and student achievement: A meta-analysis of multisection validity studies. Review of Educational Research, *51*, 281-309.
- Cross, K. P. (1991). How to find out if students are learning what you are teaching. In J. D. Nyquist, R. D. Abbott, D. H. Wulff, & J. Sprague (Eds.), Preparing the professoriate of tomorrow to teach (pp.232-242). Dubuque, IA: Kendall/Hunt.
- Cummings, H., Long, L., & Lewis, M. (1988). Managing communication in organizations: An introduction (2nd ed.). Scottsdale, AZ: Gorsuch Scarisbrick.
- Davis, J. R. (1993). Better teaching, more learning: Strategies for success in postsecondary settings. Phoenix, AZ: The Oryx Press.
- Daw, R. W. & Gage, N. L. (1967). Effect of feedback from teachers to principals. Journal of Educational Psychology, *58* (1), 181-188.
- Doyle, K. O., & Crichton, L. I. (1978). Student, peer, and self-evaluations of college instructors. Journal of Educational Psychology, *70*, (5), 815-826.

- Farquharson, A. (1995). Teaching in practice: How professionals can work effectively with clients, patients, and colleagues. San Francisco: Jossey-Bass.
- Feldman, K. A. (1976). The superior college teacher from the student's view. Research in Higher Education, 5, 243-288.
- Feldman, K. A. (1983). The seniority and instructional experience of college teachers as related to the evaluations they receive from their students. Research in Higher Education, 21, 45-116.
- Feldman, K. A. (1983a). Seniority and experience of college teachers as related to evaluations they receive from students. Research in Higher Education, 18, 3-124.
- Feldman, K. A. (1984). Class size and students' evaluations of college teachers and courses: A closer look. Research in Higher Education, 21, 45-116.
- Feldman, K. A. (1986). The perceived instructional effectiveness of college teachers as related to their personality and attitudinal characteristics: A review and synthesis. Research in Higher Education, 24, 139-213.
- Feldman, K. A. (1987). Research productivity and scholarly accomplishment: A review and exploration. Research in Higher Education, 26, 227-298.
- Feldman, K. A. (1993). College students' views of male and female college teachers: Part II—Evidence from students' evaluations of their classroom teachers. Research in Higher Education, 34, 151-211.
- Festinger, L. (1957). A theory of cognitive dissonance. Evanston, IL: Row, Peterson.
- Frey, P. W. (1973). Student ratings of teaching: Validity of several rating factors. Science, 182, 83-85.
- Frey, P. W. (1978). A two-dimensional analysis of student ratings of instruction. Research in Higher education, 9, 69-91.
- Frey, P. W., Leonard, D. W., & Beatty, N. W. (1975). Student ratings of instruction: Validation research. American Educational Research Journal, 12, 327-336.
- Frye, B. J. (1994). Teaching in college: A resource for college teachers. Cleveland, OH: Info-Tec, Inc.

- Gage, N. L., Runkle, P. J., & Chatterjee, B. B. (1963). Changing teacher behavior through feedback from pupils: An application of equilibrium theory. In W. W. Charters & N. L. Gage (Eds.), Readings in the social psychology of education. Boston: Allyn & Bacon.
- Gall, M., Borg, W., & Gall, J. (1996). Educational research: An introduction. (6th ed.). White Plains, NY: Longman.
- Glass, G. & Hopkins, K. (1996). Statistical methods in education and psychology, (3rd ed.). Needham Heights, MA: Simon & Schuster.
- Greive, D. (1991). A handbook for adjunct/part-time faculty and teachers of adults. Cleveland, OH: Info-Tec, Inc.
- Guskey, T. R., & Easton, J. Q. (1983). The characteristics of very effective teachers in urban community colleges. Community/Junior College Quarterly, 7, 265-274.
- Hammons, J. O. & Wallace, T. H. (1976, December). Sixteen ways to kill a college faculty development program. Educational Technology, 17-20.
- Harris, R. J. (1975). A primer of multivariate statistics. New York: Academic Press.
- Heider, F. (1958). The psychology of interpersonal relationships. New York: Wiley.
- Hoyt, D. P., & Cashin, W. E. (1977). Development of the IDEA system (Tech. Rep. No. 1). Manhattan, KS: Kansas State University, Center For Faculty Evaluation and Development.
- Hoyt, D. P., Chen, Y., Pallett, W., & Gross, A. (1999). Revising the IDEA system for obtaining student ratings of instructors and courses (Tech. Rep. No. 11). Manhattan, KS: Kansas State University, Center For Faculty Evaluation and Development.
- Hunt, J. B. (1999, July 16). If you were governor, what would you do? Chronicle of Higher Education, p. A52.
- Katz, J. (1988). Does teaching help students learn? In Kimball, B. A. (Ed.), Teaching undergraduates: Essays from the Lilly endowment workshop on liberal arts (pp. 173-184). Buffalo, NY: Prometheus Books.
- L'Hommedieu, R., Menges, R. J., & Brinko, K. (1990). Methodological explanations for the modest effects of feedback from student ratings. Journal of Educational Psychology, 82 (2), 232-241.

- Lowman, J. (1995). Mastering the techniques of teaching. (2nd ed.). San Francisco: Jossey-Bass.
- Marsh, H. W. (1977). The validity of students' evaluations: Classroom evaluations of instructors independently nominated as best and worst teachers by graduating seniors. American Educational Research Journal, 14, 441-447.
- Marsh, H. W. (1982). Validity of students' evaluations of college teaching: A multitrait-multimethod analysis. Journal of Educational Psychology, 74 (2), 264-279.
- Marsh, H. W. (1983). Multidimensionality ratings of teaching effectiveness by students from different academic settings and their relation to student/course/instructor characteristics. Journal of Educational Psychology, 75 (1), 150-166.
- Marsh, H. W. (1984). Students' evaluations of university teaching: Dimensionality, reliability, validity, potential biases, and utility. Journal of Educational Psychology, 75 (5), 707-754.
- Marsh, H. W. (1991). A multidimensional perspective on students' evaluations of teaching effectiveness: Reply to Abami and d'Applonia (1991). Journal of Educational Psychology, 83 (3), 416-421.
- Marsh, H. W., Fleiner, R., & Thomas, C. S. (1975). Validity and usefulness of student evaluations of instructional quality. Journal of Educational Psychology, 67, (6), 833-839.
- Marsh, H. W., & Hocevar, D. (1991). The multidimensionality of students' evaluations of teaching effectiveness: The generality of factor structures across academic discipline, instructor level, and course level. Teacher and Teacher Education, 7 (1), 9-18.
- Marsh, H. W., Overall, J. U., & Kesler, S. P. (1979a). Validity of student evaluations of instructional effectiveness: A comparison of faculty self-evaluations and evaluations by their students. Journal of Educational Psychology, 71 (6), 149-160.
- Marsh, H. W., Overall, J. U., & Kesler, S. P. (1979b). Validity of student evaluations of teaching effectiveness: Cognitive and affective criteria. Journal of Educational Psychology, 72 (4), 468-475.

- Marsh, H. W., & Roche, L. (1993). The use of students' evaluations and An individually structured intervention to enhance university teaching effectiveness. American Educational Research Journal, 30 (1), 217-251.
- Newcomb, T. M. (1959). Individual systems of orientation. In S. Koch (Ed.), Psychology: A study of science. Vol. 3. New York: McGraw-Hill.
- Noble, D. & Cannon R. (1995). A handbook for teachers in universities and colleges. Great Britain: Martin's the Printers.
- Overall, J. U., & Marsh, H. W. (1979). Midterm feedback from students: Its relationship to instructional improvement and students' cognitive and affective outcomes. Journal of Educational Psychology, 71 (6), 856-865.
- Overall, J. U., & Marsh, H. W. (1980). Students' evaluations of instruction: A longitudinal study of their stability. Journal of Educational Psychology, 72 (4), 321-325.
- Popham, W. J., & Sirotnik, K. A. (1992). Understanding statistics in education. Itasca, IL: F. E. Peacock Publishers, Inc.
- Rodin, M., & Rodin, B. (1963). Student evaluation of teachers, Science, 177, 1164-1166.
- Roueche, J. E., Roueche, S. D., & Milliron, M. D. (1995). Strangers in their own land: Part-time faculty in american community colleges. Washington, D.C.: Community College Press.
- Setterfield, G. (1974). Elements of creativity in teaching. In E. F. Sheffield (Ed.), Teaching in the universities no one way (pp. 43-53). Montreal, Canada: McGill-Queen's.
- Sherman, T. M., Armistead, L. P., Fowler, F., Barksdale, M. A., & Reif, G. (1987). The quest for excellence in university teaching. Journal of Higher Education, 48(1), 67-84.
- Smith, D. E. (1993). Effective community college teaching and the role of instructional systems design skills: A multiple case study (Doctoral dissertation, Florida State University, 1993). Dissertation Abstracts International.
- Steel, C. M., & Liu, T. J. (1981). Making the dissonant act unreflective of the self: Dissonance avoidance and the expectancy of a value-affirming response. Personality and Social Psychology Bulletin, 7, 387-393.

- Steel, C. M., & Liu, T. J. (1983). Dissonance processes as self-affirmation. Journal of Personality and Social Psychology, 45 (1), 5-19.
- Thibodeau, R., & Aronson, E. (1992). Taking a closer look: Reasserting the role of the self-concept in dissonance theory. Personality and Social Psychology Bulletin, 18 (5), 591-602.
- Valek, M. A. (1988). Teaching as leading in the community college: An analysis of faculty competencies developed through path-goal theory (Doctoral dissertation, University of Texas at Austin, 1988). Dissertations Abstracts International.
- Weimer, M. (1990). Improving college teaching. San Francisco: Jossey-Bass.
- Wilson, R. C. (1986). Improving faculty teaching: Effective use of student evaluations and consultants. Journal of Higher Education, 57 (2), 196-211.

APPENDIX A
CONSULTATION WORKSHOP OUTLINE
AND NOTIFICATION MEMO

Consultation Workshop

1. Objectives

- a. Discuss the IDEA Report
- b. Discuss the Written Feedback Sheet
- c. Discuss recommendations

2. Materials

- a. IDEA Reports on instructors
- b. Written Feedback Sheets on instructors
- c. IDEA Short Papers and other appropriate suggestions related to teaching behaviors

3. Outline of Activities

- a. Facilitator explains the IDEA Report (15 minutes)
 1. Focus on Section III on the Report which discusses teaching methods most closely related to progress ratings on the instructor's objectives
- b. Facilitator explains the Written Feedback on the Discrepancy Scores (10 minutes)
 1. Focus on relating this back to the IDEA Report
- c. General discussion of Short Papers on suggestions with recommendations to focus on three to five areas for improvement (30 minutes)

MEMORANDUM

Date

TO: Faculty

FROM: Dr.
Vice President of Academic Affairs

SUBJECT: Consultation Workshop (One Hour Long)

As part of your volunteer participation in the student rating system study, please attend one of the following consultation workshops. You were randomly assigned to one of the treatment groups. Your treatment group will receive written feedback on the discrepancies between your midsemester self-rating and the midsemester student ratings from your students. In addition, you will participate in a consultation workshop to discuss the results of your IDEA Student Ratings Report and suggestions for any areas of concern.

The workshops will be held on the following dates and times:

Monday, March 1

8 am - 9 am _____

1pm – 2pm _____

4pm – 5pm _____

Tuesday, March 2

8 am – 9 am _____

1 pm – 2pm _____

6 pm – 7pm _____

Wednesday, March 3

8 am – 9am _____

12 pm – 1pm _____

5 pm – 6pm _____

Please sign the attached form confirming the workshop you will attend.

We appreciate your continuing support of this study. Please contact my office or the researcher, Ms. Carson, at 696-5539.

MEMORANDUM

Date

TO: Dr.
Vice President of Academic Affairs

FROM:

SUBJECT: Consultation Workshop (One Hour Long)

1. Name: _____

Campus phone number: _____

2. Please check which workshop you will attend:

I will attend the following workshop:

Monday, March 1

8 am - 9 am _____

1pm – 2pm _____

4pm – 5pm _____

Tuesday, March 2

8 am – 9 am _____

1 pm – 2pm _____

6 pm – 7pm _____

Wednesday, March 3

8 am – 9am _____

12 pm – 1pm _____

5 pm – 6pm _____

APPENDIX B
IDEA SURVEY FORM, DIRECTIONS,
AND FACULTY RESPONSE FORM



SURVEY FORM - STUDENT REACTIONS TO INSTRUCTION AND COURSES

IMPORTANT!



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. 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 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:

- 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

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

Self Rating:

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 48-66):

- | | | |
|---------------|---------------|---|
| 48. ① ② ③ ④ ⑤ | 58. ① ② ③ ④ ⑤ | Your comments are invited on how the instructor might improve this course or teaching procedures. Use the space below for comments (unless otherwise directed).
<i>Note: Your written comments may be returned to the instructor. You may want to PRINT to protect your anonymity.</i> |
| 49. ① ② ③ ④ ⑤ | 59. ① ② ③ ④ ⑤ | |
| 50. ① ② ③ ④ ⑤ | 60. ① ② ③ ④ ⑤ | |
| 51. ① ② ③ ④ ⑤ | 61. ① ② ③ ④ ⑤ | |
| 52. ① ② ③ ④ ⑤ | 62. ① ② ③ ④ ⑤ | |
| 53. ① ② ③ ④ ⑤ | 63. ① ② ③ ④ ⑤ | |
| 54. ① ② ③ ④ ⑤ | 64. ① ② ③ ④ ⑤ | |
| 55. ① ② ③ ④ ⑤ | 65. ① ② ③ ④ ⑤ | |
| 56. ① ② ③ ④ ⑤ | 66. ① ② ③ ④ ⑤ | |
| 57. ① ② ③ ④ ⑤ | | |

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

Comments: _____



IDEA--Directions To Faculty (Please keep for future use.)

For Use with IDEA Long (burgundy) or Short (grape) Form and Faculty Information (blue) Form

These pages contain all the information you will normally need to use IDEA in your classes. If you require more specific information in any area, please contact the person on your campus who coordinates the use of the IDEA Student Ratings of Instruction system. These directions are divided into the following sections:

- I. Marking your *Faculty Information Form*
- II. Brief Description of IDEA Objectives
- III. Using Additional Questions with the IDEA System
- IV. Instructions for Administering the IDEA System in Class

I. Marking your Faculty Information Form

The *Faculty Information Form* provides direct input for your IDEA Report. Please read the "Important Instructions" on the *Faculty Information Form* and follow them completely. If you do not, the processing of your course may be incomplete or inaccurate. Be especially careful to use a No. 2 PENCIL and completely blacken each circle.

Only the first 11 letters of your last name and your two initials are to be printed. Beginning with the first box at the top of the form, print each of the letters of your last name in a separate box. Print your initials in the last two boxes at the extreme right of the name section. Then, in the columns below each box, completely darken the alphabetical character which corresponds to the letter you have written in the box above.

Complete the remaining sections.

Objectives: Your weighting of these objectives is very important because it describes the uniqueness of your course by defining its purposes (what students are supposed to learn--see page three, *Brief Description of IDEA Objectives*). Weight each of them as: M = "Minor or No Importance"; I = "Important"; or E = "Essential" by blackening the appropriate letter. No course can be all things to all students. We recommend that you select no more than 3-5 objectives either as "Essential" or "Important." As a general rule, if you choose three objectives, *only one* should be "Essential"; if you choose five, *only two* should be "Essential." Your choices should *prioritize* what you want students to learn in your course.

In selecting "Essential" or "Important" objectives, ask yourself three questions:

1. Is this a *significant* part of the course?
2. Do I do something *specific* to help the students accomplish *this* objective?
3. Does the student's progress on this objective affect his or her *grade*?

If you answer "Yes," then that objective should probably be weighted "E" or "I" on the Faculty Information Form. The phrase "Minor or No Importance" recognizes that in most courses some of the twelve objectives will be considerably less important than others, even though some attention may be given to them. An "M" should be selected on the Faculty Information Form for such objectives. If you have questions, contact your IDEA On-Campus Coordinator.

Days Blacken completely each day of the week the class meets.

Department Code: From the table on the next page use the four-digit modified CIP academic code for the department in which this course is taught. This code is used to help identify your course and, in some institutions, may be helpful in developing a summary report for the department. Other codes can be supplied by the IDEA On-Campus Coordinator or by consulting our Web page (www.idea.ksu.edu).

August, 1998

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. Adequacy of students' background and preparation for the course
 G. Student enthusiasm for the course
 H. Student effort to learn
 I. Technical/instructional support

5. Please identify the principal type of student enrolling in this course

- ① = Freshmen/sophomores seeking to meet a "general education" or "distribution" requirement
② = Freshmen/sophomores seeking to develop background needed for their intended specialization
③ = Upperclassmen non-majors taking the course as a "general education" or "distribution" requirement
④ = Upperclassmen 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

APPENDIX C
FACULTY SELF-RATING FORM

APPENDIX D
IDEA REPORT



Faculty Name: F.J. Augustine
 Number Enrolled: 43

Institution: College University
 Number Responding: 38

Term: Summer, 1999
 % Responding: 88.3

Your results are considered highly reliable; re-rating by the same students would give essentially the same results as those given in this 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	Primarily for administrative use in helping to make personnel recommendations. <i>Only this page and Page 6 are essential if this is the only use you plan to make of the report.</i>
3	II. Student Ratings of Progress on Specific Objectives	Primarily to identify the teaching objectives where improvement is most needed
4-5	III. Teaching Methods or Style Related to Student Ratings of Progress	Primarily to help develop a strategy for improving teaching methods
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 which may help you or your consultants to understand or interpret the report accurately
8	VI. Processing Error Messages	Identifies errors resulting from incomplete information provided on the Faculty Information Form

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 which have been statistically adjusted to take into account factors which affect ratings but which are beyond the instructor's control (size of class; student desire to take course regardless of who taught it; course difficulty not attributable to instructor; student effort not attributable to instructor; and other student motivational influences)

T Score: A statistically derived score which 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; 35-99; or 100 or more) and average student response to "I had a strong desire to take this course" (under 3.0; 3.0-3.4; 3.5-3.9; 4.0-4.4; or 4.5 or above).

Understanding the Graphs

Most results are presented on graphs. Unadjusted T Scores are shown by the symbol \times ; adjusted T Scores are shown by the symbol \diamond . 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 \pm one standard error of measurement, a statistical indication of the reliability of the measure.

A Few Words of Caution

1. New items on the IDEA form are marked by an asterisk (*) because they have been tested on only 3,668 classes. Comparisons with the national database on these items will be less stable than for the items retained from the original IDEA form which are based on over 35,000 classes rated during the 1993-94 and 1994-95 academic years.
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 enclosed *Overview of Student Ratings: Value and Limitations*.

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 and the context provided by Part 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.

You may wish to assign these ratings to categories like those which 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.

Overall Measures of Effectiveness	T-Score		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)	
	Unadj. Adj.							Raw	Adjusted
1. Progress on Relevant (Essential and Important) Objectives	58							NA ₁	NA ₁
	59								
2. Improved Student Attitude	49							3.8	3.8
	50								
3. Overall Excellence of Teacher	58							4.1	4.2
	59								
4. Overall Excellence of Course	51							4.0	4.1
	58								

T Score—Comparison with all Classes in National Database

- X— Unadjusted T Score ± one standard error of measurement
- ◆— Adjusted T Score ± one standard error of measurement (adjusted for class size; student desire to take course regardless of who taught it; course difficulty not attributable to instructor; student effort not attributable to instructor; and other student motivational influences)

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 40, "As a result of taking this course, I have more positive feelings toward this field of study." This rating is most meaningful for courses which 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.

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.

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).

NA₁: Based on a combination of ratings where an average on a 5-point scale is not comparable.

Section II. Student Ratings of Progress on Specific 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.

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.

Part A. Essential Objectives	T-Score		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)	
	Unadj. Adj.							Raw	Adjusted
21. Factual knowledge	59 60							4.4	4.6
22. Principles and theories	58 58							4.1	4.1

Part B. Important Objectives										
23. Apply course material to improve thinking skills	57									
	58							3.9	4.0	
24. Professional skills, viewpoints	59									
	61							4.0	4.2	
*30. Values development	52									
	52							3.7	3.7	

20 30 40 45 50 55 60 70 80
 T Score--Comparison with all Classes in National 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 class size, student desire to take course regardless of who taught it; course difficulty not attributable to instructor; student effort not attributable to instructor; and other student motivational influences)

It is recommended that priority attention be given to *Essential* objectives with progress ratings which 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 "Strengths" and "Weaknesses" associated with progress ratings on the objectives chosen for priority attention. These are identified in Section III of this report.

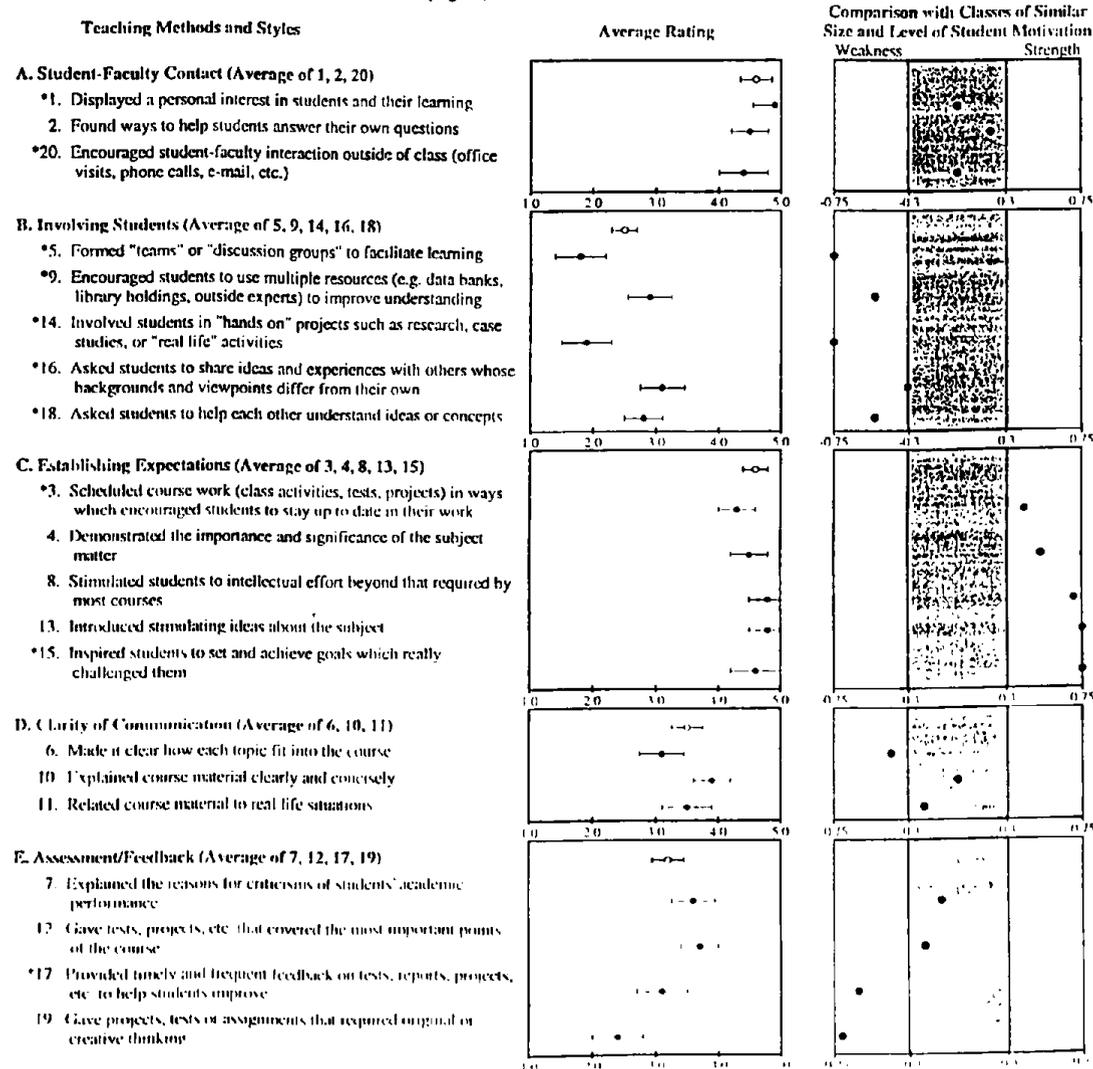
Note: Students in your class also rated their progress on the objectives which you classified as being of *Minor or No Importance*. These ratings are considered irrelevant in judging your teaching effectiveness. However, a review of student ratings on these objectives, found in Section V (Statistical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

*New Item

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

This section focuses on specific teaching methods. Results are given in two 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. **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 classify methods as "strengths" if your rating was at least 0.3 above average for classes of similar size and level of student motivation and as "weaknesses" if your rating was at least 0.3 below average for such classes. Although effectiveness generally improves when weaknesses are overcome while maintaining strengths, not all teaching methods promote progress on every teaching objective. The methods which are especially relevant to each of your *Essential* and *Important* objectives are identified in Part Two (page 5).



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 rated as "strengths" and those rated as "weaknesses" in comparison to the national average. (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 Most Relevant Strengths/Weaknesses	
		Strengths	Weaknesses
Essential Objectives			
21. Factual knowledge	3,5,6,8,9,12,13,14,16,19	3,8,13	5,6,9,14,16,19
22. Principles and theories	1,5,6,8,12,14,15	8,15	5,6,14
Important Objectives			
23. Apply course material to improve thinking skills	3,8,11,12,14,17	3,8	14,17
24. Professional skills, viewpoints	3,5,6,7,8,11,12,14,16,18	3,8	5,6,14,16,18
*30. Values development	3,5,8,9,13,14,17,18,19,20	3,8,13	5,9,14,17,18,19

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

Potential Areas for Improvement Efforts

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:

- *5. Formed "teams" or "discussion groups" to facilitate learning
- 6. Made it clear how each topic fit into the course
- *14. Involved students in "hands on" projects such as research, case studies, or "real life" activities

Strengths to Retain

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

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

*New Item

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 and in which interpretation of the ratings should be made. 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: *Lecture* Team Taught: *Not reported*
 Secondary Instructional Type: *Discussion/recitation* Distance Learning: *No*
 Principal Type of Student: *Upperclassmen, majors*

Instructor's Ratings of Special Circumstances:

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

Instructor's Ratings of Course Requirements:

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

Student Ratings of the Course:

	Number of Students Saying:*					Average	T Score
	1	2	3	4	5		
33. Amount of reading	0	5	18	10	5	3.4	52
34. Amount of work in other (non-reading) assignments	0	0	3	25	10	4.2	68
35. Difficulty of subject matter	0	2	12	17	7	3.8	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

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.	XX	XX	XX	XX	XX	XX	XX	XX
2.	XX	XX	XX	XX	XX	XX	XX	XX
3.	XX	XX	XX	XX	XX	XX	XX	XX
4.	XX	XX	XX	XX	XX	XX	XX	XX
5.	XX	XX	XX	XX	XX	XX	XX	XX
6.	XX	XX	XX	XX	XX	XX	XX	XX
7.	XX	XX	XX	XX	XX	XX	XX	XX
8.	XX	XX	XX	XX	XX	XX	XX	XX
9.	XX	XX	XX	XX	XX	XX	XX	XX
10.	XX	XX	XX	XX	XX	XX	XX	XX
11.	XX	XX	XX	XX	XX	XX	XX	XX
12.	XX	XX	XX	XX	XX	XX	XX	XX
13.	XX	XX	XX	XX	XX	XX	XX	XX
14.	XX	XX	XX	XX	XX	XX	XX	XX
15.	XX	XX	XX	XX	XX	XX	XX	XX
16.	XX	XX	XX	XX	XX	XX	XX	XX
17.	XX	XX	XX	XX	XX	XX	XX	XX
18.	XX	XX	XX	XX	XX	XX	XX	XX
19.	XX	XX	XX	XX	XX	XX	XX	XX
20.	XX	XX	XX	XX	XX	XX	XX	XX

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.	XX	XX	XX	XX	XX	XX	XX	XX
22.	XX	XX	XX	XX	XX	XX	XX	XX
23.	XX	XX	XX	XX	XX	XX	XX	XX
24.	XX	XX	XX	XX	XX	XX	XX	XX
25.	XX	XX	XX	XX	XX	XX	XX	XX
26.	XX	XX	XX	XX	XX	XX	XX	XX
27.	XX	XX	XX	XX	XX	XX	XX	XX
28.	XX	XX	XX	XX	XX	XX	XX	XX
29.	XX	XX	XX	XX	XX	XX	XX	XX
30.	XX	XX	XX	XX	XX	XX	XX	XX
31.	XX	XX	XX	XX	XX	XX	XX	XX
32.	XX	XX	XX	XX	XX	XX	XX	XX

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.	XX	XX	XX	XX	XX	XX	XX	XX
34.	XX	XX	XX	XX	XX	XX	XX	XX
35.	XX	XX	XX	XX	XX	XX	XX	XX

Items A-E: 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.
A.	XX	XX	XX	XX	XX	XX	XX	XX
B.	XX	XX	XX	XX	XX	XX	XX	XX
C.	XX	XX	XX	XX	XX	XX	XX	XX
D.	XX	XX	XX	XX	XX	XX	XX	XX
E.	XX	XX	XX	XX	XX	XX	XX	XX

Items 36-42: 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.
36.	XX	XX	XX	XX	XX	XX	XX	XX
37.	XX	XX	XX	XX	XX	XX	XX	XX
38.	XX	XX	XX	XX	XX	XX	XX	XX
39.	XX	XX	XX	XX	XX	XX	XX	XX
40.	XX	XX	XX	XX	XX	XX	XX	XX
41.	XX	XX	XX	XX	XX	XX	XX	XX
42.	XX	XX	XX	XX	XX	XX	XX	XX

Section V. Statistical Detail: Continued

Items 43-61: Extra Questions

	1	2	3	4	5	Omit	Avg.	s.d.
43.	XX	XX	XX	XX	XX	XX	XX	XX
44.	XX	XX	XX	XX	XX	XX	XX	XX
45.	XX	XX	XX	XX	XX	XX	XX	XX
46.	XX	XX	XX	XX	XX	XX	XX	XX
47.	XX	XX	XX	XX	XX	XX	XX	XX
48.	XX	XX	XX	XX	XX	XX	XX	XX
49.	XX	XX	XX	XX	XX	XX	XX	XX
50.	XX	XX	XX	XX	XX	XX	XX	XX
51.	XX	XX	XX	XX	XX	XX	XX	XX
52.	XX	XX	XX	XX	XX	XX	XX	XX

	1	2	3	4	5	Omit	Avg.	s.d.
53.	XX	XX	XX	XX	XX	XX	XX	XX
54.	XX	XX	XX	XX	XX	XX	XX	XX
55.	XX	XX	XX	XX	XX	XX	XX	XX
56.	XX	XX	XX	XX	XX	XX	XX	XX
57.	XX	XX	XX	XX	XX	XX	XX	XX
58.	XX	XX	XX	XX	XX	XX	XX	XX
59.	XX	XX	XX	XX	XX	XX	XX	XX
60.	XX	XX	XX	XX	XX	XX	XX	XX
61.	XX	XX	XX	XX	XX	XX	XX	XX

Section VI. Processing Error Messages

APPENDIX E
WRITTEN FEEDBACK ON DISCREPANCY SCORES

WRITTEN FEEDBACK ON DISCREPANCY SCORES

The attached sheet reflects your scores on the 20 items regarding teaching behaviors on the IDEA Survey. The scores are the averages you received from your students on the midsemester evaluations and from the instructor's self-evaluation. The discrepancy scores reflect differences between these averages. The items with negative numbers indicate areas which the students rated the instructor lower than the instructor rated him or herself. These might be areas to consider for improvement. If you would like to read about suggestions for these items, there are handouts on reserve in the library for your use. Thank you for your participation. Please contact Ms. Carson at 696-5539, if you have any questions.

Written Feedback on Discrepancy Scores

Item	Instructor Rating	Class Average	Discrepancy Scores
1. Displayed a personal interest in students and their learning.	5	4.1	-0.9
2. Found ways to help students answer their own questions.	5	3.6	-1.4
3. Scheduled course work (class activities, tests, projects) in ways which encouraged students to stay up-to-date in their work.	5	3.2	-1.8
4. Demonstrated the importance and significance of the subject matter.	1	4.7	3.7
5. Formed teams or discussion groups to facilitate learning.	1	1.6	0.6
6. Made it clear how each topic fit into the course.	4	4.3	0.3
7. Explained the reasons for criticisms of students' academic performance.	4	2.7	-1.3
8. Stimulated students in intellectual effort beyond that required by most courses.	5	3.4	-1.6
9. Encouraged students to use multiple resources (e.g. data banks, library holdings, outside experts) to improve understanding.	5	2.1	-2.9
10. Explained course material clearly and consisely.	5	4.4	-0.6
11. Related course materials to real life situations.	5	4.4	-0.6
12. Gave test, projects, etc. that covered the most important points of the course.	5	4.4	-0.6
13. Introduced stimulating ideas about the subject.	5	3.6	-1.4
14. Involved students in on projects such as research, cased studies, or real life activities.	2	1.5	-0.5
15. Inspired students to set and achieve goals which really challenged them.	5	2.7	-2.3
16. Asked students to share ideas and experiences with others whose backgrounds and viewpoints differ from their own.	4	3.4	-0.6
17. Provided timely/frequent feedback on tests, projects, etc. to help students improve.	5	3.7	-1.3
18. Asked students to help each other understand ideas or concepts.	3	2.6	-0.4
19. Gave projects, tests, or assignments that required original or creative thought.	5	2.3	-2.7
20. Encouraged student-faculty interaction outside of class (office visits, phone calls, etc.).	5	3.3	-1.7
Total Scores	84	66	-18
Overall Averages	4.2	3.3	-0.9

APPENDIX F
LETTER FROM IDEA CENTER
DIRECTOR, DR. PALLETT



**Individual Development and
Educational Assessment Center**

1615 Anderson Avenue
Manhattan, Kansas 66502 4073
1 800 255 2757
785 532 5970
Fax: 785 532 5637
E-mail: idea@ksu.edu

October 15, 1998

Rebecca Davis-Carson

Dear Dr. Davis-Carson:

Thank you for your request for information about IDEA--Student Ratings of Instruction, an approach developed at Kansas State University that uses students' ratings of instructors and courses for faculty evaluation and development. IDEA has been used by over 450 colleges and universities since 1975.

The IDEA Rating System has undergone a substantial revision this year that we believe only made a good system even better. The basic focus of the IDEA Rating System has not changed. It still emphasizes student ratings of their own learning, but the teaching methods and learning objectives included on the new form better reflect current initiatives in higher education. We also believe our statistical controls have been improved and will control for additional sources of variability for which a faculty member should not be held accountable. Finally, we believe the information gathered from IDEA can be used to address curricular and assessment issues, thereby increasing its utility.

Enclosed is a copy of the Center's information packet. Included in the packet you will find important information about how to use the IDEA system and you will also find copies of the new IDEA Long Form, the IDEA Short Form, and the Faculty Information Form. Also enclosed are samples of the IDEA Long Form, Short Form, and Longitudinal Reports to Faculty.

This fall we are in the midst of implementing the new system changes. Already we have the new survey forms available and will begin processing them around October. This is an exciting time for us and we are very encouraged by the responses we have received so far from our clients.

If you think that your institution might be served by using a national student rating system, consider using the IDEA--Student Ratings of Instruction System. For additional information about the IDEA Rating System, please call us at 800-255-2757 or 785-532-5970 or e-mail us at IDEA@ksu.edu, or you may browse the Center's Home Page--www.idea.ksu.edu.

Sincerely yours,

William H. Pallett, Ph.D.
Director

Enclosures

APPENDIX G
LETTER TO FACULTY REQUESTING PARTICIPATION

MEMORANDUM
November 24, 1998

To: Faculty

From: Vice President for Academic Affairs

Subject: New Student Rating System

We have been given the opportunity to consider using a new student rating form for our university in the spring of 1999. The 47 item rating form (see first attachment), which we hope you will volunteer to try in one of your spring classes, was developed at the Individual Development and Educational Assessment (IDEA) Center at Kansas State University (KSU). The IDEA system focuses on faculty development and has 20 years of excellent research behind it. If you find the IDEA rating form to be more valuable than our present student rating form, then we may want to consider switching to the IDEA system at some future date. In the meantime, we will also continue to use our current student rating form in the spring semester.

The reason we are able to offer you this unique opportunity to try out a different rating system is because Ms. Rebecca Davis Carson will be using our pilot study for her dissertation. Ms. Carson is a doctoral student in Higher Education at Texas Tech University. After studying the IDEA system, which is currently used at over 200 colleges and universities nationwide, we have agreed to provide approximately half of the support for this study, \$750.00.

The results from your one spring class will be seen only by yourself and Ms. Carson. If you chose to, you can share your results as part of our annual evaluation and/or promotion and tenure process.

Both Dr. and I solicit your support and participation in this project. At this time, I need to know if you would be willing to volunteer for this project. The maximum time this project will take will be about two hours. The ratings process will be similar to our current process, except there will also be a midsemester time of student ratings in addition to the normal end of the semester evaluation. **Please confirm your acceptance on the attached form, if you wish to participate, and return it to my office by December 7, 1998.** We will then be able to order the necessary number of IDEA student rating forms for the class you have chosen. If you have any questions, please give Ms. Carson or me a call. Ms. Carson can be reached at 696-5539.

Thank you for your assistance. We really need to come close to 100 percent participation in this project, if we are to seriously consider a new student rating system in the future.

IDEA STUDENT RATING PROJECT VOLUNTEER FORM

Please respond to the questions below:

Part I

Name and Title:

Campus Address:

Campus phone number: _____ Campus e-mail:

Part II

1. Would you be willing to participate in this study? Yes: _____ or No:

If yes, please respond to the remaining questions. If no, please return this form to Dr. 's office by December 7, 1998.

2. Which course would you like to have evaluated in the spring semester using the attached student rating form?

Course prefix and #:

Course section #:

Days & Time(s) course
meets: _____

3. Please estimate the maximum number of students who could possibly enroll in this course in order for us to order an adequate number of forms.

Number of students:

4. I volunteer to participate in this project.

Signature:

Part III

A brief orientation session will be held on the following dates and times:

Jan 14: 1 pm – 2pm _____ or 4pm – 5pm _____

Jan 15: 1 pm – 2pm _____ or 4pm – 5pm _____

Please indicate which session you would like to attend. Thank you for your assistance.

Please return this form to Dr. 's office by December 7, 1998

APPENDIX H
SCHEDULE FOR STUDENT RATINGS STUDY

SCHEDULE FOR STUDENT EVALUATION STUDY
SPRING SEMESTER 1999

Fall Semester 1998

October (last week): Meet with Dr. to confirm logistics of study

December 2: Letter from Dr. to faculty requesting participation with a request to respond by 7 December

December 8: Letter from Ms. Carson thanking the volunteers

December 15: Order evaluation forms from IDEA

Spring Semester 1999

January (week of 11-15): Meet with Dr. regarding the study

January (week of 11-15): Letter to faculty members reminding them of specific dates for the study and thanking them again for their participation

February 8-10: Administer student evaluations in classes of both treatment groups

February 12: Mail evaluations to IDEA Center

March 1 – 5: Workshops and written feedback provided

April 26 – 28: Administer student evaluations in classes of all groups

May 3: Mail evaluations to IDEA for processing

May 17 – 21: Return final evaluations to all faculty members

June timeframe: Meet with Dr. and share results

For questions, please contact Rebecca Davis Carson at 696-5539.

APPENDIX I
COST PROJECTION SHEET FOR STUDENT RATINGS STUDY

COST PROJECTION SHEET
FOR STUDENT EVALUATION STUDY

IDEA STUDENT RATINGS OF INSTRUCTION MATERIALS:

Long forms @ .24 each:	
Group A with 20 classes of 20 students each End of semester only (total of 20 classes)	
Group B with 20 classes of 20 students each Midsemester and end of semester ratings (total of 40 classes)	
Group C with 20 classes of 20 students each Midsemester and end of semester ratings (total of 40 classes)	
(100 classes/20 students each) = 2000 students x .24	= \$480.00
<u>Batch Charges</u>	
(midsemester and end of semester) = 2 X \$10.	= 20.00
<u>Processing Charges</u>	
(100 classes @ \$5.00 each)	= 500.00
Faculty Information Sheets (100) at no cost (1 per class)	
Directions for Faculty (100) at no cost (1 per faculty member)	
Using Additional Questions (1) at no cost	
Processing Checklists (3) at no cost	
Guide to Administering IDEA Ratings (1) at no cost	
Group Summary Report Policy (1) at no cost	
 Total Cost	 \$1000.00

For questions, please contact
REBECCA DAVIS CARSON
At 696-5539

APPENDIX J
PROTECTION OF
HUMAN SUBJECTS APPROVAL

TEXAS TECH UNIVERSITY

Office of Research Services

203 Holden Hall
Lubbock, Texas 79409-1035
(806) 742-3884/FAX (806) 742-3892

November 24, 1998

Dr. Albert Smith
Dr. Arturo Olivarez
Dr. Michael Shonrock
Ms. Rebecca Davis Carson
Ed Psychology & Leadership
MS 1071

RE: Project 99056 Utilizing Cognitive Dissonance Theory to Improve Student
Ratings of Postsecondary Faculty

Dear Dr. Smith:

The Texas Tech University Committee for the Protection of Human Subjects has approved your proposal referenced above. The approval is effective from November 1, 1998 through October 31, 1999. You will be reminded of the pending expiration one month prior to October 31, 1999 so that you may request an extension if you wish.

The best of luck on your project.

Sincerely,

Dr. Philip Marshall, Chair
Human Subjects Use Committee

An EEO/Affirmative Action Institution

APPENDIX K
IDEA SHORT PAPERS LIST
AND SAMPLE IDEA SHORT PAPER

Individual Development and Educational
 Assessment Center
 1615 Anderson Avenue
 Manhattan, KS 66502-4073
 800-255-2757 or 785-532-5970
 E-mail: idea@ksu.edu
 Fax: 785-532-5637
 (Federal Identification No. 48-0771751)



CENTER PUBLICATIONS

IDEA PAPERS

Individual copies are \$2.00. A complete set of IDEA Papers may be ordered for \$20.00. Bulk orders of the same paper: 20-49 copies are 30 cents a copy, 50-99 copies are 25 cents a copy, 100 or more copies are 20 cents a copy.

	Quantity	Amount
No. 1: <i>Motivating Students</i> , Cashin	_____	_____
No. 4: <i>Classroom Observation Techniques</i> , Acheson	_____	_____
No. 8: <i>Questioning in the College Classroom</i> , Hyman	_____	_____
No. 9: <i>Teaching Decision-Making With Guided Design</i> , Wales and Nardi	_____	_____
No. 13: <i>The Feedback Lecture</i> , Osterman, Christensen, and Coffey	_____	_____
No. 14: <i>Improving Lectures</i> , Cashin	_____	_____
No. 15: <i>Improving Discussions</i> , Cashin and McKnight	_____	_____
No. 16: <i>Improving Multiple-Choice Tests</i> , Clegg and Cashin	_____	_____
No. 17: <i>Improving Essay Tests</i> , Cashin	_____	_____
No. 18: <i>Matching Instructional Objectives, Subject Matter, Tests, and Score Interpretations</i> , Hanna and Cashin	_____	_____
No. 19: <i>Improving College Grading</i> , Hanna and Cashin	_____	_____
No. 21: <i>Defining and Evaluating College Teaching</i> , Cashin	_____	_____
No. 22: <i>Student Ratings of Teaching: Recommendations for Use</i> , Cashin	_____	_____
No. 23: <i>Improving Students' Listening Skills</i> , Newton	_____	_____
No. 24: <i>Improving Instructors' Speaking Skills</i> , Goulden	_____	_____
No. 25: <i>Improving Student Writing</i> , Smit	_____	_____
No. 26: <i>Improving Student Reading</i> , Malcki and Hoerman	_____	_____
No. 27: <i>Writing a Syllabus</i> , Altman and Cashin	_____	_____
No. 28: <i>Periodicals Related to College Teaching</i> , Cashin and Clegg	_____	_____
No. 29: <i>Teaching Adult Students</i> , Polson	_____	_____
No. 30: <i>Readings to Improve Selected Teaching Methods</i> , Cashin	_____	_____
No. 31: <i>Answering and Asking Questions</i> , Cashin	_____	_____
No. 32: <i>Student Ratings of Teaching: The Research Revisited</i> , Cashin	_____	_____
No. 33: <i>Developing an Effective Faculty Evaluation System</i> , Cashin	_____	_____
No. 34: <i>Focusing On Active, Meaningful Learning</i> , Stallheim-Smith	_____	_____
IDEA Papers: Complete Set (contains 20 or more Papers still in print)	@ \$20.00	_____

CENTER MATERIALS

TR-01: IDEA Technical Report No. 1: <i>Development of the IDEA System</i> , Hoyt and Cashin	@ \$3.00	_____
TR-09: IDEA Technical Report No. 9: <i>Description of Database for the IDEA Diagnostic Form</i> , Sixbury and Cashin	@ \$10.00	_____
TR-10: IDEA Technical Report No. 10: <i>Comparative Data by Academic Field</i> , Sixbury and Cashin	@ \$10.00	_____

.....	Total	_____
*Please Note: ORDERS FOR LESS THAN \$50.00 MUST BE PREPAID. *		
*On prepaid orders, the Center will pay the shipping and handling cost. *	Shipping	_____
*The price of materials shipped outside North America is double the price *		
*listed to allow for shipping cost. *	TOTAL	_____
.....		

SHIP TO:

INVOICE TO:

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Prices effective

through 6/30/99

Phone No. _____

I would like further information from the Center on:

- IDEA-Student Ratings of Instruction
- IDEA-Feedback for Department Chairs
- IDEA-Feedback for Deans
- IDEA-Feedback for General Administrators
- IDEA-Student Rating of Instruction Workshop
- On-Campus Seminars and Consulting
- Publications on Faculty Evaluation and Development
- Add my name to the *Exchange* mailing list

FOR OFFICE USE ONLY	
Order taken by & date	_____
Order filled/checked by	_____
Date Shipped	_____
Shipping Via UPS:	
<input type="checkbox"/> Ground	<input type="checkbox"/> 100 Wt. <input type="checkbox"/> Next Day
<input type="checkbox"/> 2nd Day	<input type="checkbox"/> 3 Day
Shipping Via Other Carrier:	
<input type="checkbox"/> First Class	<input type="checkbox"/> Other _____
Weight	_____
Zone	_____
Shipping Cost	_____

Readings to Improve Selected Teaching Methods

William E. Cashin
Kansas State University

While most IDEA Papers have been written for faculty and administrators in higher education independent of using the IDEA System, this paper utilizes the 20 IDEA Teaching Methods items as its point of departure. Since there is considerable similarity in the items used—and the factors covered—in most student rating forms, it is hoped that these suggested readings will assist most colleges and universities, *not just* those using the IDEA System.

To help those who do not use IDEA, I will briefly discuss the factor analytic research on student rating items. This research has demonstrated that there is very considerable overlap in the items used on most student rating forms. Therefore, readers should be able to generalize from the IDEA items to similar items on their own forms.

Everyone agrees that student rating forms are *multidimensional*, because there are *several different aspects* to effective teaching. The multidimensional nature of student ratings has been reflected in a number of factor analytic studies (see Cohen, 1981; Feldman, 1976; and Kulik & McKeachie, 1975 for references). As few as two (Frey, 1978) or three (Feldman, 1976) factors have been suggested. Frey suggested that most student rating items dealt with either "Skill," e.g., presenting, or "Rapport," e.g., interacting with students. Feldman called Frey's Skill factor "Presentation"; Frey's Rapport factor, "Facilitation"; and added a third factor, "Regulation" related to testing, giving assignments, and the like. Most writers have suggested more factors. Frey's two factors were a summary of his basic seven factors: Organization/Planning, Presentation Clarity, Student Accomplishment, Class Discussion, Personal Attention, Grading/Exams, and Workload. Marsh (e.g., 1991) identified nine factors: Learning/Value, Enthusiasm, Organization/Clarity, Group Interaction, Individual Rapport, Breadth of Coverage, Exams/Grading, Assignments/Readings, and Workload/Difficulty. In one of his many reviews of the student rating literature, Feldman (1989) suggested that student rating items might logically be separated into as many as 28 different categories. (Readers interested in specific examples of items from these factors or categories should see the original references. Very often locally developed forms have many items covering presentation and exams, and few or no items on other factors.)

The IDEA Report divides the Teaching Methods items (Items 1-20) into four categories: Communicating Content and Purpose, Involving Students, Creating Enthusiasm, and Preparing Exams (other IDEA items cover student learning—

Items 21-30, and difficulty and workload—Items 31-35, but will not be discussed in this paper). For those unfamiliar with the IDEA System, its Diagnostic Summary section lists specific Teaching Methods where improvement is more likely to help the students make greater progress on one or more of the course objectives. Then the instructor—taking into consideration the kind of course and the kinds of students—must look for ways of improvement related to that teaching method. Student rating items are the start of the instructor's journey toward improvement, not the end. Effective student rating items do *not* provide answers; they provide questions. The question should help the instructor focus on aspects of his or her teaching where change is more likely to lead to greater student learning.

The remaining sections of this paper will suggest readings for each of the 20 IDEA Teaching Methods. For each item, the students are asked to rate how frequently the instructor used the method, e.g., promoted teacher-student discussion. If you do not use the IDEA System, look for items on your form which are similar to the IDEA items, and are related to a teaching method that you are interested in improving.

Readings to Improve Communicating Content and Purpose

Using the factors discussed above as a frame of reference, these IDEA items overlap with Frey's (1978) Skill factor, with Feldman's (1976) Organization/Planning factor, and with Marsh's (1991) Organization/Clarity factor.

16. Clearly stated the objectives of the course.
8. Demonstrated the importance and significance of the subject matter.
18. Related course material to real life situations.

The first two items concern planning the course. Obviously you cannot clearly state the objectives of the course (Item 16) if you have not explicitly determined what your instructional goals are for that course. These in turn will relate to the importance of the subject matter (Item 8). Relating the course to real life (Item 18) is one of the most effective ways to demonstrate the significance of the subject matter.

Regarding clearly stating the objectives of the course, read Angelo & Cross (1993), Ch. 2; Davs (1993), Chs. 1-2; Diamond (1989), entire book; Gronlund (1985), Chs. 1-5; Lowman (1984), Ch. 7; McKeachie (1994), Ch. 2; and Ryan & Martens (1989), entire book; also IDEA Paper No. 18 (Hanna & Cashin, 1987), and Hanna (1993), Chs 2-4.

Regarding demonstrating the importance and significance of the subject matter and relating course material to real life, I cannot suggest any specific readings since this will vary with the academic field and with the level of the course. The one suggestion that I can make is that very often things about the subject matter—which are obvious to us as experts—are not even suspected by our students. It is our responsibility to make explicit the value of the material to our students. With today's vocationally oriented students, one of the most effective ways to do this is to use a variety of examples which relate the material to real life. For example, many students still object to taking writing or speech courses. It never occurs to many business majors or engineering majors—among others—that they will have to write letters and reports, and quite probably make formal presentations. As teachers we must make these things explicit.

The following are readings about motivating students which have some relevance to demonstrating the significance of the subject matter. Read Eble (1988), Ch. 15; Davis (1993), Chs. 21-23; Fuhrmann & Grasha (1983), Chs. 3-5; and Lowman (1984), Ch. 3; McKeachie (1994), Ch. 31; also IDEA Paper No. 1 (Cashin, 1979).

10. Made it clear how each topic fit into the course.
17. Explained course material clearly, and explanations were to the point.
14. Summarized material in a manner which aided retention.

These three items all deal with presenting material in a clear and organized way. This is still often done in lecture or presentations. Since readings relevant to one item often overlap with those relevant to another, I have combined the suggested readings. For items 10, 17, and 14, read Brown & Atkins (1988), Chs. 2-3; Davis (1993), Chs. 13-14, & 16; Eble (1988), Ch. 6; Erickson & Strommer (1991), Ch. 6; Lowman (1984), Ch. 5; McKeachie (1994), Ch. 5; also IDEA Paper No. 14 (Cashin, 1985) and No. 13 (Osterman, Christensen, & Coffey, 1985).

Readings to Improve Involving Students

These IDEA items overlap with Frey's (1978) Rapport factor, with Feldman's (1976) Facilitation factor, and with Marsh's (1991) Group Interaction factor.

2. Found ways to help students answer their own questions.

The thrust of this item—in terms of Bloom's cognitive taxonomy (Bloom *et al.*, 1956; see also Gronlund, 1985)—is not on simple Knowledge and Comprehension, but on helping students develop higher levels of thinking: Application, Analysis, Synthesis, and Evaluation. The following readings cover questioning techniques in general: Christensen (1991), Ch. 9; Davis (1993), Chs. 10-11; and Hyman (1980), Ch. 5; also IDEA Paper No. 8 (Hyman, 1982).

1. Promoted teacher-student discussion (as opposed to mere responses to questions).
3. Encouraged students to express themselves freely and openly
13. Encouraged student comments even when they turned out to be incorrect or irrelevant.

These three items are all concerned with developing teacher-student, and student-student interaction. The focus in many classes even though called discussion classes is on content. In such classes the instructor puts a premium on correct answers. Item 13 focuses on the fostering interaction. Used appropriately, students' mistakes and incorrect answers can lead to deeper and more enduring learning. The following readings cover discussion techniques in general: Davis (1993), Chs. 8-9; Eble (1988), Ch. 7; Erickson & Strommer (1991), Ch. 7; Fuhrmann & Grasha (1983), Ch. 6; Hyman (1980), entire book; Lowman (1984), Ch. 6; McKeachie (1994), Ch. 4 & 15; also IDEA Papers No. 8 (Hyman, 1982), and No. 15 (Cashin & McKnight, 1986).

5. Changed approaches to meet new situations.

Although the literature in general recommends that we include change and variety in our teaching to maintain student attention, this item is more concerned with using alternative teaching strategies, and fitting teaching methods to instructional goals and to student needs. The literature on student learning styles is most relevant to these concerns. Read Davis (1993), Ch. 22; Erickson & Strommer (1991), Ch. 3; Fuhrmann & Grasha (1983), Chs. 3-5, & 10; McKeachie (1994), Ch. 32. For a review of the research on learning styles, read Claxton & Murrell (1987).

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

Ratings on this item reflect the quality, quantity, and timeliness of the feedback we give our students. It is a psychological truism that an effective way to improve people's performance is by giving them feedback on how well they are doing. Nevertheless, this is the lowest rated item of the IDEA Teaching Methods; a similar item is the lowest rated on another widely used student rating form. What this suggests is that we (college instructors) do a relatively poor job in giving students feedback on how well they are doing in our courses. Few authors have written much about the subject other than to say that we should return exams, papers, etc. quickly, but read Fuhrmann & Grasha (1983), Ch. 7; and McKeachie (1994), Ch. 9. The references related to preparing exams cited below also have some general recommendations. Although written for a different purpose, I suggest that many of the classroom assessment techniques can be adopted to provide students more useful feedback; read Angelo & Cross (1993). Finally, two references on giving feedback to faculty may also provide some hints to help our students: Bergquist & Phillips (1975), Ch. 13; and Brnka (1993), entire article.

Readings to Improve Creating Enthusiasm

These IDEA items overlap with Feldman's (1976) Presentation factor, and with Marsh's (1991) Enthusiasm factor.

4. Seemed enthusiastic about the subject matter.
7. Spoke with expressiveness and variety in tone of voice.
9. Made presentations which were dry and dull.

Item 4 is the highest rated item of the 20 IDEA Teaching Methods. This suggests that most of us, as instructors, do communicate to our students our liking for our academic fields. One major way this is accomplished is the way we

speak when teaching (Items 7 and 9). (Note that item 9—and items 6, 12, and 19 dealing with exams—are negative items where *low ratings are desirable*.) Almost every writing on improving lectures mentions the need for effective public speaking skills, but typically they offer few suggestions. Read *IDEA Paper No. 24 (Goulden, 1991)*; and *Lowman (1984), Ch. 4*; also *Davis (1993), Ch. 13*.

15. Stimulated students to intellectual effort beyond that required by most courses.
20. Introduced stimulating ideas about the subject.

These two items are concerned with the **intellectual, and the affective or emotional, stimulation of the students**. As the result of taking a course, the student should have not only a better understanding of the subject matter, but the student should value and appreciate—if not like—the field. These aspects of teaching are not so much craft, nor even science, but of the art of teaching. As such they are not readily covered in a chapter. Read *Lowman (1984), Chs. 1-3* where he talks about both the cognitive and affective aspects of teaching, and *read Eble (1988), Chs. 1-3*.

The other readings I would suggest are those *readings cited above related to stating the objectives of the course*. If we are clear about what knowledge, skills, and attitudes we want our students to learn from a course, and have a *valid reason why they should learn them*, we will have the key to making our courses intellectually stimulating and challenging.

Readings to Improve Preparing Exams

These IDEA items overlap with Feldman's (1976) Regulation factor, and with Marsh's (1991) Exams/Grading factor.

6. Gave examinations which stressed unnecessary memorization.
12. Gave examination questions which were unclear.
19. Gave examination questions which were unreasonably detailed (picky).

Unclear exam questions (Item 12) can apply to any kind of test: essay, oral, and performance, as well as to so called "objective" exams. Stressing unnecessary memorization (Item 6) or unreasonable detail (Item 19) are more likely to be students' criticisms of "objective" questions.

The most fundamental way to better prepare exams is to have a **well planned course** (see readings for Item 16, above) and then develop a **test plan to insure that you test what you taught**. Read *Jacobs & Chase (1992), Ch. 1*; *Ory & Ryan (1993), Chs. 1-2*; also *Hanna (1993), Chs. 1-4*. Only after developing a test plan, should you work to improve specific item types.

To improve **essay, oral, and performance items**, read *Davis (1993), Ch. 31*; *Jacobs & Chase (1992), Chs. 6-7*; *McKeachie (1994), Ch. 6*; *Ory & Ryan (1993), Ch. 4*; also *IDEA Paper No. 17 (Cashin, 1987)*, and *Hanna (1993), Chs. 7-8*.

To improve "objective" items, read *Davis (1993), Ch. 30*; *Jacobs & Chase (1992), Chs. 4-5*; *McKeachie (1994), Ch. 6*; *Ory & Ryan (1993), Ch. 3*; also *IDEA Paper No. 16 (Clegg & Cashin, 1986)*, and *Hanna (1993), Chs. 5-6*.

Conclusion

It is my hope that the readings cited in this paper will help you improve your teaching. Most of the books have chapters on a wide variety of other aspects of college teaching which I also recommend to you. If I included a reading, it should be obvious that I consider it of value. However, if I have *not* cited a particular chapter, or omitted a book, readers should infer nothing about its value. There are some quality books which I have omitted because they overlap so much with those I have cited, or because they were less recent. Most of these are likely to be referenced in the books I have cited. It is also likely that there are some excellent books of which I am ignorant.

References

- Angelo, T. A., & Cross, K. P. (1993). *Classroom assessment techniques: A handbook for college teachers* (2nd ed.). San Francisco: Jossey-Bass.
- Bergquist, W. H., & Phillips, S. R. (1975). *A handbook for faculty development*. Washington, DC: Council for the Advancement of Small Colleges.
- Bloom, B. S., Engelhart, M. D., Furst, E. J., Hill, W. H., & Krathwohl, D. R. (1956). *Taxonomy of educational objectives: Handbook I, the cognitive domain*. New York: David McKay.
- Brinko, K. T. (1993). The practice of giving feedback to improve teaching: What is effective? *Journal of Higher Education, 64*, 574-593.
- Brown, G., & Atkins, M. (1988). *Effective teaching in higher education*. London: Methuen.
- Cashin, W. E. (1979). *Motivating students*. IDEA Paper No. 1. Manhattan: Kansas State University, Center for Faculty Evaluation and Development. (ERIC Document Reproduction Service No. ED 202 409).
- Cashin, W. E. (1985). *Improving lectures*. IDEA Paper No. 14. Manhattan: Kansas State University, Center for Faculty Evaluation and Development. (ERIC Document Reproduction Service No. ED 267 921).
- Cashin, W. E. (1987). *Improving essay tests*. IDEA Paper No. 17. Manhattan: Kansas State University, Center for Faculty Evaluation and Development.
- Cashin, W. E., & McKnight, P. C. (1986). *Improving discussions*. IDEA Paper No. 15. Manhattan: Kansas State University, Center for Faculty Evaluation and Development. (ERIC Document Reproduction Service No. ED 267-722).
- Christensen, C. R. (1991). The discussion teacher in action: Questioning, listening, and response. In C. R. Christensen, D. A. Garvin, & A. Sweet (Eds.), *The artistry of discussion leadership* (pp. 153-172). Boston: Harvard Business School Press.
- Claxton, C. S., & Murrell, P. H. (1987). *Learning styles: Implications for improving educational practices*. ASHE-ERIC Higher Education Report No. 4. Washington, DC: Association for the Study of Higher Education.

- Clegg, V. L., & Cashin, W. E. (1986). *Improving multiple-choice tests*. IDEA Paper No. 16. Manhattan: Kansas State University, Center for Faculty Evaluation and Development
- Cohen, P. A. (1981). Student ratings of instruction and student achievement: A meta-analysis of multisection validity studies. *Review of Educational Research*, 51, 281-309.
- Davis, B. G. (1993). *Tools of teaching*. San Francisco: Jossey-Bass.
- Diamond, R. M. (1989). *Designing and improving courses and curricula in higher education: A systematic approach*. San Francisco: Jossey-Bass.
- Eble, K. E. (1988). *The craft of teaching: A guide to mastering the professor's art* (2nd ed.). San Francisco: Jossey-Bass.
- Erickson, B. L., & Strommer, D. W. (1991). *Teaching college freshmen*. San Francisco: Jossey-Bass.
- Feldman, K. A. (1976). The superior college teacher from the students' view. *Research in Higher Education*, 5, 243-288.
- Feldman, K. A. (1989). The association between student ratings of specific instructional dimensions and student achievement: Refining and extending the synthesis of data from multisection validity studies. *Research in Higher Education*, 30, 583-645.
- Frey, P. W. (1978). A two-dimensional analysis of student ratings of instruction. *Research in Higher Education*, 9, 69-91.
- Fuhrmann, B. S., & Grasha, A. F. (1983). *A practical handbook for college teachers*. Boston: Little, Brown
- Goulden, N. R. (1991). *Improving instructors' speaking skills*. IDEA Paper No. 24. Manhattan: Kansas State University, Center for Faculty Evaluation and Development.
- Gronlund, N. E. (1985). *Stating objectives for classroom instruction* (3rd ed.). New York: Macmillan.
- Hanna, G. S. (1993). *Better teaching through better testing*. Fort Worth: Harcourt Brace Jovanovich.
- Hanna, G. S., & Cashin, W. E. (1987). *Matching instructional objectives, subject matter, tests, and score interpretation*. IDEA Paper No. 18. Manhattan: Kansas State University, Center for Faculty Evaluation and Development. (ERIC Document Reproduction Service No. ED 298 814).
- Hyman, R. T. (1980). *Improving discussion leadership*. New York: Teachers College Press.
- Hyman, R. T. (1982). *Questioning in the college classroom*. IDEA Paper No. 8. Manhattan: Kansas State University, Center for Faculty Evaluation and Development.
- Jacobs, L. C., & Chase, C. I. (1992). *Developing and using tests effectively: A guide for faculty*. San Francisco: Jossey-Bass.
- Kulik, J. A., & McKeachie, W. J. (1975). The evaluation of teachers in higher education. In F. N. Kerlinger (Ed.), *Review of research in education* (Vol. 3, pp. 210-240). Itasca, IL: F. E. Peacock.
- Lowman, J. (1984). *Mastering the techniques of teaching*. San Francisco: Jossey-Bass.
- Marsh, H. W. (1991). Multidimensional students' evaluations of teaching effectiveness: A test of alternative higher-order structures. *Journal of Educational Psychology*, 83, 285-296.
- McKeachie, W. J. (1994). *Teaching tips: Strategies, research, and theory for college and university teachers*. (9th ed.). Lexington, MA: D. C. Heath.
- Ory, J. C., & Ryan, K. E. (1993). *Tips for improving testing and grading*. Newbury Park, CA: Sage Publications.
- Osterman, D., Chnstensen, M., & Coffey, B. (1985). *The feedback lecture*. IDEA Paper No. 13. Manhattan: Kansas State University, Center for Faculty Evaluation and Development.
- Ryan, M. P., & Martens, G. G. (1989). *Planning a college course: A guidebook for the graduate teaching assistant*. Ann Arbor: University of Michigan, National Center for Research to Improve Postsecondary Teaching and Learning.

Educational organizations are given permission to make multiple copies of this IDEA Paper for non-profit instructional use.

Individual IDEA Papers are \$1.00. A complete set of IDEA Papers may be ordered for \$10.00. Bulk orders of the same paper: 25-99 copies are 25 cents a copy, 100 or more copies are 20 cents a copy.

Please Note:
ORDERS FOR LESS THAN \$50.00 MUST BE PREPAID
 On prepaid orders, the Center will pay the shipping and handling cost. The price of materials shipped outside North America is double the price listed to allow for shipping cost

IDEA Center
 Kansas State University
 1615 Anderson Avenue
 Manhattan, KS 66502-4073
 800-255-2757
 785-532-5970
 Fax 785-532-5637
 E-mail idea@ksu.edu

APPENDIX L
MIDSEMESTER EVALUATIONS
AND FEEDBACK

MEMORANDUM

March 1, 1999

To: Faculty Volunteers
From: Rebecca Davis Carson, Phone: 696-5539
IDEA Rating Researcher
Subject: Midsemester Feedback

The IDEA evaluation reports have been returned to me from the IDEA Center. **As part of Group B, volunteers will provided the following information:**

- the limitations of student evaluations
- the discrepancy score worksheet reflecting your scores and your class averages
- the IDEA evaluation report on your class
- and an outline of IDEA Short Papers which relate to the teaching behaviors measured in the first 20 items of your evaluation.

For those of you who would like to read any relevant IDEA Short Papers, they will be available on reserve at the Library.

The end of the semester evaluations will be done between April 21 – 28 and returned to Dr. 's office by April 29th. You will receive your final evaluations back during the third week of May.

Please contact me at 696-5539 (work), if I can answer any questions. I sincerely appreciate your support of this study.

MEMORANDUM

March 1, 1999

To: Faculty Volunteers

From: Rebecca Davis Carson, Phone: 696-5539
IDEA Rating Researcher

Subject: Midsemester Feedback Workshops

The IDEA evaluation reports have been returned to me from the IDEA Center. **As part of Group A, volunteers will participate in a one-hour workshop to discuss:**

- the limitations of student evaluations
- the discrepancy score worksheet reflecting your scores and your class averages
- the IDEA evaluation report on your class
- and an outline of IDEA Short Papers, which relate to the teaching behaviors measured in the first 20 items of your evaluation.
- Also, IDEA Short Papers will be available for those who would like copies.

The workshops will be held in the Seminar Room at the Library on the following dates and times:

Tuesday, March 9: 1200 - 1:00 or 2:00 - 3:00

Wednesday, March 10: 12:00 - 1:00 or 2:00 - 3:00

Thursday, March 11: 12:00 - 1:00 or 2:00 - 3:00

Please contact me at 696-5539 (work), if I can answer any questions; or if I need to schedule an individual meeting with you if you cannot attend one of the workshops. I look forward to our time together and appreciate your support of this study.

The end of the semester evaluations will be done between April 21 – 28 and returned to Dr. 's office by April 29th. You will receive your final evaluations back during the third week of May.

MIDSEMESTER FEEDBACK WORKSHOP ON THE IDEA STUDENT EVALUATIONS FOR GROUP A

- The limitations of student evaluations
- The discrepancy score worksheet reflecting your scores and your class averages
- The IDEA evaluation report on your class
- An outline of IDEA Short Papers, which relate to the teaching behaviors measured in the first 20 items of your evaluation
- IDEA Short Papers are available for those who would like copies
- The end of the semester evaluations will be done between April 21 – 28 and returned to Dr. Lack's office by April 29th.
- You will receive your final evaluations back during the third week of May.
- For questions, please contact Rebecca Davis Carson at 696-5539

Student Ratings: Value and Limitations

Student ratings of instruction

- 2,000 studies
- Reliability has been confirmed—if there are at least 10 raters
- Validity confirmed with multiple section courses in which student ratings were highest for instructors whose students made the best grades on a common final exam
 - Validity is limited in that all course objectives or teaching methods cannot be included on one instrument
- Student attitudes affect ratings--IDEA System attempts to level the playing field

Limitations of Ratings

- The “Halo Effect”—general opinion colors all specific ratings
- The “Error of Central Tendency”—most people have tendency to avoid extremes in making ratings

Limitations of Students as Raters

- Students are not qualified to judge some factors, which characterize excellent instruction
- The appropriateness of the instructor’s objectives, the relevance of assignments or readings, the degree to which the subject matter content is up-to-date, and the degree to which grading is lax or severe

Overview of Student Ratings: Value and Limitations

IDEA Center, Kansas State University
www.idea.ksu.edu



Student ratings of instruction have been the subject of over 2,000 published research studies. The vast majority of these offer assurance that ratings possess acceptable reliability (if there are at least 10 raters). Ratings have also been shown to be reasonably valid in a number of different ways. Perhaps the most convincing of these are the studies of multiple sections of large courses in which student ratings were highest for instructors whose students made the best grades on a common final examination.

But there are no perfectly valid measures in education, including student ratings of teaching effectiveness. For one thing, no rating form can include all possible course objectives or teaching methods; ratings of courses with highly unique purposes and approaches may ignore salient variables. It is also true that ratings are colored by the attitudes students bring to the class. In some classes, nearly all students are highly motivated and eager to learn (especially in graduate or professional classes, but also in some undergraduate classes); in such cases, student ratings of learning outcomes are almost always favorable even if the instructor's teaching skills are marginal. Similarly, if most students take the class only because it meets a requirement, or because it was offered at a favorable time, or for some other non-academic reason, both learning outcomes and ratings of instructors can be negatively affected. The IDEA system attempts to "level the playing field" by taking such extraneous factors into account (through "adjusted" ratings). But there are probably additional factors of this type which have not yet been studied and which, therefore, have not been considered in your report.

In addition to extraneous influences on student ratings, two other limitations need to be acknowledged. First, student ratings are subject to the same shortcomings that plague all rating processes. Second, there are a number of important facets of teaching excellence which students are simply unqualified to judge.

Limitations of Ratings. Of the several weaknesses inherent in the rating process, two merit special attention. The first is the "halo effect," so-called because it describes the tendency of raters to form a general opinion of the person being rated and then let that opinion color all specific ratings. If the general impression is favorable, the "halo effect" is positive and the individual receives higher ratings on many items than a more objective evaluation would justify. The "halo effect" can also be negative; an unfavorable general impression will lead to low marks "across the board", even in areas where performance is strong. Because of this effect, student ratings make less differentiation between "strengths" and "weaknesses" than is desirable.

A second weakness is the "Error of Central Tendency." Most people have a tendency to avoid the extremes (very high and very low) in making ratings. As a result, ratings tend to pile up more toward the middle of the rating scale than might be justified. In many cases, ratings which are "somewhat below average" or "somewhat above average" may represent subdued estimates of an individual's status because of the "Error of Central Tendency."

Limitations of Students as Raters. Although, when appropriately adjusted and averaged, students ratings of their own learning and of the instructor's techniques have acceptable validity, students are not qualified to judge many other factors which characterize excellent instruction. They can't judge, for example, the appropriateness of the instructor's objectives, the relevance of assignments or readings, the degree to which subject matter content was balanced and up-to-date, or the degree to which grading standards were unduly lax or severe. These, and other dimensions of teaching excellence, are important to a comprehensive evaluation of instructional effectiveness; but methods other than "student ratings" are needed to assess them.

Student ratings can be valuable indicators of teaching effectiveness, and they can help guide improvement efforts. But they are most useful when they are a part of a more comprehensive program which includes additional evaluation tools and a systematic program for faculty development.

**DIRECTIONS FOR
WRITTEN FEEDBACK DISCREPANCY SCORES
SHEET**

- Provides you written feedback on the differences between your self-ratings and your students' midsemester ratings on the IDEA Form.
- The scores with a negative sign indicate you rated yourself higher than the average of the students' ratings of your class.
- In this study, it is suggested that you may want to focus on five items with the greatest differences between your self-rating and student ratings.
- IDEA Short Papers, which provide suggestions on these items, are available for your use.
- The scores without a negative sign indicate you rated yourself lower than the average of the your students' ratings.

Written Feedback on Discrepancy Scores

Item	Instructor Rating	Class Average	Discrepancy Scores
1. Displayed a personal interest in students and their learning.	5	4.1	-0.9
2. Found ways to help students answer their own questions.	5	3.6	-1.4
3. Scheduled course work (class activities, tests, projects) in ways which encouraged students to stay up-to-date in their work.	5	3.2	-1.8
4. Demonstrated the importance and significance of the subject matter.	1	4.7	3.7
5. Formed teams or discussion groups to facilitate learning.	1	1.6	0.6
6. Made it clear how each topic fit into the course.	4	4.3	0.3
7. Explained the reasons for criticisms of students' academic performance.	4	2.7	-1.3
8. Stimulated students in intellectual effort beyond that required by most courses.	5	3.4	-1.6
9. Encouraged students to use multiple resources (e.g. data banks, library holdings, outside experts) to improve understanding.	5	2.1	-2.9
10. Explained course material clearly and consisely.	5	4.4	-0.6
11. Related course materials to real life situations.	5	4.4	-0.6
12. Gave test, projects, etc. that covered the most important points of the course.	5	4.4	-0.6
13. Introduced stimulating ideas about the subject.	5	3.6	-1.4
14. Involved students in on projects such as research, cased studies, or real life activities.	2	1.5	-0.5
15. Inspired students to set and achieve goals which really challenged them.	5	2.7	-2.3
16. Asked students to share ideas and experiences with others whose backgrounds and viewpoints differ from their own.	4	3.4	-0.6
17. Provided timely/frequent feedback on tests, projects, etc. to help students improve.	5	3.7	-1.3
18. Asked students to help each other understand ideas or concepts.	3	2.6	-0.4
19. Gave projects, tests, or assignments that required original or creative thought.	5	2.3	-2.7
20. Encouraged student-faculty interaction outside of class (office visits, phone calls, etc.).	5	3.3	-1.7
	84	66	-18
Total Scores			
Overall Averages	4.2	3.3	-0.9

IDEA EVALUATION SYSTEM FEEDBACK AND RELEVANT SHORT PAPERS WITH TECHNIQUES FOR IMPROVEMENT

The first twenty items of the IDEA Surveys focus on specific teaching methods. The items are grouped under five themes. The themes include: 1) student-faculty contact, 2) involving students, 3) establishing expectations, 4) clarity of communication, and 5) assessment/feedback. The following lists which of the twenty items fall under each theme. Relevant IDEA Papers which discuss techniques for improvement are also listed.

1) Student-faculty contact (Average of 1, 2, 20)

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

Relevant IDEA Paper: *#8 Questioning in the College Classroom*

2) Involving students (Average of 5, 9, 14, 16, 18)

5. Formed "teams" or "discussion groups" to facilitate learning.
9. Encouraged students to use multiple resources (e.g. data banks, library holdings, outside experts) to improve understanding.
14. Involved students in "hands on" projects such as research, case studies, or "real life" activities.
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.

Relevant IDEA Paper: *#15 Improving Discussions*

3) Establishing expectations (Average of 3, 4, 8, 13, 15)

3. Scheduled course work (class activities, test, projects) in ways which encouraged students to stay up-to-date in their work.
4. Demonstrated the importance and significance of the subject matter.
8. Stimulated students in 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.

Relevant IDEA Papers: *#1 Motivating Students*
#19 Improving College Grading
#27 Writing A Syllabus

4) Clarity of communication (Average of 6, 10, 11)

- 6. Made it clear how each topic fit into the course.
- 10. Explained course material clearly and concisely.
- 11. Related course materials to real life situations.

Relevant IDEA Papers: *#14 Improving Lectures*
#23 Improving Students' Listening Skills
#24 Improving Instructors' Speaking Skills
#31 Answering and Asking Questions

5) Assessment/feedback (Average of 7, 12, 17, 19)

- 7. Explained the reasons for criticisms of students' academic performance.
- 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.
- 19. Gave projects, tests, or assignments that required original or creative thinking.

Relevant IDEA Papers: *#4 Classroom Observation Techniques*
#9 Teaching Decision-Making with Guided Design
#13 The Feedback Lecture
#16 Improving Multiple-Choice Tests
#17 Improving Essay Tests
#18 Matching Instructional Objectives, Subject Matter, Tests, and Score Interpretations
#25 Improving Student Writing
#26 Improving Student Reading
#34 Focusing on Active, Meaningful Learning

APPENDIX M
END OF SEMESTER
EVALUATIONS

MEMORANDUM

April 12, 1999

To: Faculty Volunteers

From: Rebecca Davis Carson
IDEA Rating Researcher

Subject: End of Semester Evaluations

Thank you again for volunteering for this study. Enclosed are the materials for the end of semester evaluations. These evaluations must be completed between April 21 – 29. **Please return the completed Faculty Information form and the Student Response forms, including any unused forms, no later than April 29 to Dr. 's office in a sealed envelope addressed to Rebecca Davis Carson.**

The IDEA Student Ratings of Instruction System includes:

- 1) The Student Response Forms. One form is needed for each student enrolled in the class. **PLEASE NOTIFY YOUR STUDENTS TO BRING NO. 2 PENCILS FOR THESE EVALUATIONS.**
- 2) The Faculty Information Form. One form must be completed for each class that is evaluated. You will need to complete this form and select the course objectives **before** the students complete their forms. There are 12 course objectives. You should mark no more than 3-5 as Essential or Important and the remaining should be marked as minor or no importance. The feedback you will receive from these evaluations will provide you with the students' progress on these specific objectives.
- 3) Directions to Faculty. These instructions provide essential information to you for proper completion of the Faculty Information Form and effective use of the system. *You should retain these instructions for future use.*

The attached directions should be followed in the administration of the evaluations.

The results of the evaluations will be returned to you toward the end of May.

Please contact me at 696-5539 (work) if I can answer any questions.

DISTRIBUTION AND COLLECTION OF MATERIALS

1. Distribute one *Student Response Form* to each student (students should be instructed to use No. 2 pencils only).
2. Write on the board the information for the four items on the back of the *Student Response Forms*:
Institution _____ Course No (include section #) _____
Instructor _____ Time and Days Class Meets _____
3. Have the students complete these four information items on the back of the *Student Response Forms*. This is very important because if the forms get out of order during shipping, this information is the only way student and faculty forms can be matched.
4. Read the following to the students:
Your ratings will be most helpful to the instructor and to the institution if you answer thoughtfully and honestly. Students sometimes wonder, "If the course was well taught and I learned a lot, should I rate every item high?" The answer is "No." IDEA focuses on what the instructor was trying to teach and on what you learned. As such, the instructor is not expected to do well on every item. In recognition of this, items not related to this course are not counted in the final evaluation. **These evaluations are for my own use and are anonymous. These evaluations will not be used by the administration for personnel decisions.**
6. Request one of your students to administer the Student Response Forms (this student should also complete his/her own form). **PLEASE GIVE THIS STUDENT THESE INSTRUCTIONS AT THIS TIME.** The instructor should give his/her Faculty Information Form to this student administrator to include with the final package. **The INSTRUCTOR MUST LEAVE THE ROOM** while the students are completing the forms.
7. When the students have finished marking their forms the student administrator should gather **COMPLETED** student forms. **NO RUBBER BANDS, PAPER CLIPS OR POST-IT NOTES SHOULD BE USED AT ANY TIME ON THE FORMS.**
8. Straighten **ALL** the forms so the Corner-cuts are aligned in the upper right-hand corner. Please note: the Faculty Information Form will have a longer right-hand corner than the Student Response Forms and should be placed on top.
9. Place the forms in the envelope and seal the envelope. The sealed envelope should be given to the Instructor.
10. The Instructor is to return the sealed envelope to Dr. _____ office for Ms. Carson to return the forms to the IDEA Center for processing.

APPENDIX N
GROUP SUMMARY REPORTS



Control Group
 University

Spring 1999

Sections of the Report

<u>Page</u>	<u>Section</u>
2	I. Student Ratings of Overall Outcomes <i>Shows the number of classes with ratings in various ranges on four "outcomes" measures along with your group's averages as compared to the IDEA National Database. This information summarizes the quality of instruction in this unit (as inferred from IDEA ratings).</i>
3	II. Faculty Selection of Essential and Important Course Objectives <i>Provides information about the degree to which various learning objectives are emphasized in courses. Are the goals of the program being appropriately emphasized in course sections?</i>
4	III. Student Ratings of Progress on Objectives Chosen as Essential or Important <i>Summarizes student ratings of progress in classes where a given objective was chosen as <u>Essential</u> or <u>Important</u> by the instructor. Compares results for this unit with those for the national database. On which objectives do students report the most progress? The least? How do our results compare with those of the national database--do we have apparent "strengths" and/or "weaknesses"?</i>
6	IV. Teaching Methods and Styles <i>Summarizes the frequency with which specific teaching methods were rated as a "strength" or a "weakness." This information can help identify faculty development needs.</i>
7	V. Faculty Self-Report of the Institutional Context A. Primary and Secondary Instructional Approaches. <i>Shows the relative frequency of various approaches to instruction. Since students have different learning styles, it is generally desirable that they be exposed to a variety of approaches.</i> B. Course Emphases. <i>Shows the degree to which classes in this area expose students to various kinds of academic activities. Generally, proficiency is related to the amount of exposure. Are we giving students enough opportunity to develop the skills they will need after graduation?</i> C. "Circumstances" Impact on Learning. <i>Shows how instructors regard various factors which may facilitate or impede student learning. Until research establishes the implications of these ratings, administrators should make their own appraisal of whether or not ratings of teaching effectiveness were affected by these factors.</i>

Report includes classes from the following terms: **Spring 1999**
 Report includes classes from the following class ID's: 718368-718386

Number of Classes Processed:	Number of Classes Included in Summary Report: ¹	Number of Student Responses Included:
Long form: 19	Long form: 19	Long form: 268
Short form: 0	Short form: 0	Short form: 0
Total: 19	Total: 19	Total: 268

¹ Results for faculty who did not identify any objectives as being *Essential* or *Important* are excluded from Group Summary Reports.

Section I: Student Ratings of Overall Outcomes

Section I shows the number of classes with ratings in various ranges for the four "outcomes" measures. This information summarizes the quality of instruction in this unit (as inferred from IDEA ratings).

Overall Outcome Measures:

- A. Number of classes obtaining "Low," "Low Average," "Average," "High Average," and "High" ratings on four overall measures.
- B. Averages for Control Group and for IDEA National Database.

A. Overall Outcome Measures - Total Number of Classes								
T Score Category	Progress-Relevant Objectives		Improved Student Attitude		Excellence of Teacher		Excellence of Course	
	Raw	Adjstd	Raw	Adjstd	Raw	Adjstd	Raw	Adjstd
Low (37-)	2	3	3	2	3	3	3	4
Low Average (38-44)	6	4	5	3	1	1	3	2
Average (45-55)	8	9	7	6	9	9	8	6
High Average (56-62)	1	2	3	6	4	6	1	2
High (63+)	2	1	1	2	2	0	4	5
B. Overall Outcome Measures - Averages								
This Summary Report	N/A	N/A	3.7	3.9	4.1	4.2	3.8	3.9
IDEA National Database	N/A	N/A	3.9	3.9	4.1	4.1	3.9	3.9

Adjstd: Scores have been adjusted for class size, student desire to take the course regardless of who taught it, and other student motivational influences. In addition, adjustments were made on Long Form scores for course difficulty not attributable to instructor and student effort not attributed to instructor.

T Score: A statistically derived score which 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.

Average: Progress ratings were made on a 5-point scale (1=low, 5=high).

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

2. **Improved Student Attitude.** The table shows students' responses to the item "As a result of taking this course, I have more positive feelings toward this field of study" (Long Form item 40, Short Form item 16). This rating is most meaningful for courses which 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.

3. **Excellence of Teacher.** This shows the average response to "Overall, I rate this instructor an excellent teacher" (Overall impressions of a teacher affect student attitudes, effort, and learning (Long Form item 41, Short Form item 17).

4. **Excellence of Course.** This shows the average response to "Overall, I rate this course as excellent" (Long Form item 42, Short Form item 18). 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).

Section II: Faculty Selection of *Essential* and *Important* Course Objectives

The following provides information about the degree to which various learning objectives are emphasized in courses. Are the goals of the program being appropriately emphasized in course sections?

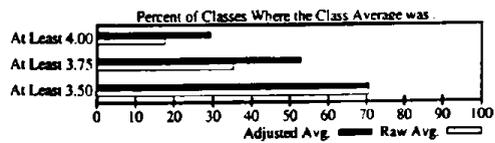
	Total Number of Course Sections	
	N	%
Gaining factual knowledge (terminology, classifications, methods, trends)	17	89
Learning fundamental principles, generalizations, or theories	17	89
Learning to <i>apply</i> course material (to improve thinking, problem solving and decisions)	14	74
Developing specific skills, competencies, and points of view needed by professionals in the field most closely related to this course	11	58
Acquiring skills in working with others as a member of a team	5	26
Developing creative capacities (writing, inventing, designing, performing in art, music, drama, etc.)	5	26
Gaining a broader understanding and appreciation of intellectual/cultural activity (music, science, literature, etc.)	10	53
Developing skill in expressing myself orally or in writing	11	58
Learning how to find and use resources for answering questions or solving problems	8	42
Developing a clearer understanding of, and commitment to, personal values	8	42
Learning to <i>analyze</i> and <i>critically evaluate</i> ideas, arguments, and points of view	9	47
Acquiring an interest in learning more by asking my own questions and seeking answers	9	47

Section III: Student Ratings of Progress on Objectives Chosen as *Essential* or *Important*

Section III summarizes student ratings of progress in classes where a given objective was chosen as *Essential* or *Important* by the instructor. Results for this summary report are compared with those for the national database. On which objectives do students report the most progress? The least? How do our results compare with those of the national database? Do we have apparent "strengths" and/or "weaknesses"? (Progress ratings were made on a 5-point scale; 1=low, 5=high.)

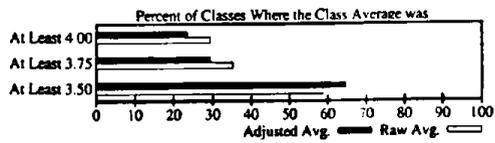
Objective 1: Gaining factual knowledge (terminology, classifications, methods, trends)

	Raw Avg.	Adjstd. Avg.	# of Classes
This Summary Report	3.6	3.7	17
IDEA System	3.9	3.9	27192



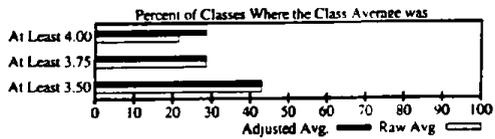
Objective 2: Learning fundamental principles, generalizations, or theories

	Raw Avg.	Adjstd. Avg.	# of Classes
This Summary Report	3.6	3.6	17
IDEA System	3.9	3.9	27162



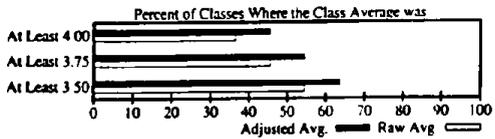
Objective 3: Learning to apply course material (to improve thinking, problem solving and decisions)

	Raw Avg.	Adjstd. Avg.	# of Classes
This Summary Report	3.5	3.5	14
IDEA System	3.9	3.9	23993



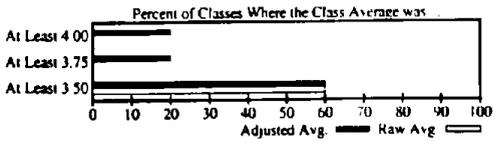
Objective 4: Developing specific skills, competencies, and points of view needed by professionals in the field most closely related to this course

	Raw Avg.	Adjstd. Avg.	# of Classes
This Summary Report	3.7	3.7	11
IDEA System	4.0	4.0	19218



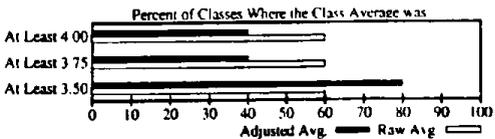
Objective 5: Acquiring skills in working with others as a member of a team

	Raw Avg.	Adjstd. Avg.	# of Classes
This Summary Report	3.3	3.2	5
IDEA System	3.4	3.4	489



Objective 6: Developing creative capacities (writing, inventing, designing, performing in art, music, drama, etc.)

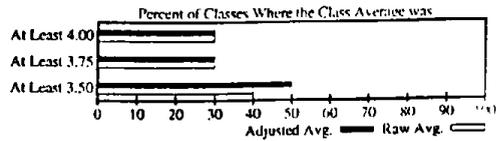
	Raw Avg.	Adjstd. Avg.	# of Classes
This Summary Report	3.9	3.8	5
IDEA System	3.8	3.9	9277



Section III: Student Ratings of Progress on Objectives Chosen as *Essential or Important* (Cont'd)

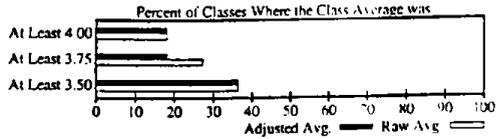
Objective 7: Gaining a broader understanding and appreciation of intellectual/cultural activity (music, science, literature, etc.)

	Raw Avg.	Adjstd. Avg.	# of Classes
This Summary Report	3.2	3.4	10
IDEA System	3.7	3.7	7282



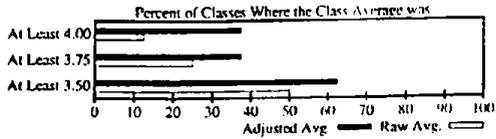
Objective 8: Developing skill in expressing myself orally or in writing

	Raw Avg.	Adjstd. Avg.	# of Classes
This Summary Report	3.5	3.4	11
IDEA System	3.8	3.8	14301



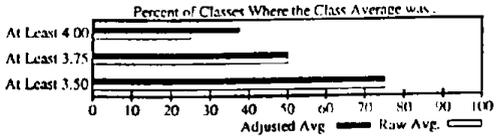
Objective 9: Learning how to find and use resources for answering questions or solving problems

	Raw Avg.	Adjstd. Avg.	# of Classes
This Summary Report	3.5	3.6	8
IDEA System	3.5	3.7	357



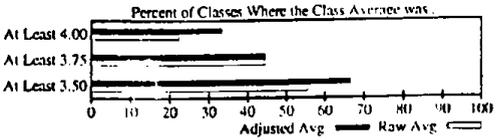
Objective 10: Developing a clearer understanding of, and commitment to, personal values

	Raw Avg.	Adjstd. Avg.	# of Classes
This Summary Report	3.7	3.7	8
IDEA System	3.6	3.6	1400



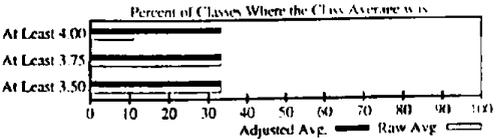
Objective 11: Learning to analyze and critically evaluate ideas, arguments, and points of view

	Raw Avg.	Adjstd. Avg.	# of Classes
This Summary Report	3.5	3.6	9
IDEA System	3.5	3.5	1357



Objective 12: Acquiring an interest in learning more by asking my own questions and seeking answers

	Raw Avg.	Adjstd. Avg.	# of Classes
This Summary Report	3.3	3.5	9
IDEA System	3.6	3.6	990



Section IV: Teaching Methods and Styles

This section summarizes the frequency with which specific teaching methods were rated as a "strength" or a "weakness" (long form only). Data for a given class were included only if the teaching method was relevant (significantly related to progress on important or essential objectives). This information can help identify faculty development needs (teaching methods for which a number of faculty may need to improve).

Teaching Methods and Styles	No. of Classes	Avg.	s. d. ¹	% of Classes Where Method is Classified as a "Weakness" (■) or a "Strength" (□)
A. Student-Faculty Contact				
*1. Displayed a personal interest in students and their learning	14	4.4	0.5	
2. Found ways to help students answer their own questions	19	3.9	0.6	
*20. Encouraged student-faculty interaction outside of class (office visits, phone calls, e-mail, etc.)	13	3.6	0.7	
B. Involving Students				
*5. Formed "teams" or "discussion groups" to facilitate learning	16	2.9	1.0	
*9. Encouraged students to use multiple resources (e.g. data banks, library holdings, outside experts) to improve understanding	12	3.6	0.5	
*14. Involved students in "hands on" projects such as research, case studies, or "real life" activities	17	3.5	0.9	
*16. Asked students to share ideas and experiences with others whose backgrounds and viewpoints differ from their own	16	3.6	0.8	
*18. Asked students to help each other understand ideas or concepts	17	3.4	0.6	
C. Establishing Expectations				
*3. Scheduled course work (class activities, tests, projects) in ways which encouraged students to stay up to date in their work	19	4.1	0.5	
4. Demonstrated the importance and significance of the subject matter	16	4.0	0.6	
8. Stimulated students to intellectual effort beyond that required by most courses	19	3.7	0.6	
13. Introduced stimulating ideas about the subject	19	3.9	0.7	
*15. Inspired students to set and achieve goals which really challenged them	11	3.3	0.6	
D. Clarity of Communication				
6. Made it clear how each topic fit into the course	19	3.9	0.6	
10. Explained course material clearly and concisely	15	4.1	0.6	
11. Related course material to real life situations	19	4.0	0.8	
E. Assessment/Feedback				
7. Explained the reasons for criticisms of students' academic performance	16	3.5	0.7	
12. Gave tests, projects, etc. that covered the most important points of the course	19	4.3	0.5	
*17. Provided timely and frequent feedback on tests, reports, projects, etc. to help students improve	16	4.0	0.5	
19. Gave projects, tests or assignments that required original or creative thinking	19	3.9	0.9	

*New Item
Ratings were made on a 5-point scale (1=Hardly ever, 5=Almost always)
¹ Approximately two-thirds of class averages will be within 1 standard deviation of the group average

Section V: Faculty Self-report of the Institutional Context

A. Primary and Secondary Instructional Approaches: Shows the relative frequency of various approaches to instruction. Since students have different learning styles, it is generally desirable that they be exposed to a variety of approaches. This information was reported by course instructors on the *Faculty Information Form*.

	Primary Approach		Secondary Approach	
	N	%	N	%
Lecture	11	58	3	16
Discussion/recitation	3	16	5	26
Seminar	1	5	1	5
Skill/activity	1	5	3	16
Laboratory	0	0	2	11
Field Experience	0	0	2	11
Studio	0	0	0	0
Multi-Media	1	5	0	0
Practicum/clinic	0	0	0	0
Other/Not Indicated	2	11	3	16

B. Course Emphases: Shows the degree to which classes in this area expose students to various kinds of academic activities. Generally, proficiency is related to the amount of exposure. Are we giving students enough opportunity to develop the skills they need after graduation? This information was reported by course instructors on the *Faculty Information Form*.

	Number Rating Emphasis	Amount Required					
		None or little		Some		Much	
		N	%	N	%	N	%
Writing	17	3	18	8	47	6	35
Oral communication	18	3	17	10	56	5	28
Computer applications	18	9	50	6	33	3	17
Group work	18	8	44	8	44	2	11
Mathematical/quantitative work	18	13	72	2	11	3	17
Critical thinking	18	1	6	7	39	10	56
Creative/artistic/design	18	12	67	4	22	2	11

Section V: The Institutional Context, Continued

C. "Circumstances" Impact on Learning: Shows how instructors regard various factors which may facilitate or impede student learning. Until research establishes the implications of these ratings, administrators should make their own appraisal of whether or not ratings of teaching effectiveness were affected by these factors. This information was reported by course instructors on the *Faculty Information Form*.

	Number Rating Circumstance	Impact on Learning					
		Negative		Neither Positive nor Negative		Positive	
		N	%	N	%	N	%
Physical facilities/equipment	16	4	25	7	44	5	31
Experience teaching the course	17	0	0	0	0	17	100
Changes in approach	15	0	0	11	73	4	27
Desire to teach the course	18	0	0	1	6	17	94
Control over course management decisions	16	0	0	2	13	14	88
Student background	17	7	41	7	41	3	18
Student enthusiasm	16	2	13	7	44	7	44
Student effort to learn	18	3	17	7	39	8	44
Technical/instructional support	15	3	20	10	67	2	13



Written Feedback Group
 University

Spring 1999

Sections of the Report

<u>Page</u>	<u>Section</u>
2	I. Student Ratings of Overall Outcomes <i>Shows the number of classes with ratings in various ranges on four "outcomes" measures along with your group's averages as compared to the IDEA National Database. This information summarizes the quality of instruction in this unit (as inferred from IDEA ratings).</i>
3	II. Faculty Selection of Essential and Important Course Objectives <i>Provides information about the degree to which various learning objectives are emphasized in courses. Are the goals of the program being appropriately emphasized in course sections?</i>
4	III. Student Ratings of Progress on Objectives Chosen as Essential or Important <i>Summarizes student ratings of progress in classes where a given objective was chosen as <u>Essential</u> or <u>Important</u> by the instructor. Compares results for this unit with those for the national database. On which objectives do students report the most progress? The least? How do our results compare with those of the national database--do we have apparent "strengths" and/or "weaknesses"?</i>
6	IV. Teaching Methods and Styles <i>Summarizes the frequency with which specific teaching methods were rated as a "strength" or a "weakness." This information can help identify faculty development needs.</i>
7	V. Faculty Self-Report of the Institutional Context <ul style="list-style-type: none"> A. Primary and Secondary Instructional Approaches. <i>Shows the relative frequency of various approaches to instruction. Since students have different learning styles, it is generally desirable that they be exposed to a variety of approaches.</i> B. Course Emphases. <i>Shows the degree to which classes in this area expose students to various kinds of academic activities. Generally, proficiency is related to the amount of exposure. Are we giving students enough opportunity to develop the skills they will need after graduation?</i> C. "Circumstances" Impact on Learning. <i>Shows how instructors regard various factors which may facilitate or impede student learning. Until research establishes the implications of these ratings, administrators should make their own appraisal of whether or not ratings of teaching effectiveness were affected by these factors.</i>

Report includes classes from the following terms: **Spring 1999**
 Report includes classes from the following class ID's: 718349-718367

Number of Classes Processed:	Number of Classes Included in Summary Report: ¹	Number of Student Responses Included:
Long form: 19	Long form: 19	Long form: 201
Short form: 0	Short form: 0	Short form: 0
Total: 19	Total: 19	Total: 201

¹ Results for faculty who did not identify any objectives as being *Essential* or *Important* are excluded from Group Summary Reports.

Section I: Student Ratings of Overall Outcomes

Section I shows the number of classes with ratings in various ranges for the four "outcomes" measures. This information summarizes the quality of instruction in this unit (as inferred from IDEA ratings).

Overall Outcome Measures:

- A. Number of classes obtaining "Low," "Low Average," "Average," "High Average," and "High" ratings on four overall measures.
- B. Averages for Written Feedback Group and for IDEA National Database.

A. Overall Outcome Measures - Total Number of Classes								
T Score Category	Progress-Relevant Objectives		Improved Student Attitude		Excellence of Teacher		Excellence of Course	
	Raw	Adjstd	Raw	Adjstd	Raw	Adjstd	Raw	Adjstd
Low (37-)	0	0	3	0	0	0	2	0
Low Average (38-44)	3	1	4	4	3	2	3	3
Average (45-55)	10	12	6	9	8	9	9	11
High Average (56-62)	4	5	5	4	5	8	3	3
High (63+)	2	1	1	2	3	0	2	2
B. Overall Outcome Measures - Averages								
This Summary Report	N/A	N/A	3.9	4.0	4.4	4.4	3.9	4.0
IDEA National Database	N/A	N/A	3.9	3.9	4.1	4.1	3.9	3.9

Adjstd: Scores have been adjusted for class size, student desire to take the course regardless of who taught it, and other student motivational influences. In addition, adjustments were made on Long Form scores for course difficulty not attributable to instructor and student effort not attributed to instructor.

T Score: A statistically derived score which 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.

Average: Progress ratings were made on a 5-point scale (1=low, 5=high).

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

2. **Improved Student Attitude.** The table shows students' responses to the item "As a result of taking this course, I have more positive feelings toward this field of study" (Long Form item 40, Short Form item 16). This rating is most meaningful for courses which 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.

3. **Excellence of Teacher.** This shows the average response to "Overall, I rate this instructor an excellent teacher." Overall impressions of a teacher affect student attitudes, effort, and learning (Long Form item 41, Short Form item 17).

4. **Excellence of Course.** This shows the average response to "Overall, I rate this course as excellent" (Long Form item 42, Short Form item 18). 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).

Section II: Faculty Selection of *Essential* and *Important* Course Objectives

The following provides information about the degree to which various learning objectives are emphasized in courses. Are the goals of the program being appropriately emphasized in course sections?

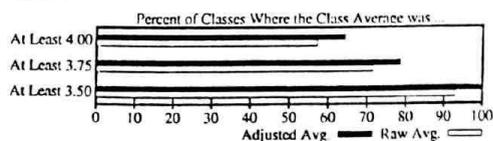
	Total Number of Course Sections	
	N	%
Gaining factual knowledge (terminology, classifications, methods, trends)	14	74
Learning fundamental principles, generalizations, or theories	18	95
Learning to <i>apply</i> course material (to improve thinking, problem solving and decisions)	16	84
Developing specific skills, competencies, and points of view needed by professionals in the field most closely related to this course	13	68
Acquiring skills in working with others as a member of a team	7	37
Developing creative capacities (writing, inventing, designing, performing in art, music, drama, etc.)	11	58
Gaining a broader understanding and appreciation of intellectual/cultural activity (music, science, literature, etc.)	8	42
Developing skill in expressing myself orally or in writing	7	37
Learning how to find and use resources for answering questions or solving problems	8	42
Developing a clearer understanding of, and commitment to, personal values	7	37
Learning to <i>analyze</i> and <i>critically evaluate</i> ideas, arguments, and points of view	9	47
Acquiring an interest in learning more by asking my own questions and seeking answers	9	47

Section III: Student Ratings of Progress on Objectives Chosen as *Essential* or *Important*

Section III summarizes student ratings of progress in classes where a given objective was chosen as *Essential* or *Important* by the instructor. Results for this summary report are compared with those for the national database. On which objectives do students report the most progress? The least? How do our results compare with those of the national database? Do we have apparent "strengths" and/or "weaknesses"? (Progress ratings were made on a 5-point scale; 1=low, 5=high.) Written Feedback Group

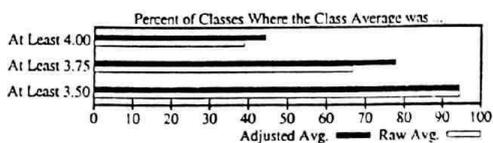
Objective 1: Gaining factual knowledge (terminology, classifications, methods, trends)

	Raw Avg.	Adjstd. Avg.	# of Classes
This Summary Report	4.0	4.1	14
IDEA System	3.9	3.9	27192



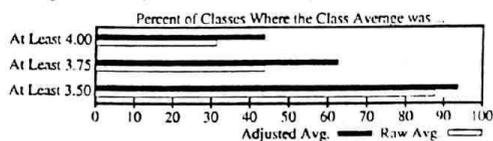
Objective 2: Learning fundamental principles, generalizations, or theories

	Raw Avg.	Adjstd. Avg.	# of Classes
This Summary Report	4.0	4.0	18
IDEA System	3.9	3.9	27162



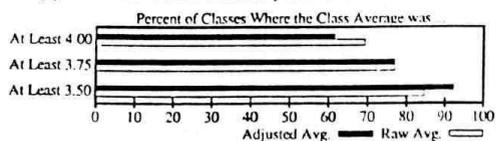
Objective 3: Learning to *apply* course material (to improve thinking, problem solving and decisions)

	Raw Avg.	Adjstd. Avg.	# of Classes
This Summary Report	3.9	3.9	16
IDEA System	3.9	3.9	23993



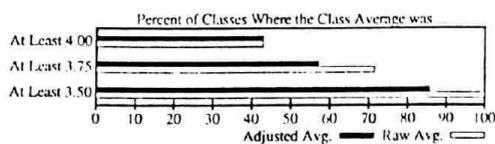
Objective 4: Developing specific skills, competencies, and points of view needed by professionals in the field most closely related to this course

	Raw Avg.	Adjstd. Avg.	# of Classes
This Summary Report	4.1	4.1	13
IDEA System	4.0	4.0	19218



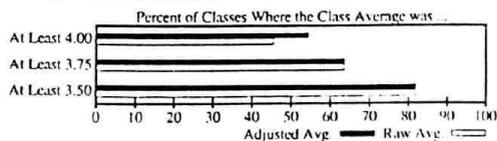
Objective 5: Acquiring skills in working with others as a member of a team

	Raw Avg.	Adjstd. Avg.	# of Classes
This Summary Report	4.0	3.9	7
IDEA System	3.4	3.4	489



Objective 6: Developing creative capacities (writing, inventing, designing, performing in art, music, drama, etc.)

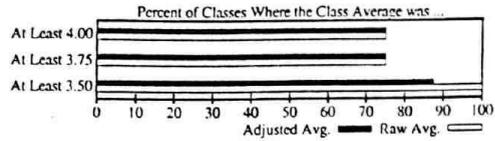
	Raw Avg.	Adjstd. Avg.	# of Classes
This Summary Report	3.9	3.9	11
IDEA System	3.8	3.9	9277



Section III: Student Ratings of Progress on Objectives Chosen as *Essential or Important* (Cont'd)

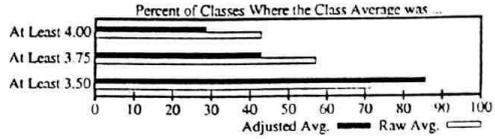
Objective 7: Gaining a broader understanding and appreciation of intellectual/cultural activity (music, science, literature, etc.)

	Raw Avg.	Adjstd. Avg.	# of Classes
This Summary Report	4.2	4.4	8
IDEA System	3.7	3.7	7282



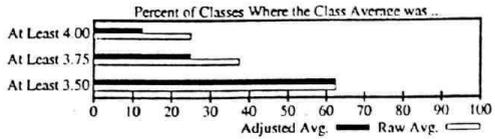
Objective 8: Developing skill in expressing myself orally or in writing

	Raw Avg.	Adjstd. Avg.	# of Classes
This Summary Report	3.8	3.7	7
IDEA System	3.8	3.8	14301



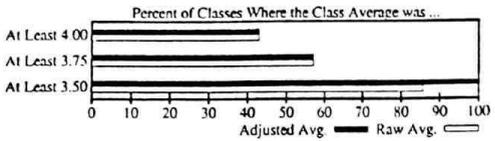
Objective 9: Learning how to find and use resources for answering questions or solving problems

	Raw Avg.	Adjstd. Avg.	# of Classes
This Summary Report	3.8	3.6	8
IDEA System	3.5	3.7	357



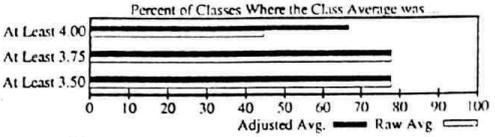
Objective 10: Developing a clearer understanding of, and commitment to, personal values

	Raw Avg.	Adjstd. Avg.	# of Classes
This Summary Report	4.0	4.0	7
IDEA System	3.6	3.6	1400



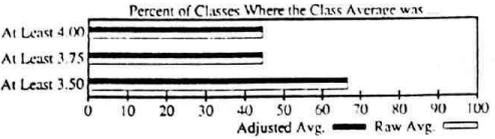
Objective 11: Learning to analyze and critically evaluate ideas, arguments, and points of view

	Raw Avg.	Adjstd. Avg.	# of Classes
This Summary Report	4.0	4.0	9
IDEA System	3.5	3.5	1357



Objective 12: Acquiring an interest in learning more by asking my own questions and seeking answers

	Raw Avg.	Adjstd. Avg.	# of Classes
This Summary Report	3.9	3.9	9
IDEA System	3.6	3.6	990



Section IV: Teaching Methods and Styles

This section summarizes the frequency with which specific teaching methods were rated as a "strength" or a "weakness" (long form only). Data for a given class were included only if the teaching method was relevant (significantly related to progress on important or essential objectives). This information can help identify faculty development needs (teaching methods for which a number of faculty may need to improve).

Teaching Methods and Styles	No. of Classes	Avg.	s. d. ¹	% of Classes Where Method is Classified as a "Weakness" (■) or a "Strength" (□)
A. Student-Faculty Contact				
*1. Displayed a personal interest in students and their learning	15	4.5	0.4	
2. Found ways to help students answer their own questions	19	4.0	0.5	
*20. Encouraged student-faculty interaction outside of class (office visits, phone calls, e-mail, etc.)	14	3.9	0.6	
B. Involving Students				
*5. Formed "teams" or "discussion groups" to facilitate learning	14	3.3	1.1	
*9. Encouraged students to use multiple resources (e.g. data banks, library holdings, outside experts) to improve understanding	9	4.0	0.5	
*14. Involved students in "hands on" projects such as research, case studies, or "real life" activities	18	3.6	0.9	
*16. Asked students to share ideas and experiences with others whose backgrounds and viewpoints differ from their own	19	3.7	0.9	
*18. Asked students to help each other understand ideas or concepts	17	3.7	0.9	
C. Establishing Expectations				
*3. Scheduled course work (class activities, tests, projects) in ways which encouraged students to stay up to date in their work	19	4.1	0.4	
4. Demonstrated the importance and significance of the subject matter	16	4.2	0.5	
8. Stimulated students to intellectual effort beyond that required by most courses	19	3.8	0.5	
13. Introduced stimulating ideas about the subject	19	3.9	0.7	
*15. Inspired students to set and achieve goals which really challenged them	10	3.9	0.6	
D. Clarity of Communication				
6. Made it clear how each topic fit into the course	19	4.1	0.5	
10. Explained course material clearly and concisely	16	4.2	0.5	
11. Related course material to real life situations	18	4.1	0.5	
E. Assessment/Feedback				
7. Explained the reasons for criticisms of students' academic performance	16	3.7	0.7	
12. Gave tests, projects, etc. that covered the most important points of the course	19	4.3	0.4	
*17. Provided timely and frequent feedback on tests, reports, projects, etc. to help students improve	16	4.1	0.6	
19. Gave projects, tests or assignments that required original or creative thinking	19	3.8	0.8	

*New item
Ratings were made on a 5-point scale (1=Hardly ever, 5=Almost always)
¹ Approximately two-thirds of class averages will be within ±1 standard deviation of the group's average

Section V: Faculty Self-report of the Institutional Context

A. Primary and Secondary Instructional Approaches: Shows the relative frequency of various approaches to instruction. Since students have different learning styles, it is generally desirable that they be exposed to a variety of approaches. This information was reported by course instructors on the *Faculty Information Form*.

	Primary Approach		Secondary Approach	
	N	%	N	%
Lecture	8	42	4	21
Discussion/recitation	7	37	4	21
Seminar	0	0	0	0
Skill/activity	2	11	5	26
Laboratory	0	0	1	5
Field Experience	0	0	0	0
Studio	1	5	0	0
Multi-Media	1	5	1	5
Practicum/clinic	0	0	0	0
Other/Not Indicated	0	0	4	21

B. Course Emphases: Shows the degree to which classes in this area expose students to various kinds of academic activities. Generally, proficiency is related to the amount of exposure. Are we giving students enough opportunity to develop the skills they need after graduation? This information was reported by course instructors on the *Faculty Information Form*.

	Number Rating Emphasis	Amount Required					
		None or little		Some		Much	
		N	%	N	%	N	%
Writing	19	4	21	12	63	3	16
Oral communication	19	3	16	11	58	5	26
Computer applications	19	9	47	7	37	3	16
Group work	18	8	44	4	22	6	33
Mathematical/quantitative work	19	10	53	5	26	4	21
Critical thinking	19	0	0	8	42	11	58
Creative/artistic/design	19	8	42	4	21	7	37

Section V: The Institutional Context, Continued

C. "Circumstances" Impact on Learning: Shows how instructors regard various factors which may facilitate or impede student learning. Until research establishes the implications of these ratings, administrators should make their own appraisal of whether or not ratings of teaching effectiveness were affected by these factors. This information was reported by course instructors on the *Faculty Information Form*.

	Number Rating Circumstance	Impact on Learning					
		Negative		Neither Positive nor Negative		Positive	
		N	%	N	%	N	%
Physical facilities/equipment	18	1	6	11	61	6	33
Experience teaching the course	19	1	5	1	5	17	89
Changes in approach	15	1	7	8	53	6	40
Desire to teach the course	18	0	0	2	11	16	89
Control over course management decisions	18	1	6	5	28	12	67
Student background	16	6	38	6	38	4	25
Student enthusiasm	16	2	13	5	31	9	56
Student effort to learn	17	3	18	2	12	12	71
Technical/instructional support	17	1	6	12	71	4	24



CONSULTATION
 Workshop Group
 University

Spring 1999

Sections of the Report

<u>Page</u>	<u>Section</u>
2	I. Student Ratings of Overall Outcomes <i>Shows the number of classes with ratings in various ranges on four "outcomes" measures along with your group's averages as compared to the IDEA National Database. This information summarizes the quality of instruction in this unit (as inferred from IDEA ratings).</i>
3	II. Faculty Selection of Essential and Important Course Objectives <i>Provides information about the degree to which various learning objectives are emphasized in courses. Are the goals of the program being appropriately emphasized in course sections?</i>
4	III. Student Ratings of Progress on Objectives Chosen as Essential or Important <i>Summarizes student ratings of progress in classes where a given objective was chosen as <u>Essential</u> or <u>Important</u> by the instructor. Compares results for this unit with those for the national database. On which objectives do students report the most progress? The least? How do our results compare with those of the national database--do we have apparent "strengths" and/or "weaknesses"?</i>
6	IV. Teaching Methods and Styles <i>Summarizes the frequency with which specific teaching methods were rated as a "strength" or a "weakness." This information can help identify faculty development needs.</i>
7	V. Faculty Self-Report of the Institutional Context <ul style="list-style-type: none"> A. Primary and Secondary Instructional Approaches. <i>Shows the relative frequency of various approaches to instruction. Since students have different learning styles, it is generally desirable that they be exposed to a variety of approaches.</i> B. Course Emphases. <i>Shows the degree to which classes in this area expose students to various kinds of academic activities. Generally, proficiency is related to the amount of exposure. Are we giving students enough opportunity to develop the skills they will need after graduation?</i> C. "Circumstances" Impact on Learning. <i>Shows how instructors regard various factors which may facilitate or impede student learning. Until research establishes the implications of these ratings, administrators should make their own appraisal of whether or not ratings of teaching effectiveness were affected by these factors.</i>

Report includes classes from the following terms: **Spring 1999**
 Report includes classes from the following class IDs: 718328-718348

Number of Classes Processed:	Number of Classes Included in Summary Report: ¹	Number of Student Responses Included:
Long form: 21	Long form: 21	Long form: 289
Short form: 0	Short form: 0	Short form: 0
Total: 21	Total: 21	Total: 289

¹ Results for faculty who did not identify any objectives as being *Essential* or *Important* are excluded from Group Summary Reports.

Section I: Student Ratings of Overall Outcomes

Section I shows the number of classes with ratings in various ranges for the four "outcomes" measures. This information summarizes the quality of instruction in this unit (as inferred from IDEA ratings).

Overall Outcome Measures:

- A. Number of classes obtaining "Low," "Low Average," "Average," "High Average," and "High" ratings on four overall measures.
- B. Averages for Workshop Group and for IDEA National Database.

A. Overall Outcome Measures - Total Number of Classes								
T Score Category	Progress-Relevant Objectives		Improved Student Attitude		Excellence of Teacher		Excellence of Course	
	Raw	Adjstd	Raw	Adjstd	Raw	Adjstd	Raw	Adjstd
Low (37-)	2	1	2	1	1	1	1	1
Low Average (38-44)	4	6	4	2	2	2	6	5
Average (45-55)	11	8	10	11	9	10	7	7
High Average (56-62)	3	4	4	3	9	8	5	4
High (63+)	1	2	1	4	0	0	2	4
B. Overall Outcome Measures - Averages								
This Summary Report	N/A	N/A	3.9	4.0	4.2	4.3	3.9	4.0
IDEA National Database	N/A	N/A	3.9	3.9	4.1	4.1	3.9	3.9

Adjstd: Scores have been adjusted for class size, student desire to take the course regardless of who taught it, and other student motivational influences. In addition, adjustments were made on Long Form scores for course difficulty not attributable to instructor and student effort not attributed to instructor.

T Score: A statistically derived score which 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.

Average: Progress ratings were made on a 5-point scale (1=low, 5=high).

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

2. Improved Student Attitude. The table shows students' responses to the item "As a result of taking this course, I have more positive feelings toward this field of study" (Long Form item 40, Short Form item 16). This rating is most meaningful for courses which 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.

3. Excellence of Teacher. This shows the average response to "Overall, I rate this instructor an excellent teacher." Overall impressions of a teacher affect student attitudes, effort, and learning (Long Form item 41, Short Form item 17).

4. Excellence of Course. This shows the average response to "Overall, I rate this course as excellent" (Long Form item 42, Short Form item 18). 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).

Section II: Faculty Selection of *Essential* and *Important* Course Objectives

The following provides information about the degree to which various learning objectives are emphasized in courses. Are the goals of the program being appropriately emphasized in course sections?

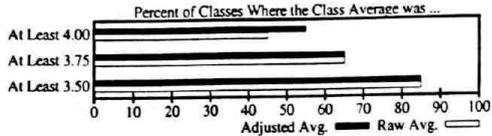
	Total Number of Course Sections	
	N	%
Gaining factual knowledge (terminology, classifications, methods, trends)	20	95
Learning fundamental principles, generalizations, or theories	17	81
Learning to <i>apply</i> course material (to improve thinking, problem solving and decisions)	17	81
Developing specific skills, competencies, and points of view needed by professionals in the field most closely related to this course	16	76
Acquiring skills in working with others as a member of a team	6	29
Developing creative capacities (writing, inventing, designing, performing in art, music, drama, etc.)	12	57
Gaining a broader understanding and appreciation of intellectual/cultural activity (music, science, literature, etc.)	17	81
Developing skill in expressing myself orally or in writing	11	52
Learning how to find and use resources for answering questions or solving problems	11	52
Developing a clearer understanding of, and commitment to, personal values	8	38
Learning to <i>analyze</i> and <i>critically evaluate</i> ideas, arguments, and points of view	17	81
Acquiring an interest in learning more by asking my own questions and seeking answers	16	76

Section III: Student Ratings of Progress on Objectives Chosen as *Essential* or *Important*

Section III summarizes student ratings of progress in classes where a given objective was chosen as *Essential* or *Important* by the instructor. Results for this summary report are compared with those for the national database. On which objectives do students report the most progress? The least? How do our results compare with those of the national database? Do we have apparent "strengths" and/or "weaknesses"? (Progress ratings were made on a 5-point scale; 1=low, 5=high.) Workshop Group

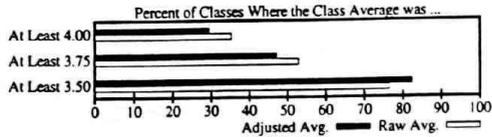
Objective 1: Gaining factual knowledge (terminology, classifications, methods, trends)

	Raw Avg.	Adjstd. Avg.	# of Classes
This Summary Report	3.9	3.9	20
IDEA System	3.9	3.9	27192



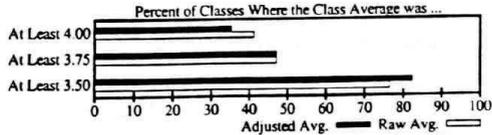
Objective 2: Learning fundamental principles, generalizations, or theories

	Raw Avg.	Adjstd. Avg.	# of Classes
This Summary Report	3.7	3.7	17
IDEA System	3.9	3.9	27162



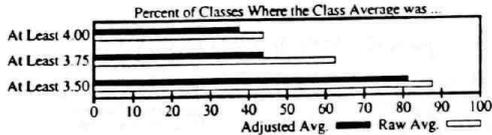
Objective 3: Learning to *apply* course material (to improve thinking, problem solving and decisions)

	Raw Avg.	Adjstd. Avg.	# of Classes
This Summary Report	3.8	3.8	17
IDEA System	3.9	3.9	23993



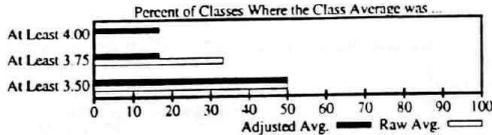
Objective 4: Developing specific skills, competencies, and points of view needed by professionals in the field most closely related to this course

	Raw Avg.	Adjstd. Avg.	# of Classes
This Summary Report	3.9	3.8	16
IDEA System	4.0	4.0	19218



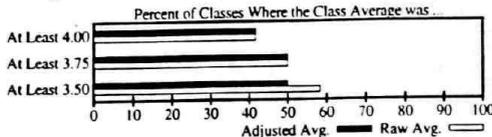
Objective 5: Acquiring skills in working with others as a member of a team

	Raw Avg.	Adjstd. Avg.	# of Classes
This Summary Report	3.2	3.0	6
IDEA System	3.4	3.4	489



Objective 6: Developing creative capacities (writing, inventing, designing, performing in art, music, drama, etc.)

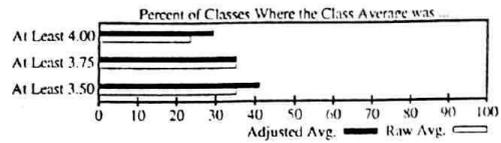
	Raw Avg.	Adjstd. Avg.	# of Classes
This Summary Report	3.7	3.6	12
IDEA System	3.8	3.9	9277



Section III: Student Ratings of Progress on Objectives Chosen as *Essential or Important* (Cont'd)

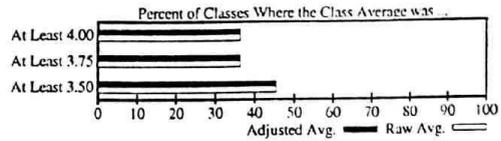
Objective 7: Gaining a broader understanding and appreciation of intellectual/cultural activity (music, science, literature, etc.)

	Raw Avg.	Adjstd. Avg.	# of Classes
This Summary Report	3.5	3.4	17
IDEA System	3.7	3.7	7282



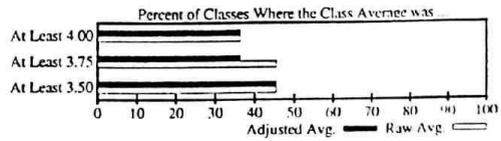
Objective 8: Developing skill in expressing myself orally or in writing

	Raw Avg.	Adjstd. Avg.	# of Classes
This Summary Report	3.5	3.4	11
IDEA System	3.8	3.8	14301



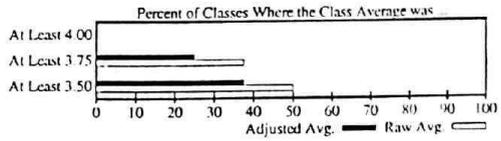
Objective 9: Learning how to find and use resources for answering questions or solving problems

	Raw Avg.	Adjstd. Avg.	# of Classes
This Summary Report	3.5	3.4	11
IDEA System	3.5	3.7	357



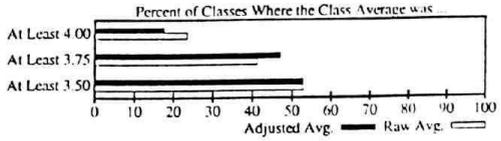
Objective 10: Developing a clearer understanding of, and commitment to, personal values

	Raw Avg.	Adjstd. Avg.	# of Classes
This Summary Report	3.3	3.2	8
IDEA System	3.6	3.6	1400



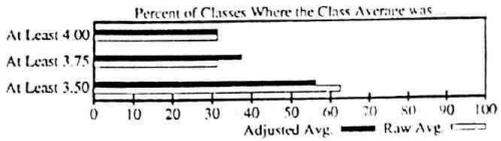
Objective 11: Learning to analyze and critically evaluate ideas, arguments, and points of view

	Raw Avg.	Adjstd. Avg.	# of Classes
This Summary Report	3.5	3.6	17
IDEA System	3.5	3.5	1357



Objective 12: Acquiring an interest in learning more by asking my own questions and seeking answers

	Raw Avg.	Adjstd. Avg.	# of Classes
This Summary Report	3.5	3.6	16
IDEA System	3.6	3.6	990



Section IV: Teaching Methods and Styles

This section summarizes the frequency with which specific teaching methods were rated as a "strength" or a "weakness" (long form only). Data for a given class were included only if the teaching method was relevant (significantly related to progress on important or essential objectives). This information can help identify faculty development needs (teaching methods for which a number of faculty may need to improve).

Teaching Methods and Styles	No. of Classes	Avg.	s. d. ¹	% of Classes Where Method is Classified as a "Weakness" (■) or a "Strength" (□)
A. Student-Faculty Contact				
*1. Displayed a personal interest in students and their learning	19	4.3	0.5	
2. Found ways to help students answer their own questions	20	4.0	0.5	
*20. Encouraged student-faculty interaction outside of class (office visits, phone calls, e-mail, etc.)	20	3.8	0.6	
B. Involving Students				
*5. Formed "teams" or "discussion groups" to facilitate learning	20	3.0	0.9	
*9. Encouraged students to use multiple resources (e.g. data banks, library holdings, outside experts) to improve understanding	12	3.7	0.9	
*14. Involved students in "hands on" projects such as research, case studies, or "real life" activities	20	3.6	1.0	
*16. Asked students to share ideas and experiences with others whose backgrounds and viewpoints differ from their own	18	3.4	0.9	
*18. Asked students to help each other understand ideas or concepts	21	3.6	0.7	
C. Establishing Expectations				
*3. Scheduled course work (class activities, tests, projects) in ways which encouraged students to stay up to date in their work	21	4.0	0.5	
4. Demonstrated the importance and significance of the subject matter	21	4.3	0.4	
8. Stimulated students to intellectual effort beyond that required by most courses	21	3.8	0.7	
13. Introduced stimulating ideas about the subject	21	4.0	0.7	
*15. Inspired students to set and achieve goals which really challenged them	16	3.5	0.8	
D. Clarity of Communication				
6. Made it clear how each topic fit into the course	21	4.2	0.4	
10. Explained course material clearly and concisely	13	4.1	0.6	
11. Related course material to real life situations	21	4.2	0.4	
E. Assessment/Feedback				
7. Explained the reasons for criticisms of students' academic performance	19	3.7	0.6	
12. Gave tests, projects, etc. that covered the most important points of the course	21	4.2	0.4	
*17. Provided timely and frequent feedback on tests, reports, projects, etc. to help students improve	18	4.0	0.6	
19. Gave projects, tests or assignments that required original or creative thinking	21	3.7	0.9	

*New Item

Ratings were made on a 5-point scale (1=Hardly ever, 5=Almost always).

¹ Approximately two-thirds of class averages will be within ±1 standard deviation of the groups average.

Section V: Faculty Self-report of the Institutional Context

A. Primary and Secondary Instructional Approaches: Shows the relative frequency of various approaches to instruction. Since students have different learning styles, it is generally desirable that they be exposed to a variety of approaches. This information was reported by course instructors on the *Faculty Information Form*.

	Primary Approach		Secondary Approach	
	N	%	N	%
Lecture	12	57	3	14
Discussion/recitation	2	10	10	48
Seminar	0	0	0	0
Skill/activity	6	29	3	14
Laboratory	1	5	1	5
Field Experience	0	0	0	0
Studio	0	0	1	5
Multi-Media	0	0	0	0
Practicum/clinic	0	0	0	0
Other/Not Indicated	0	0	3	14

B. Course Emphases: Shows the degree to which classes in this area expose students to various kinds of academic activities. Generally, proficiency is related to the amount of exposure. Are we giving students enough opportunity to develop the skills they need after graduation? This information was reported by course instructors on the *Faculty Information Form*.

	Number Rating Emphasis	Amount Required					
		None or little		Some		Much	
		N	%	N	%	N	%
Writing	21	4	19	12	57	5	24
Oral communication	21	5	24	11	52	5	24
Computer applications	21	10	48	9	43	2	10
Group work	21	6	29	11	52	4	19
Mathematical/quantitative work	21	15	71	4	19	2	10
Critical thinking	21	0	0	9	43	12	57
Creative/artistic/design	20	11	55	3	15	6	30

Section V: The Institutional Context. Continued

C. "Circumstances" Impact on Learning: Shows how instructors regard various factors which may facilitate or impede student learning. Until research establishes the implications of these ratings, administrators should make their own appraisal of whether or not ratings of teaching effectiveness were affected by these factors. This information was reported by course instructors on the *Faculty Information Form*.

	Number Rating Circumstance	Impact on Learning					
		Negative		Neither Positive nor Negative		Positive	
		N	%	N	%	N	%
Physical facilities/equipment	21	4	19	9	43	8	38
Experience teaching the course	20	0	0	2	10	18	90
Changes in approach	16	0	0	6	38	10	63
Desire to teach the course	21	0	0	1	5	20	95
Control over course management decisions	20	0	0	1	5	19	95
Student background	19	9	47	4	21	6	32
Student enthusiasm	20	4	20	5	25	11	55
Student effort to learn	19	1	5	8	42	10	53
Technical/instructional support	21	4	19	12	57	5	24

APPENDIX O
T-TEST RESULTS

Table 17. Comparison of Means of Consultation Group and Control Group on IDEA Evaluation Questionnaire with 20 Teaching Behaviors

Question	Group	Mean	Standard Deviation	T Value	P Value (2 tailed)
1	Consultation	4.38	.412	.125	.901
	Control	4.36	.427		
2	Consultation	4.06	.453	.912	.368
	Control	3.91	.565		
3	Consultation	4.08	.449	-.028	.978
	Control	4.08	.500		
4	Consultation	4.31	.318	1.460	.154
	Control	4.09	.561		
5	Consultation	3.04	.831	.223	.825
	Control	2.98	1.018		
6	Consultation	4.26	.380	2.175	*.037
	Control	3.92	.566		
7	Consultation	3.69	.658	.990	.328
	Control	3.48	.672		
8	Consultation	3.87	.598	.951	.348
	Control	3.68	.621		
9	Consultation	3.81	.872	1.550	.130
	Control	3.44	.625		
10	Consultation	4.20	.397	1.060	.293
	Control	4.02	.630		
11	Consultation	4.18	.418	1.088	.286
	Control	3.96	.767		
12	Consultation	4.27	.355	.048	.962
	Control	4.26	.492		
13	Consultation	4.06	.537	.890	.379
	Control	3.89	.656		
14	Consultation	3.71	.886	1.060	.297
	Control	3.42	.847		
15	Consultation	3.69	.778	.983	.332
	Control	3.46	.654		
16	Consultation	3.49	.830	-.056	.956
	Control	3.51	.916		
17	Consultation	4.17	.475	1.170	.250
	Control	3.97	.545		
18	Consultation	3.60	.636	.860	.395
	Control	3.42	.624		
19	Consultation	3.81	.844	.183	.856
	Control	3.76	.934		
20	Consultation	3.81	.578	.719	.477
	Control	3.67	.606		

* significant at the .05 level

Table 18. Comparison of Means of Consultation Group and Feedback Group on IDEA Evaluation Questionnaire with 20 Teaching Behaviors

Question	Group	Mean	Standard Deviation	T Value	P Value (2 tailed)
1	Consultation	4.38	.412	.046	.963
	Feedback	4.37	.441		
2	Consultation	4.06	.453	.218	.829
	Feedback	4.03	.504		
3	Consultation	4.08	.449	-.435	.666
	Feedback	4.14	.441		
4	Consultation	4.31	.318	1.121	.269
	Feedback	4.16	.487		
5	Consultation	3.04	.831	-.315	.755
	Feedback	3.15	1.162		
6	Consultation	4.26	.380	1.515	.138
	Feedback	4.05	.472		
7	Consultation	3.69	.658	.249	.805
	Feedback	3.64	.674		
8	Consultation	3.87	.593	.160	.874
	Feedback	3.84	.482		
9	Consultation	3.81	.872	.390	.699
	Feedback	3.71	.701		
10	Consultation	4.20	.397	.445	.659
	Feedback	4.13	.554		
11	Consultation	4.18	.418	.298	.767
	Feedback	4.14	.483		
12	Consultation	4.28	.355	-.034	.973
	Feedback	4.26	.367		
13	Consultation	3.93	.537	.669	.508
	Feedback	3.89	.658		
14	Consultation	3.71	.886	.372	.712
	Feedback	3.61	.869		
15	Consultation	3.69	.778	-.450	.656
	Feedback	3.79	.670		
16	Consultation	3.49	.830	-.573	.570
	Feedback	3.65	.888		
17	Consultation	4.17	.474	.506	.616
	Feedback	4.08	.581		
18	Consultation	3.60	.636	-.518	.607
	Feedback	3.72	.816		
19	Consultation	3.81	.844	-.102	.919
	Feedback	3.83	.799		
20	Consultation	3.81	.577	.110	.913
	Feedback	3.79	.591		

* significant at the .05 level

Table 19. Comparison of Means of Feedback Group and Control Group on IDEA Evaluation Questionnaire with 20 Teaching Behaviors

Question	Group	Mean	Standard Deviation	T Value	P Value (2 tailed)
1	Feedback	4.37	.441	.075	.941
	Control	4.36	.427		
2	Feedback	4.03	.504	.666	.509
	Control	3.91	.565		
3	Feedback	4.14	.441	.378	.707
	Control	4.08	.500		
4	Feedback	4.16	.486	.401	.690
	Control	4.09	.651		
5	Feedback	3.15	1.162	.475	.638
	Control	2.98	1.102		
6	Feedback	4.05	.472	.755	.455
	Control	3.93	.556		
7	Feedback	3.64	.674	.723	.474
	Control	3.48	.672		
8	Feedback	3.84	.482	.875	.387
	Control	3.68	.621		
9	Feedback	3.71	.701	1.290	.204
	Control	3.44	.623		
10	Feedback	4.13	.554	.574	.569
	Control	4.02	.630		
11	Feedback	4.14	.483	.835	.410
	Control	3.96	.767		
12	Feedback	4.26	.367	.075	.941
	Control	4.27	.492		
13	Feedback	3.93	.658	.197	.845
	Control	3.89	.656		
14	Feedback	3.61	.869	.681	.501
	Control	3.42	.847		
15	Feedback	3.79	.670	1.540	.131
	Control	3.46	.654		
16	Feedback	3.65	.888	.485	.630
	Control	3.51	.916		
17	Feedback	4.08	.581	.576	.568
	Control	3.98	.545		
18	Feedback	3.72	.816	1.250	.219
	Control	3.43	.624		
19	Feedback	3.83	.799	.280	.781
	Control	3.76	.934		
20	Feedback	3.79	.592	.666	.509
	Control	3.67	.606		

* significant at the .05 level