The student views the teacher: Investigating student perception in assessment of high school teachers

Richard N. Johns
University of Northern Iowa

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THE STUDENT VIEWS THE TEACHER: INVESTIGATING
STUDENT PERCEPTION IN ASSESSMENT
OF HIGH SCHOOL TEACHERS

A Dissertation
Submitted
In Partial Fulfillment
of the Requirements for the Degree
Doctor of Education

Approved:

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December 1997
DEDICATION

I dedicate this dissertation to my parents, Bob and Marj Johns. Their faith in me and in education made all the difference.
ACKNOWLEDGEMENTS

I would like to acknowledge my dissertation committee: Dr. Robert Decker, Dr. Charles Dedrick, Dr. Gene Lutz, Dr. Charles May, and Dr. Barry Wilson. Their insightful feedback was essential in the formation of this dissertation. I would especially like to thank my committee chair, Dr. Robert Decker, for his patience and dedication to this project.

I would also like to acknowledge the technical support of Dr. Lindsen Fuen, Dr. Tony VanderZyl, William Schoenenberger, Sandy Dahlgren, and Kim Frazer. Lastly, I wish to acknowledge and thank my wife, Susan, without whose support and assistance this dissertation could never have happened.
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Doctor of Education

Approved:

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December 1997
ABSTRACT

The purpose of this study was to examine student assessment of teachers at the secondary level and to add to the body of knowledge pertaining to the role of student evaluation of teacher performance in the instructional improvement process. The study was designed to determine which teacher behaviors and student/teacher relationship characteristics influenced summative assessments of teachers and if the influence was distorted by certain potentially biasing variables. Student assessments of teachers were compared to principal assessments of teachers to determine whether significant differences in ratings existed between these two evaluative sources.

The research questions focused on the composition of effective teachers and examined rating differences occurring between students and principals. The composition variables examined were teachers' classroom control, communication skills, concern for students, fairness, friendliness, feedback to students, organization skills, presentation skills, relevancy of materials used, respect for students, enthusiasm, and encouragement. Student assessments and principal assessments were analyzed to determine the set of variables that were most closely related to the overall performance rating of the teacher for each rater group. Potentially biasing variables (i.e., teacher age, grade received, teacher gender, respondent gender, teaching
experience, and teacher affability) were analyzed to determine their influence on the performance ratings of both respondent groups.

The findings indicated principal raters and student raters view teacher performance in distinct ways. Principal ratings varied from student ratings in their mean, variance, key components of efficacious teaching, and in individual teacher assessment. This study found the 12 independent variables to be highly interdependent with no single variable determining teacher overall effectiveness. Principal raters were found to be more susceptible to potential bias than students; however, a weak positive biasing influence was found for students' overall ratings of teacher performance with "grade received" by the student.
CHAPTER 1
INTRODUCTION TO THE STUDY

Introduction

Students have a unique vantage in the classroom. They alone are in the classroom every day monitoring all teacher behaviors. Not only do they have the special quality of omnipresence, they also are the focus of all learning activities being choreographed by the teacher. From this vantage students access observational input that is unavailable to all other evaluative sources (Aleamoni, 1981; Duke & Stiggins, 1986; Morsh & Wilder, 1954). What the student experiences, on a totally unobtrusive basis, each day of class provides the raw observational data that can only be inferred or deduced by the principal, supervisor, or other teacher evaluator. "Guest" observers (usually the principal at the secondary level) are typically in the classroom monitoring teacher behaviors for only a minuscule percentage of the total classroom time (Dolan, 1994; Keedy, 1987; McLaughlin, 1984; Natriello & Dornbush, 1981; Orlosky, McCleary, Shapiro, & Webb, 1984). Their very presence distorts the educational environment of the classroom in ways that often are not understood (Bullock & Davis, 1985; Sergiovanni & Starratt, 1983; Walberg 1974). However, the student's perception and opinion of the teacher's performance is seldom broached in the teacher evaluation
process at the secondary level (Finley & Crawley, 1993; Levin, 1979).

Statement of the Problem

The problem of this study was to determine the impact of certain teacher acts and behaviors (i.e., classroom control, subject presentation, communication skills, class organization, course relevancy, and providing for feedback) and certain student/teacher relationship characteristics (i.e., friendliness, respect for students, encouragement, concern for students, fairness, and enthusiasm) on student summative assessments of teachers at the secondary level and to see if a principal's assessment of the teacher's overall performance is similarly influenced by these variables. Certain demographic and potentially biasing characteristics (i.e., teacher's age, teaching experience, student grade level, principal affinity for the teacher, grade received by the student, and gender) were tested to determine their impact on student and/or principal assessment of the teacher.

Definition of Terms

The following terms were used in the principal and student questionnaires: class organization, classroom control, communication skills, concern for students, course relevancy, feedback, presentation of lessons, overall rating, teacher encouragement, teacher fairness, and
teacher friendliness. These terms were defined in neither student nor principal questionnaires. Therefore, the terms have the operational definition which the respondents imputed for them. Care was taken to present the terms on the questionnaire in an unambiguous manner; however, the definition of the term was the meaning the respondent gave to it.

Affinity for the teacher: The response which a principal expressed on the principal questionnaire to the question posed inquiring as to how much the principal likes this teacher as a person.

Grade received: The student's self-reported letter grade received in the class after such time that the letter grade has been made known to the student.

Teacher performance variables: Certain acts or patterns in which the teacher engaged which the professional literature advanced as significant in the effectiveness of the teaching/learning process (i.e., classroom control, presentation, communication skills, organization, relevancy, and feedback).

Teacher/student relationship variables: Certain characteristics which define the nature and quality of the relationship existing between the teacher and the students in a classroom which the professional literature advanced as significant in the effectiveness of the teaching/learning
process (i.e., friendliness, respect for students, encouragement, concern, fairness, and enthusiasm).

Assumptions

The following are the assumptions made in this study:

1. Respondents answering the teacher assessment questionnaire provided honest responses to the questions asked.

2. The time period in which data were collected was not unusual in that no events were occurring which could situationally distort the data being collected.

3. Any student absences on the day of data collection did not represent a heterogeneous subpopulation whose aggregate absence compromised the sample data collection.

4. Directions for data collection were reviewed with the staff (homeroom teachers) in oral fashion prior to the study. Also, written directions for data collection were provided to each homeroom teacher the day of data collection. It is assumed that during the data collection process homeroom teachers followed the data collection procedures as specified.

Limitations

The limitations of the study are as follows:

1. The students involved in this study were from the same high school. The high school involved in this study has a moderately large student population (1,576 students).
The community in which the high school is located is an idiosyncratic setting in that a major Midwestern university is present in a moderately-sized city (approximately 48,000 citizens). There is an inordinate incidence of highly educated residents and a higher than normal socio-economic status of residents. The high school student population contains a disproportionately high concentration of high-achieving students presumable due to this phenomenon.

2. Data collection was done in morning homeroom. This was a concession made by the study to make it acceptable to the high school administration. At this high school, seniors may opt out of homeroom. As a result, a significant number of senior students (approximately 200) had no opportunity to participate in the study.

3. Only teachers who had volunteered to be in the study were involved. Approximately 56% of those teachers eligible for the study (45 of 80) actually participated. There is no way to know if the participating and non-participating groups of teachers represented two distinct groups based on some other variable (e.g., effective versus ineffective teachers).

4. The study was limited in the number of questions which could be asked. On the average a student filled out 3.355 questionnaires. Fifty-six percent of the high school staff participated in the study, and the average high school
student takes 6.1 classes each semester. Although the high school administration was amenable to lengthening the homeroom period by up to 10 minutes to accommodate the data collection, pilot studies and the literature base indicated that high school students would only stay seriously engaged for 20-30 minutes before significant error may be introduced into the data collection. A more voluminous questionnaire could have introduced such error.

5. Only student volunteers were used in this study. Based on the number of teachers participating in the study, the homeroom attendance, and the total number of questionnaires yielded from the data collection (N = 3,210), minimally 80% of the students eligible and available for data collection participated in the study. There is no way of knowing if the participating and non-participating student groups represent two distinct subpopulations of the student body in general.

6. Those teachers eligible for volunteering for this study were limited to teachers who taught in a "regular" classroom setting. Examples of teachers who were categorically not included for study eligibility were media specialists, guidance counselors, special education teachers, deans, and at-risk advisors. Of the 116 full-time or part-time teachers at the high school, 80 were
categorically eligible for participation in the study. Forty-five volunteered to participate.

Conceptual Framework

Students have demonstrated, time and again, an acuity for discriminating good teaching from bad (Cohen, 1982; Doyle, 1975; Jacobs, 1987; Marsh, 1984; Marsh, 1993; Marsh & Bailey, 1993; Marsh, Overall, & Kesler, 1979; Tollefson, Chen, & Kleinsasser, 1989). A large body of research supports the conclusion that student's perception of the quality of teaching is correlated to student achievement (Beatty & Zahn, 1990; Cohen, 1981; Dickinson, 1990; Levin, 1979; McKeachie, 1977; Wigington, Tollefson, & Rodriquez, 1989). Simply put, teachers assessed as superior by students produce high student learning (based on results from standardized student assessments); those teachers who are assessed as less competent by students produce significantly less student learning (Centra, 1977; Cohen, 1981; Frey, 1973; Marsh, 1994; Whitely & Doyle, 1979). Students have the ability to discern, from many complex input components, those teacher acts and/or characteristics which result in successful student learning from those acts and/or characteristics which are less efficacious (Cohen, 1981; Frey, Leonard, & Beatty, 1975; Korth, 1979; Marsh, 1982a).
Although the potential value of student evaluations of teacher performance seems clear, it remains an untapped source at the secondary school level. In 1978 Educational Research Service reported that only 2.1% of American high schools used any type of student evaluation. By 1988 Educational Research Services reported that this figure had risen to only 3.0%.

The rarity of student assessment of teaching at the secondary level stems from teacher doubts concerning the data source. There is a lack of trust in the credibility of the (secondary) student rater which heavily impacts the use of student assessment of teacher performance at this level (Duell & Davison, 1987; Mallery, 1975; McGreal, 1983; Potter & Emanuel, 1990; Travis, 1987; Watkins & Akande, 1992). For the most part, teacher groups, teacher supervisors, and school systems continue to believe that the teacher evaluation process is best done with the exclusion of the student assessment element (DeRoche, 1981; Gigliotti & Buchtel, 1990; McKelvey & Kyriacou, 1985; McLaughlin & Pfeifer, 1988; Preece, 1990). High school students apparently have a wealth of information regarding teacher performance, but few are asking for it (Darling-Hammond, 1990; Hanna, Aubrecht, & Hoyt, 1983; Mallery, 1975).

The improvement of teacher performance is essential if student learning is to be enhanced (Levine, 1986; Schrag,
1995; Sullivan & Skanes, 1974). Teacher performance must be accurately analyzed if it is to be improved. Because student perspective is so laden with experientially rich information, it should be tapped and used in the evaluation process (Aubrecht, Hanna, & Hoyt, 1986; Campbell, Edgar, & Halsted, 1994; McGreal, 1983). Such critical information is essential to the overall development of the profession of teaching and the institution of schooling (Dalton, 1971; Farley, 1981; Gage, 1978; McKeachie, 1979; McNeil & Popham, 1973; Mergendoller & Packer, 1985; Walberg, 1969).

Much of the early research in the area of student evaluation of teachers has been done at the higher education level (Aleamoni, 1981; Marsh & Bailey, 1993). Although this work and its subsequent conclusions have a certain intuitive appeal for inferential application at the secondary level, such applications require caution. The process of teaching and learning is a complex one. Any analysis of the act of teaching must be on guard for intervening issues which could distort the fragile interplay of variables being tested. Clearly, there is a significant difference in the maturation level of high school students and their collegiate counterparts. This variable alone throws caution, if not doubt, into the propriety of using student assessment conclusions derived at the collegiate level when considering assessment issues at the secondary level. In addition to
the maturation issue, there is a "selectivity of clientele" factor at the collegiate level which does not exist at the high school level (particularly in American public high schools). Level specific work with secondary student assessments of teacher performance is necessary. Stroh (1991) stated, "research on student evaluations at the high school level has not progressed," to the point, she complained, "that further research in this area is justified and long overdue" (p. 82). The rich sea of information on student evaluation of teachers available at the collegiate level shrinks to only a small puddle at the secondary level. This study was designed to provide investigation into fundamental issues which are integral to the core issue of improving teaching efforts at the high school level.

Purpose of This Study

The purpose of this study was to examine student assessment of teachers at the secondary level and add to the body of knowledge that determines the role of student evaluation of teacher performance in the instructional improvement process. It assists in defining the role of student assessment in the teacher assessment process as well as its role in school improvement efforts in general. This study was designed to determine which teacher behaviors and student/teacher relationship characteristics influence summative assessments of teachers and if the influence was
distorted by variables such as the grade which the student receives in the class.

Student assessments of teachers were compared to principals' assessments of teachers to determine whether significant differences existed between the two evaluative sources. The study investigated the magnitude of importance that students placed on the various input variables (i.e., classroom control, subject presentation, communication skills, class organization, course relevancy, providing for feedback, friendliness, respect for students, encouragement, concern for students, fairness, and enthusiasm) as compared to the emphasis of the input variables made by the principals as they rated overall teachers' performances. There was also a parallel inquiry which measured the degree of bias which may be present in principals' evaluations of the teachers based on such variables as the principal's perception of his/her affinity for the teacher.

**Purpose: Discussion**

Knowing which teacher characteristics and behaviors are most highly related to summative assessments by students is important information. There is obviously a link between what a teacher does in the classroom setting and the quantity and quality of student learning generated within that classroom (Cashin & Downey, 1992; Doyle, 1983). Frequently this link is more accurately perceived by the
student than other, more commonly used, evaluative sources (Belgrad, Rosenshine, & Gage, 1971; McLaughlin & Pfeifer, 1988; Morrow, 1977). A solid understanding of these input variables is important in the overall understanding of teacher efficacy and in the supervision of teachers (Abrami, d'Apollonia, & Cohen, 1990; Bonetti, 1994; Frymier & Thompson, 1992). A comparison of student assessments of teachers with those of the principal assists in unraveling the differences of perspective and perception in the two different data sources.

More needs to be known about the student's perspective and perception in the assessment of his/her teachers. It is essential to know, on the one hand, if there are certain significant overt teaching behaviors (e.g., organization of lesson or class presentation by the teacher) which students "key into" in the assessment of teaching. On the other hand, perhaps there is something inherent in the quality of the relationship between the student and the teacher which the student somehow intuits as the catalyst for learning. Of course, there is also a third scenario; a combination of both sets of variables (i.e., teaching performance and classroom relationship between the teacher and students) are intertwined and mutually contributory to the end-product of student learning. The answers to these issues determines,
to a large extent, what acts or characteristics are significant in the teaching/learning process.

The nature of the influence of classroom environment issues may not only indicate what is significant in the student assessment of teaching, but it also may provide insight as to sources from which key information can be obtained. For example, it is possible that student learning is most influenced by the teacher's selection of certain teaching acts or teaching behaviors. Hence, students, who witness these acts every day, are sensitive to their presence and importance. Consequently, they consciously or unconsciously place more weight on them than other variables. Evaluators without the daily presence of the student may not be looking for the same "key" ingredients or giving them the same weight. As a result, students could be developing different (and, according to a large body of research, more accurate) assessments of teacher effectiveness based on their everyday exposure to these key variables. It is also possible that students have a better understanding of the affective milieu of the class, particularly the relationship between the teacher and his or her students and its impact on the learning process. Student assessment may be heavily influenced by this phenomenon. Clearly, it is a much different task to determine the presence of certain overt teaching acts than
it is to measure the quality of relationships. Thus, a study of the relative impact of both is necessary. Investigating the influence of these distinct possibilities is essential if student input is ever to be given serious consideration in the overall teacher assessment process (Kemp & Kumar, 1990).

This study provided a better understanding of the impact of various teaching acts and class relationships in ascertaining what goes into students' determination of overall teaching efficacy. With this study, and others like it, it will be possible to determine whether secondary students alone must provide primary input for the teacher assessment process or whether a secondary source is capable of doing it. Understanding the significance of certain overt teaching acts in a student's overall assessment could render an outside evaluator (such as a principal) a more effective monitor of classroom effectiveness. Conversely, a better understanding of the relationship between the teacher and the students and its impact on the overall assessment of the teacher may provide a great deal toward answering the question of how much of the student's perspective can be relegated to other assessment sources.

Several concerns exist in the minds of secondary teachers relative to the credibility and usefulness of student evaluations of their work. Many believe that
secondary students are heavily biased by situational variables which are outside of the teacher's control. In the research at the collegiate level, many of these alleged biases have been shown to be groundless; there is no significant correlation between many of these feared sources of distortion and the student's evaluation. However, one potential source of bias which has consistently demonstrated a (usually weak) biasing influence on student assessment of teacher performance is the grade received by the student for the course taken (Cohen, 1980; Marsh, 1987a; McKee & Dowaliby, 1985). Most of the research on this biasing component, however, has been done at the collegiate level. It is essential to know what influence, if any, a student's grade has on student assessment of the teacher at the secondary level if teachers are ever going to view student assessment with any degree of acceptance or if it is ever to be used on a wide scale in the instructional improvement process.

Methodology

The basic methodology of this study was the collection and analysis of information about various aspects of teaching derived from author-developed questionnaires. Two questionnaire forms were developed: one for student data collection and one for principal data collection. The questionnaire items were selected based on input which the
professional literature advanced as significant in the teacher evaluation process by student raters.

Because validity of the study hinged on the credibility of the questionnaires, measures were taken (i.e., expert review, piloting, and field testing) to ensure their validity and reliability. A high school was selected which was available to the researcher whose administration, teachers, and students demonstrated a willingness to participate. Proper permission to conduct the necessary investigation was obtained both inside and outside the school system (Appendix A). A procedural protocol was established through a process of piloting and debriefing of participants. Standardized data collection methods were employed.

Participants in the study (i.e., students, principals, and teachers) were all volunteers. The data were collected in such a manner that total anonymity was guaranteed. Details of all aspects of the methodology of this study are provided in Chapter 3.

Populations

Universe

It is intended that this study be incorporated into the body of research pertaining to student assessment of teachers at the secondary level. Therefore, the universe of this study is all high school students.
Population

This study should be applicable with a high degree of confidence in high school settings with similar cultural settings and demographic composition as the sample (Table 1).

Table 1

Study Populations Totals

<table>
<thead>
<tr>
<th>Study Populations</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>High School Enrollment</td>
<td>1,576</td>
</tr>
<tr>
<td>Students Participating in Study</td>
<td>≥1,061</td>
</tr>
<tr>
<td>Student Questionnaires Completed</td>
<td>3,210</td>
</tr>
<tr>
<td>Total High School Staff (Teachers Only)</td>
<td>116</td>
</tr>
<tr>
<td>Teachers Eligible for Study</td>
<td>80</td>
</tr>
<tr>
<td>Teachers Participating in Study</td>
<td>45</td>
</tr>
<tr>
<td>Principals Participating in Study</td>
<td>4</td>
</tr>
<tr>
<td>Principal Questionnaires Completed</td>
<td>137</td>
</tr>
</tbody>
</table>

Sample

The sample for this study included all high school students (freshmen, sophomores, juniors, and seniors) present in homeroom, capable of independent reading of the questionnaire, and volunteering to participate in the study at an Iowa high school on the morning of January 29, 1997.

Instrumentation

For this study two questionnaires were developed for data collection (Appendix B). One of the questionnaires was
developed for acquiring information regarding certain classroom and teaching information from students. The other questionnaire was designed to obtain corresponding information from the building administration plus to obtain certain demographic information.

The questionnaire items were developed based on a review of the existing body of information available in professional literature. Questions for the questionnaires were included which probed for information pertaining to issues which had been shown to have a positive correlation with student achievement or otherwise contributed to the learning environment of the classroom. The validity and reliability of the questionnaire is reviewed in Chapter 3.

Data Collection

Student data were collected from 3,210 student questionnaires. Approximately 1,326 high school students were available for participation in the study. This number represents the number of high school students present for homeroom on the morning of January 29, 1997. Based on the number of questionnaires completed, at least 80% ($N \geq 1,061$) of the students in attendance on the morning of data collection volunteered to fill out questionnaires. Special education students who were determined unable to independently read the questionnaire were provided alternative assignments in a separate homeroom the morning
of January 29 and were not included in the data collection. Data collected pertained to student reactions to 13 questions regarding the nature of identified teachers' classroom behaviors and relationships. Students responded to questionnaires for each teacher participating in the study from whom the student had taken a course offering during the first semester 1996-1997 only.

Data were also collected from the high school principal and his three assistant principals. Principals completed 135 questionnaires on the 45 teachers volunteering for this study. The principals' questionnaires included similar or identical questions as the students' questionnaires regarding the individual teacher's performance and classroom culture. Principals were also asked to complete questions pertaining to teacher's age, teaching experience, and other demographic information.

Forty-five teachers at the high school volunteered to have students from their first semester 1996-1997 classes and their building administrators evaluate their performance and the nature of interrelationships in their respective classrooms. Data collection occurred 1 week after the completion of the first semester.
Data Analysis Plan

Research Questions

The purpose of this study was to examine student assessment of teachers at the secondary level and to add to the body of knowledge that determines the role of student evaluation of teacher performance in the instructional improvement process. Six research questions were developed to facilitate this examination. The following research questions were addressed in this study:

Question 1

Is student perception of 12 teacher performance and teacher/student relationship variables (i.e., classroom control, presentation, communication skills, organization, relevancy, feedback, friendliness, respect, encouragement, concern, fairness, and enthusiasm) related to the overall rating of the teacher's performance by the students?

Questionnaire items:

Teacher Performance Variables

Student Questionnaire Item Numbers:
2 (classroom control)
4 (presentation)
6 (communication skills)
8 (organization)
10 (relevancy)
12 (feedback)

Teacher/Student Relationship Variables

Student Questionnaire Item Numbers:
1 (friendliness)
3 (respect)
5 (encouragement)  
7 (concern)  
9 (fairness)  
11 (enthusiasm)

Overall Rating of Teacher Performance

Student Questionnaire Item Number:  
13 (overall rating)

Analysis:

Linear Regression

Question 2

Is principal perception of 12 teacher performance and teacher/student relationship variables (i.e., classroom control, presentation, communication skills, organization, relevancy, feedback, friendliness, respect, encouragement, concern, fairness, and enthusiasm) related to the overall rating of the teacher's performance by the principal?

Questionnaire items:

Teacher Performance Variables

Principal Questionnaire Item Numbers:
2 (classroom control)  
4 (presentation)  
6 (communication skills)  
8 (organization)  
10 (relevancy)  
12 (feedback)

Teacher/Student Relationship Variables

Principal Questionnaire Item Numbers:
1 (friendliness)  
3 (respect)  
5 (encouragement)  
7 (concern)  
9 (fairness)  
11 (enthusiasm)
Overall Rating of Teacher Performance

Principal Questionnaire Item Number:
13 (overall rating)

Analysis:

Linear Regression

Question 3

Do students and principals view teachers' classroom
performance and teacher/student relationships differently?

Questionnaire items:

Teacher Performance Variables

Questionnaire Item Numbers (both forms):
  2 (classroom control)
  4 (presentation)
  6 (communication skills)
  8 (organization)
  10 (relevancy)
  12 (feedback)

Teacher/Student Relationship Variables

Questionnaire Item Numbers (both forms):
  1 (friendliness)
  3 (respect)
  5 (encouragement)
  7 (concern)
  9 (fairness)
  11 (enthusiasm)

Analysis:

Multivariate Analysis of Variance
  T-test

Question 4

Do students and principals rate teachers' overall
performance differently?
**Questionnaire items:**

**Overall Rating of Teacher Performance**

Questionnaire Item Number (both forms):  
13 (overall rating)

**Analysis:**

Analysis of Variance  
Discriminate Function

**Question 5**

How does the grade received by a student in a class, teacher's gender, teacher's age, student's class level, student's gender, and teacher's experience relate to the student's assessment of that teacher?

**Questionnaire items:**

**Teacher Performance Variables**

Student Questionnaire Item Numbers:

2 (classroom control)  
4 (presentation)  
6 (communication skills)  
8 (organization)  
10 (relevancy)  
12 (feedback)

**Teacher/Student Relationship Variables**

Student Questionnaire Item Numbers:

1 (friendliness)  
3 (respect)  
5 (encouragement)  
7 (concern)  
9 (fairness)  
11 (enthusiasm)

**Overall Rating of Teacher Performance**

Student Questionnaire Item Number:  
13 (overall rating)
Course Grade Received by Student

Student Questionnaire Number:
14 (course grade)

Teacher's Age, Experience, and Gender

Principal's Questionnaire:
Demographic Input

Student's Gender and Grade Level

Student Questionnaire:
Demographic Input

Analysis:
Linear Regression

Question 6
Are teacher's age, teacher's experience, the principal's "liking" of a teacher, perceived student learning, and the teacher's gender related to the principal's assessment of that teacher?

Questionnaire items:
Teacher Performance Variables
Principal Questionnaire Item Numbers:
2 (classroom control)
4 (presentation)
6 (communication skills)
8 (organization)
10 (relevancy)
12 (feedback)

Teacher/Student Relationship Variables
Principal Questionnaire Item Numbers:
1 (friendliness)
3 (respect)
5 (encouragement)
7 (concern)

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9 (fairness)
11 (enthusiasm)

Overall Rating of Teacher Performance

Principal Questionnaire Item Number:
13 (overall rating)

Principal's Perception of Amount of Student Learning

Principal Questionnaire Item Number:
14 (student learning)

Principal's "Liking" of the Teacher

Principal Questionnaire Item Number:
15 ("liking")

Teacher's Age, Experience, and Gender

Principal's Questionnaire:
Demographic Input

Analysis:

Linear Regression

Identification of Variables

The study analyzed data provided from a questionnaire given to students from a selected high school. The questionnaire asked 13 questions inquiring about aspects of an individual teacher's job performance in a particular class taken by the student. The questionnaire included six questions regarding the perceived existence and relative magnitude of certain teaching behaviors which are generally thought to be fruitful in the teaching/learning process. It also contained six questions pertaining to the quality of student/teacher relationships which are commonly believed to
be advantageous to teaching and learning. One question asked the student for an overall (summative) assessment of the teacher's professional worth in the class. Also one questionnaire item requested the (self reported) grade received by the student in the class.

A similar questionnaire was presented to the high school principal and to the other building administrators. The same 12 questions pertaining to componential teaching issues were asked as was the summative assessment question. In addition to these questions the principal was asked questions pertaining to the teacher's gender, the principal's affinity for the teacher, the years of experience of the teacher, and the principal's perception of student learning in the class.

Collection of the data was done as prescribed in written guidelines established and provided to data collection proctors (i.e., homeroom teachers). Fatally flawed (e.g., teacher code was missing or unrecognizable), imperatively incomplete (e.g., dependent variable rating was missing), or otherwise ruined questionnaires were deleted; they totaled 11. Questionnaires with missing data which were not imperative were retained; however, the Statistical Program for the Social Studies (SPSS) program automatically excluded them from individual analysis where omissions rendered them useless.
Analysis of the Data

Linear regression analysis was performed, in reference to Research Questions #1 and #2, to determine the relationship of components in each question (questionnaire items numbered 1 through 12) with the overall assessment of the respondent source (Question number 13 on the student and principal questionnaire forms).

An analysis of variance and discriminate function analysis were performed, in reference to Research Questions #3 and #4, to determine if a significant difference existed relative to componential input data and summative data by the two evaluative sources (i.e., student and principal).

A multivariate regression was performed, in reference to Research Questions #5 and #6, to determine if students and principals are biased in their perceptions of teachers' overall effectiveness based on certain intervening issues (i.e., grade received by the student, grade level of the student, affinity for the teacher by the principal, teacher's gender, teacher's years of experience, principal's perception of student learning, and teacher's age).

Organization of the Study

Chapter 1 is comprised of a statement of the research problem and its development. A review of the relevant literature related to student assessment of teacher performance is included in Chapter 2. The methodology used
in this study is provided in Chapter 3. Chapter 4 presents
the analysis of the data. A summary of the study,
conclusions, and recommendations for future research are
presented in Chapter 5.
CHAPTER 2
A REVIEW OF THE LITERATURE

The Need for Improvement in American Public Education

The review of the literature in this chapter presents an explanation for the need for student evaluation in the instructional improvement process at the secondary level. It begins with a study of current instructional improvement efforts (i.e., the need for improvement in American public education and contemporary practices in teacher assessment). The literature review then discusses the place of teacher evaluation in the instructional improvement process (i.e., clarity in teacher evaluation, reliability of student evaluation, validity of student evaluation). The chapter then reviews problems that impede inclusion of student evaluation in teacher improvement systems (i.e., myths and biases). The chapter concludes with a summary of the literature.

The Image of American Public Education

Historically, American public education enjoyed a protected status. Post-war economic improvement seemed boundless, and the American school system paralleled this success by providing an ample supply of qualified candidates for the job market. People liked their schools and had faith in them (Wayson, Achilles, & Lintz, 1986). However,
the tranquillity of the status quo was annihilated in 1983 when a government-sponsored report, entitled *A Nation at Risk* (National Commission on Excellence in Education, 1983), rocked the nation. This report decreed that, "If a foreign nation were to jeopardize the security of the United States to the extent that public education represents, we would surely consider it an act of war" (p. 5).

In the wake of *A Nation at Risk* (National Commission on Excellence in Education, 1983), public education, as well as legislators, scrambled to address not only the perceived problems which the American public had with American education but also with the political backlash associated with the dwindling faith of American citizens in a once hallowed institution. Elmore and McLaughlin (1988) reported that "between 1983 and 1988 more than 700 pieces of legislation were enacted to upgrade the quality of the teaching force. Most were aimed at tightening entrance requirements and at increasing incentives to retain talented individuals" (p. 3).

In spite of these efforts, the public's confidence in education remained low. Secretary of Education William Bennett reported that the quality of American public education is *unacceptably low*. Cook (1990) enumerated this dissatisfaction:
That public education in America is at crisis has been declared by every credible witness. Whether the crisis has passed remains a debatable question. The President's Commission (A Nation at Risk), studies by the Carnegie Foundation as recent as 1989, the National Science Foundation, the National Governors' Conference, as well as feature editorials in Forbes, U. S. News and World Report, and Newsweek along with best sellers such as The Closing of the American Mind and Cultural Literacy, all testify that there is something urgently and irreparably wrong with the nation's system of public education. (p. 39)

But Americans' image of their schools is not one-dimensional. It is complex to the point of being contradictory. Americans seem to think that their local schools are solid but that education in general is in real trouble. This creates an "everybody else must do something" mentality that only exacerbates the situation. Finn and Rebarber (1992) stated that most Americans have the attitude that their local schools are fine but that the rest of the nation's schools are in a terrible state and are at-risk.

The 1989 Organization for Economic Cooperation and Development (OECD) report states the crux of the problem:

Behind the concern about quality is the disappointment with the ability of organizational and structural reforms to solve outstanding educational problems. Institutional arrangements have been modified time and again, yet large numbers of pupils still reach the end of their schooling with patently low attainment levels and no enthusiasm for learning. Many more pupils leave school now than before with some form of qualification but the dissatisfaction of employers has not abated. Our young people are being sold short by an unresponsive and essentially traditionalist system. (p. 17)
The widespread despair regarding public education has created a chaotic atmosphere of uselessness. Seemingly everyone has their own "cure" for the problem which only adds to the uncertainty. Cook (1990) stated, "Most local administrators serve so many masters that at best they can manage only ambiguity and tentativeness. And teachers have heard so many uncertain trumpets that many have abandoned the field in despair" (p. 41).

Many education officials, supposedly charged with the responsibility of improving education, have determined that public education in America is totally healthy; it is the critics who are pathological. Many principals and superintendents do not view the need for improvement with the same urgency as the American public, especially the American business public. In 1990 the Allstate Insurance Company surveyed principals and superintendents. Ninety-one percent of that group stated that they believe American public education is doing an excellent, very good, or good job of turning out an educated population. But the National Education Goals Report (National Education Goals Panel, 1993) does not agree. It stated, "the nation has fallen behind its own expectations and behind the progress of our global competitors. At no stage in a learner's life are we doing as well as we should be or as well as we can" (p. 4).
American Public Schools Compared
With Other Nations

A Nation at Risk (National Commission on Excellence in Education, 1983) provoked educational researchers to begin drawing comparisons between the success of the American public educational system and the educational systems of other countries. Linn and Baker (1995) conducted a meta-analysis of international student achievement in response to the 1989 Education Summit. They looked at the research being performed to decide which data would give some indication of the current status of American education when compared with other developed countries. They found that, in many areas, American students failed in comparison to their counterparts in other countries. For example, the 1991 International Assessment of Educational Progress (IAEP) mathematics assessment of 9-year-olds and 14-year-olds found American students considerably behind Finland, Sweden, France, and Italy. Two independent studies done in 1993, one by Beaton and Gonzalez and the other done by Pashley and Phillips, showed mathematics results of American 13-year-olds woefully behind those of Korean, Taiwanese, Swiss, and Soviet Union youth. A 1993 study performed by Salganik and others showed that 13-year-olds of the United States ranked 13th out of 15 countries on the 1991 tests when National Assessment of Educational Progress (NAEP) scores were
compared to the International Assessment of Educational Progress (IAEP) mathematics scores. Such international reports fueled the public's waning trust in the competency of American public education.

A report published by the National Commission for the Principalship entitled Principals for Our Changing Schools (1990) underscored this loss of confidence in public schools and the nation's inability to compete on an international level in education or business. The report continued:

American business once sent the graduates of American schools overseas to direct and guide their subsidiaries in branch offices. Now American business finds itself hiring a growing number of foreign nationals, people whom they must integrate at all levels in their firms to remain globally competitive. Thus are the skills and knowledge of Americans weighed against international standards: thus are graduates of American schools measured against a fresh yardstick. (p. 8)

At a time when the United States was questioning its ability to compete, other nations appeared ready to meet the challenge. It seemed that the entire globe had picked up on the need to be internationally competitive in the arena of education. A 1989 publication by the Organization for Economic Cooperation and Development cited the following:

The burden of this report is that the priority for the next ten years will be improvement of the quality of compulsory schooling. All OECD countries have made tremendous economic efforts during the past 20 years to invest in the material provision of schools and to carry out sweeping structural, organizational, and cultural reforms. These efforts have brought considerable success. (p. 145)
There was a new international agenda. Americans were beginning to view their public education program in a new perspective. Cook (1990) recalled:

that American public education has been the vehicle--the force--that has brought Americans to the highest standard of living ever achieved by any nation, any time. And it has been the means by which untold millions of citizens have achieved personal freedom, dignity, and fulfillment. (p. 40)

There is a radically different perception now and "that which is past is past" (p. 40).

If things were not complicated enough, education was now aiming at a moving target. Carson, Huelskamp, and Woodall (1993) stated that it is not sufficient any longer for public education to get better at what it has always done. Cohen (1990) and Beck and Murphy (1993) reported that the challenge facing education today is aimed at the fundamental restructuring of the educational system. The National Education Goals Panel (1993) reported that schools must change not only how they perform but also what they are attempting to accomplish. As recently as a decade ago, the overriding demand on schools was to increase the number of students who mastered basic skills such as reading and computing. In the future, maintaining a high standard of living will increasingly require a workforce with greater intellectual competence and flexibility. These traits must be broadly distributed throughout the workforce. These
competencies will be as important to the line worker as to senior level managers and executives. Cohen (1988) reported that:

currently only a small percentage of high school graduates have acquired and mastered the knowledge and higher order skills they will need. Because most high school graduates acquire only a rudimentary set of basic reading and computation skills, they are ill-equipped to handle even moderately complex tasks in the workplace. (p. 3)

At the 1986 National Governor's Conference, as chairman of the Task Force on Leadership and Management, governor Bill Clinton declared, "The U.S. economy is changing: advancing technology and changes in international trade are altering the structure of international competition. Our current educational system cannot meet these new demands. New school structures are needed" (Clinton, 1991, p. 10). Fields (1993) wrote that the need for new innovative schools is apparent. If public education cannot transform quickly enough it may find the rules of the game dramatically changed. Bush administration Secretary of Education Lamar Alexander gave impetus to the need for a changed vision in American schools. The thrust of this change was the development of private foundations to support the development of innovative schools. The future belongs to the educated was the clear message being transmitted, and those countries, or systems, which can most effectively educate its public's children will inherit the world, and
America's patience with its public schools' lethargy has run out.

**Urgency to Improve**

Wagner (1993) challenged school leaders when he wrote:

We are losing a large portion of a generation of young people.

I believe that we are running out of time. What we need to improve schools are not new policy gimmicks, a national curriculum, or more multiple-choice tests, but rather some old-fashioned democratic virtues—courageous leadership, greater clarity and consensus about goals, and many kinds of cooperative ventures to develop new strategies. (p. 701)

A national urgency concerning the need for school improvement was emerging. This need for improvement was rooted in three realities. The first was the perceived notion that the economic well-being of the individual states and their citizens are increasingly dependent upon having a well-educated and highly skilled workforce. The second was the perception that the stability of democracy depends on the ability of our schools to educate all students effectively. Educational failure robs our nation of needed manpower, threatens our democratic processes, and condemns many of our citizens to unproductive unfulfilled lives. The third reality was that public education is a big public business. States invest an average of 37% of their budgets to educating their young people. In light of the increasing demands on state resources, governors and legislators
required improved, effective, efficient, and productive educational systems (Cohen, 1988). Goens and Clover (1991) stated:

In a world where knowledge is power, a nation like the United States (in order to survive and prosper) must have an educational system that will communicate its culture, produce literate citizens, and workers, and develop creative thinkers. The public schools are not meeting the needs of the nation. (Preface)

The National Governors Association of 1988 stated that efforts must go well beyond raising the floor of educational performance. The ceiling of education accomplishment must also be raised. Pelton (1988) warned that there is little time for the public schools to increase the proportion of students, from all backgrounds, who are performing at or near the highest level. At the 1990 Education Summit, the nation's governors and the Bush administration adopted a set of education goals that demanded a major overhaul of public schools. This was the first time that a president and the states' governors agreed on a policy of sweeping national reform of public education (Hansen & Liftin, 1991). Fields (1993) wrote:

Americans need to revive a spirit of war against lower quality of life, a physical and mental bondage caused by joblessness and poverty due to an inability to play in an educated international competition. There is no choice but to work for a transformation of American education. (p. 68)

Cook (1990) reminded us that "if a system does not recreate itself, parallel systems grow up alongside and replace it."
The rise of these new systems is gradual, but the replacement is sudden and irreversible" (p. 42). Public education must improve itself or be relegated to second-class status, replaced by more responsive models, perhaps forever. Pelton (1988) concluded, "For the fact remains that the quality of our system of public education, more than any other single factor, dictates the quality of our lives" (p. 74).

**Defining Improvement**

Improvement in America's schools must be judged by a simple criterion, increased student learning. More students must be better educated. Benton (1982) called this syllogistic conclusion the ultimate criterion. The effectiveness of public education comes down to the effectiveness of each teacher. Work done by Dunkin and Biddle (1974), Gage (1978), and Medley (1977) laid the foundation for the conclusion that teacher performance has the greatest impact on student achievement. A review of the literature by McGreal (1983) and Finley and Crawley (1993) concluded that the teacher is critical in impacting the learning process, having more impact on student achievement than other course variables. There may have been a time, decades ago, when this issue was debatable, but Harris (1985) pointed out that research is now conclusive: teachers make the difference in student achievement.
Improving teaching efforts is the nexus of educational improvement. Sykes (1996) asserted that any effort to improve education in our society ultimately relies on teachers. How to enhance teacher performance becomes the focal issue. Darling-Hammond (1990) showed that there are only two entities which will have any impact in the improvement process: (a) increasing teacher professionalism and (b) restructuring schools to focus on the business of meeting the needs of the learners. Students must become better equipped if American education is going to have any chance of regaining its stature. As schools are asked to define their own improvement strategies, agendas for individual evaluation and organizational renewal are increasingly intertwined (Darling-Hammond, 1990).

The Role of Teacher Evaluation in Educational Improvement

Gitlin and Smyth (1989) argued that teacher evaluation is the crux of enhancing the teacher efforts and, hence, of improving the American educational system. They also argued that, if the evaluative measures that are used to facilitate improvement continue to follow in the same vein as they have been employed in the past, improvement will fail. Success assumes that there will be a break from past practice. Continuing to evaluate teachers using the standard measures will perpetuate the status quo and lead to continued
failures in improvement efforts. As the anonymous author so succinctly stated, "the definition of insanity is doing what you have always done but expecting different results" (Stallings, 1996).

The OECD Report of 1989 suggested that structural reform systems have limited power to address the perennial educational issue of providing qualitatively sound education for all. There is a sizable and growing minority of students who gain little from schooling. The question of how schools will uphold the principle that all young people should be introduced to a common culture and be guaranteed equal access to the upper reaches of the education system, must be addressed by new solutions rather than rehashing the old (p. 134). Wagner (1993) stated that despite the flurry of reform activity nothing much has changed for teachers and students. Little evidence has been provided to teachers that students' needs are being inadequately addressed. Until such evidence is provided the status quo will continue.

Darling-Hammond (1990) reported "that when the public was asked what schools could do to earn an 'A' grade, the answer was that teacher improvement is the key to educational improvement" (p. 18).

An observation in a 1989 report by the OECD stated that . . . institutions can be reorganized through legislative fiat; it is far more difficult to change
pedagogical practices and to bring about the active involvement of all students in the teaching/learning process. Education practices are in fact remarkably stable over time despite repeated reforms. (p. 17)

Deal (1993) noted that the method of instruction in high school classrooms is much the same today as it was 25 years ago. Deal noted that reports at the 1988 ETS Invitation Conference stated that "the classroom, and, within it, the recitation mode, continue to dominate" (p. 17). Alexander (1993) concluded:

the collective efforts of the past decade have yielded little noticeable change in the education system. In spite of good intentions, the practices of teachers are largely unchanged; and the average classroom remains essentially as it was 10 years ago--and to a large extent as it was 50 years or even 100 years ago. (p. 20)

A 1988 Educational Research Service survey (ERS, 1988) reported that 94.8% of school districts cite improving teacher performance as being a major emphasis of their evaluation systems. Ninety-seven percent declare that they actually use the results of teacher evaluations to implement teacher improvement systems. However, they also indicated the use of teacher evaluation programs for an entire litany of other, perhaps contradictory, functions (i.e., to renew or dismiss probationary teachers [96.6%], to recommend probationary teachers for tenure [94.5%], and to recommend dismissal of unsatisfactory tenured teachers [93.2%]). It
would appear that the state of the art in teacher evaluation has a significant identity crisis.

Hansen and Liftin (1991) declared that "performance appraisal of school staff must be carefully reviewed and monitored to ensure that the persons on the action line have the competence and desire to successfully plan and implement school improvement programs" (p. 13). Leaders have to make evaluation of performance and progress more than an honored ritual. Quality improvement will not happen by reviewing results once a year with one standardized test score. It is a day-to-day and moment-by-moment affair. District leaders and principals need to ask themselves how they know that students are learning and how do they know they are making a difference for their students (Whitaker & Moses, 1994).

Whittaker and Moses (1994) cited the need to involve students in the improvement process. Involvement of students in curriculum planning, setting school and classroom rules, and restructuring efforts is crucial. They added:

If given the opportunity and encouraged to do so, students will verbalize their thoughts about schooling, what they like and dislike, what they are proud of and what motivates them. We tend to leave students out of discussions about change when it is they with whom we should be communicating. (p. 177)
Contemporary Practices in Teacher Assessment

Current Evaluation Systems

Current evaluation practice in American schools has very little connection with school improvement. The evaluation process is often perfunctory and pointless. It is a compulsory exercise that is not inserted into any systemic improvement process. Dolan (1994) wrote:

Most schools today have an evaluation system that requires principals to visit classrooms twice a year, write up an evaluation, and then go about their business the same as before. This process does not sort anything out because the principal really does not know what is going on from that short encounter. (p. 147)

Currently, teacher evaluation and school improvement are not recognized as symbiotic partners. "Simply put, educational supervisors must place a higher priority on improving classroom practices and evaluating teachers, in general, if instruction is going to improve" (Aiex, 1993, p. 3).

A 1988 study of school evaluation practices in 100 of the nation's largest school districts found that their evaluation practices, on the average, had not been reviewed in 5 years; they were most often used to dismiss ineffective teachers, did not provide effective teachers with opportunities for professional development, and relied heavily on supervisors to evaluate teachers. All of the nation's largest schools used principals or assistant principals as teacher evaluators. Teachers were used in
that role in 10% of the responding schools. Fully one-third of the classroom evaluators were provided less than 2 days of training in evaluation. Nearly all districts used a standard document to evaluate teachers based on classroom observation by principals as their evaluation base (ERS Report, 1988).

Little has changed in the basic structure of teacher evaluation in the last half century. Data collection systems used for evaluation conclusions remain superficial and monolithic. The principal occupies the role of chief data collector for teacher assessment. In most instances, the principal is the only source for such input. Ellett and Garland (1986) found that few districts have an evaluation document completed by other sources; 31% used self-evaluation, 11% used peer ratings, and only 4% used any form of student evaluation. Yet only 8% of the respondents considered their systems inadequate in any way.

Observation and Data Collection

Classroom observation is unquestionably the most frequent method of collecting data for teacher evaluation. Monitoring and recording classroom activity (usually by the principal) occupies an almost incontrovertible position of merit in contemporary practice. It has almost universal acceptance and usage. The 1988 ERS survey reported that 99.8% of school districts used classroom observation to
evaluate their teachers with 97% conducting a postobservation conference between the teacher and the principal.

Classroom observation is the evaluator's opportunity to get first-hand information about the teacher and the classroom. However, the process of trained critical supervision is far more complex than simple viewing. Observation is normally carried out by outside observers with a visit to the classroom that attempts to collect data on all aspects of the teacher-created environment. A classroom snapshot of all pertinent information exposed during the visit is developed (Sirotnik, 1985).

However, this *snapshot* can easily prove to be a lifeless interpretation of the classroom culture. Supervisors usually use some type of observation instruments for collecting data on structural activities (McGreal, 1982), which cramps their observations into a contrived paradigm. Some look for the facets of communication in the classroom (Wilkinson, 1982). Others look at tangible factors that could include teacher behavior, lesson planning, and teaching techniques. However, intangible factors create perceptions based on abstract qualities such as cooperation and professionalism which are critical to understanding the classroom and instructional process (Harris, 1985). McGreal (1983) suggested that evaluators
use clinical supervision because it narrows the range of items that are being observed and allows the evaluator to be more focused during the observation and in making suggested improvements. At the other end of the spectrum, Sergiovanni and Starratt (1983) suggested that a practical approach to supervision should try to make sense of the classroom events in their entirety. They suggested that improvement can only come about if the supervisor is aware of all aspects of teaching that are present and all that are not.

Stodolsky (1990) stated that the choice of an observation system alone will lead the observer to a particular view of the characteristics of good or effective teaching and that classroom observation leaves out direct systematic evidence about teacher planning, teacher assessment and modification of instructional materials, teacher choice and adaptation of instructional methods, and teachers' working relations with colleagues, parents, and members of the school community. Also, Shulman (1986) noted that direct observation of classroom instruction may not afford the opportunity to ascertain information about teacher knowledge of content, pedagogy, and feedback to students.

The process for observing and recording classroom events is typically routinized. Procedures for collecting observable data vary as to the observer's use of high or low
inference data types. Systems for data collection include behavior checklists, category systems, narrative records, summaries, and rating systems. The typical evaluation process includes a small number of observations, two or three 1-hour observations would be at the high end of the spectrum as far as time spent in classroom observation (Stodolsky, 1990).

The data collection instrument used in the observation of teaching performance usually entails a focusing process which draws attention to certain issues or events and ignores others. Most evaluative instruments have divided teaching into categories with subtasks listed under each one. All the principal has to do is check off the appropriate task, add up the numbers, and get a numerical average (Popham, 1987). This magic number then becomes the quantitative total of the teacher's professional worth. Logic alone finds fault with this type of evaluation. It is well documented that teaching is a complex task (Starratt, 1992), and the interaction between teacher and student, teacher and class, student and student, student and school, and school and home compound the complexity of the teaching/learning process. Reducing that process to an average number from a single classroom observation becomes a ludicrous endeavor.
Observational activities are essentially ways of gathering evidence regarding life in the teaching-learning space. The focus may be on the students, the teachers, or on things in the environment, or a combination of all three. Harris (1985) wrote:

when the purpose is to gather evidence on learning, the focus is typically on the learner. When the purpose is to gather evidence about teacher behavior, the focus is typically on the teacher. When the purpose is to gather evidence on the teaching-learning process or instruction, the focus must be on the interaction among teacher and pupils. (p. 147)

Whatever the purpose, observation should translate into improvement in instructional effort for legitimacy. Duke and Stiggins (1986) observed that "sound growth-producing evaluation begins with an objective record of teacher performance. The goal of observation is to obtain a representative sample of teacher performance from which to draw conclusions about teacher competence" (pp. 28-29).

They emphasized, however, that assessment should not be an end in itself but a strategy aimed at improving teaching.

**Deficiencies of Current Evaluative Practice**

Current practice in teacher evaluation is anchored to a traditional system which typically employs a single source for data collection of classroom information and the development of conclusions based on that data. That single source is the principal. Many argue that the current system is not conducive to teacher improvement.
Kauchak, Peterson, and Driscoll (1985) surveyed teachers to determine their feelings about principal-driven evaluation. They reported that the evaluation was "perfunctory with little or no effect on actual teaching practice" (p. 33). Johnson (1990) reported that teachers rarely get ideas for improvement from their principals. They (principals) are more concerned with following the procedure of the evaluation than with its content.

Dolan (1994) stated that he recognized in his work with schools all over the country that any real work was hard to evaluate at its core; therefore, the evaluation systems tended to touch only superficial facets of teaching. Those doing the work and who were being evaluated drew back from the system, away from dialogue about the deeper issues and eventually away from their responsibilities. These systems imposed goal-setting and accountability onto the teachers from above. It was a system designed to reward some and punish others. "It leads to dry mouths and clammy hands but not much joy for teaching" (p. 97). Freire (1985) wrote "the dominant inspectoral forms of evaluation are simply forms of surveillance dressed up as 'fiscal' tools in the hands of those who claim to be acting out their own infallibility through possession of truth" (p. 23).

Current evaluation practices seem ripe for adaptation; deficiencies abound. Harris (1986) stated that "because
teacher evaluation is complex, threatening, and not well-understood, much of current practice involves games rather than systematic evaluation" (p. 12). Teacher evaluation has been practiced in schools as long as there have been schools. Seventy years of research on current evaluation practice shows that "evaluation does not accurately tell what happens in classrooms or improve instructional practices" (Peterson, 1995, p. 14). Problems with current practice are listed in the paragraphs below.

The first major concern is the supervisory competency of the principal. Supervisors must master the skills necessary to enable them to correctly apply whichever type of classroom observation system they plan to use (Alfonso, Firth, & Neville, 1984). Therefore, the level of mastery that a supervisor possesses will, in large part, determine the competency of the evaluation. Researchers contended that principals can be effective evaluators, can judge teacher performance accurately, and can render valid evaluations when they have been given the time and training in evaluation procedures (Lewis, 1979; Medley & Coker, 1987; Riner, 1992). However, too often principals have been ill prepared for the job of evaluation (Anderson, 1989; Levin, 1979). They have had haphazard training to evaluate teachers and therefore face sizable odds in their efforts to distinguish the best from the rest (Hoyle, 1990).
Many researchers (e.g., Levin, 1979; McNeil & Popham, 1973; Scriven, 1981; Starratt, 1992) wrote that the observer is going to bring his/her own prejudices into the classroom. Collectively, they offered the following concerns relative to the biasing phenomenon of principal observation. The observer has his/her idea of how teaching/learning should look and often, according to research, these opinions cannot be tied directly to student learning. An observer can have prejudices concerning the person observed even when they try to be objective. And lastly, a visitor cannot put himself/herself in the place of the student and so cannot accurately determine the effect of the teaching on the student.

It is the tendency of principals to equate orderly classrooms to quality teaching even though there has been no research to document that orderly classrooms enhance the achievement of students. Evaluations, therefore, can become a way for the school to impose its desire for orderliness and structure on the teaching/learning process. Surveyed teachers went on to criticize the whole process. They complained that the visits were too brief, the principal was not familiar with the course or grade level content, the evaluation reports were not applicable to their particular situation, and the principal said little about the actual student/teacher acts observed in the visit. Teachers
further criticized principals as evaluators because they perceive that principals lack confidence, experience, and perspective on what it is like to be in a classroom (Peterson, 1995).

The second major concern with the status quo is that observation strategies used in the teacher evaluation process are often riddled with validity problems. Shulman and Pelton (1988) reported that observation is an attractive strategy because there seems to be so much potential in watching real teaching in real classrooms directly. But such methods have been disappointing thus far because they failed to tap many of teaching's critical dimensions. Shulman (1988) pointed out that current practice assumes that teaching can be reduced to generic checklists that ignore class content, teacher experience, student make-up and a myriad of other variables that go into the mix of teaching and learning. Too often, the typical observation method for evaluating teaching has been like photographing the *Mona Lisa* with a black-and-white Polaroid® camera (Shulman & Pelton, 1988, p. 19). Evertson and Green (1986) enumerated 17 errors of validity and reliability in observational data collection. Harris (1985) continued by stating that "the great variety of relevant events going on in the classroom and the complexity of relationships among pupils, teachers, and the physical environment combine to
make comprehensive classroom observation from a single vantage almost an impossibility" (p. 171). Peterson (1995) pointed out the difficulty with classroom observation:

Teacher evaluation based on classroom visits depend very heavily on what the teacher is observed doing at the time of the visit. Because most administrators have very limited time to evaluate each teacher, the small number of observations result in very unreliable data for evaluation. (p. 16)

Marks, Stoops, and King-Stoops (1985) also observed that supervisors have very small amounts of time to observe teachers. Starratt (1992) reemphasized the problem when he noted that there is no guarantee that the class observed is representative of all the classes taught by that teacher.

The third concern is that current evaluation tools are inadequate. Many evaluation systems are based on a checklist system. Teachers believe such tools are inappropriate for assessing the quality of classroom practices and accountability. Peterson (1995) noted that poorly constructed instruments and inaccurate evaluative judgments have led to low levels of respect by teachers, principals, and other administrators for evaluative procedures in the profession. Teachers report that learning is cumulative and, therefore, it is difficult to isolate the effect of any one teacher on the performance of a student. They also believe teacher behaviors and activities interact with many other factors to shape student performance.
Teachers vary enormously in the practices that work for them and in the problems they confront in a particular classroom (McLaughlin & Pfeifer, 1988). Wise, Darling-Hammond, Berry, and Klein (1987) discussed the shortcomings of on-the-job performance assessment as being directed by evaluation instruments that favor teaching acts that are too rigid, do not reflect the actual job setting, and are tied in with licensure rather than with improvement. All of these factors contribute to teacher mistrust of most contemporary evaluation instruments.

Fourth, the presence of an observer changes the classroom environment, creating flawed data collected during the observation. The behavior of teachers and students will be affected by the presence of a visitor in the classroom. Unless the observer is prepared to make many such visits, the observation will be a distortion of the actual day-to-day teaching and learning of the classroom (Schrag, 1995). Scriven (1981) concluded that classroom observation should not be used in teacher evaluation. He noted that the visit itself alters the classroom to the extent that any data gathered is a distortion.

Fifth, teachers often distrust their principals. Principals are given a lot of control over the lives of teachers. They are given the responsibility for monitoring, evaluating, and dismissing teachers (Sergiovanni & Moore,
1989). Blumberg (1980) conducted a study that called attention to the cold war between teachers and supervisors. He pointed out that there is resentment by most teachers for their supervisors and for the ineffectiveness of most supervision. Little has changed. Years later, Starratt (1992) noted that the unequal power relationship between teacher and supervisor makes the professional judgment of the teacher subservient to the supervisor. Research findings continue to reveal lack of well-articulated supervisory policies, inconsistent application, and great diversity of opinion between supervisors and teachers regarding the purposes, effectiveness, or impact of the supervisory act on teaching. Supervisors continue to try harder and teachers continue to perceive these efforts in a neutral or negative way (Darling-Hammond, Wise, & Pease, 1983).

Sixth, principals see only a tiny portion of the teaching process. Teachers are uncomfortable with the notion that the observer is only seeing a small portion of a larger sequence of events. They fear their work will be misinterpreted because of such a tiny sampling (Harris, 1985). Scriven (1981) agreed that the time allotted for the visit is too brief to gather representative information. Some of the resistance to administrative evaluation of teachers begins with the idea that teaching is an art and,
therefore, not subject to qualified evaluation (Andrews & Knight, 1987). The fact that until specific teacher behaviors are identified that solidly correlate with learning, this argument will persist (McCarty, Kaufman, & Stafford, 1986; Starratt, 1992).

The seventh concern that points to the inadequacy of the current system is that the evaluation process is carried out in isolation from the school environment. Course content, student learning, school goals, and school mission are not included as part of the process of evaluation. A 1987 study conducted by Medley and Coker failed to find correlation between specific teacher acts and student learnings in evaluation reports done by principals. They concluded that "the most important finding of the study is the low accuracy of the average principal's judgments of the performance of the teacher he or she supervises" (p. 245). They concluded that using just one individual observer/rater in any teacher assessment is a "misguided and inaccurate" process. Nevertheless, principals continue to believe that they have enough influence to create an environment for teacher improvement and increased student learning (Glasman & Nevo, 1988), but they also complain that their day is so fragmented that they have little time for instructional leadership (Peterson, 1995).
Lastly, there is role confusion concerning the purpose of teacher evaluation. Teachers are well aware of the contradictory role of the principal. Principals supposedly are instructional leaders. They guide teachers into improved practice and give needed support for change initiatives; but, at the same time, they must make tough summary decisions on whether teachers are transferred, tenured, promoted, or terminated. Castallo, Fletcher, Rossetti, and Sekowski (1992) suggested that it is "illogical for principals to believe that teachers will come to them for help or even for teachers to admit that they have areas of weakness under the present system of teacher evaluation" (p. 289). Arreola and Aleamoni (1990) have reported that all data collection systems--outside evaluators, student, or self-evaluation--"start out ostensibly as formative (designed to provide feedback for the purpose of facilitating professional growth and development) [yet] almost always end up serving a summative purpose as well" (p. 37). Sooner or later an administrator will use evaluative data to make decisions (judgments) about faculty members. Darling-Hammond et al. (1983) agreed, adding that "evaluation systems have little relationship with formative functions. The evaluation is necessarily tied to the summative processes of renewal of contracts, tenure, and dismissal" (p. 203).
Summative evaluation does little or nothing toward developing skills, changing behaviors, or building collegial environments. Gitlin and Smyth (1989) remarked:

where evaluation means something "done" to the teacher, the evaluator becomes the object of contempt, with classroom teachers understandably seeking to conceal what is really going on. In such antagonistic relations a climate is created in which teachers and their adversaries (evaluators) spend a great deal of time wrestling with one another. (p. 38)

Dominant forms of evaluation also separate teachers from one another by ranking them. Teachers are not encouraged to communicate with one another and are not encouraged to create collective solutions to problems. On some occasions, the teacher may comment on what the evaluator has to say, but teachers can neither determine the categories on which they will be judged nor set the agenda for the evaluation conference. The term evaluation itself connotes negativity (Darling-Hammond et al., 1983). When an object, activity, or person is evaluated, it means the evaluator is looking for both good and bad elements contained in the thing or practice being evaluated. In the case of teacher evaluation, the evaluator is looking for discrepancies between what is observed and an ideal teacher (Provus, 1971). This sets the course of evaluation as a negative process. No teacher wants to be made to look bad. Teachers care about what they are doing and do not want to feel bad about it. As it stands now, teacher evaluations
are a threat to livelihood (Peterson, 1995). However, in actuality most teacher evaluations are put in a file and never looked at again (Bridges, 1992; Lawrence, Vachon, Leake, & Leake, 1993).

Clarity in Teacher Evaluation

Distinguishing Good and Bad Teaching

Many theorists have attempted to discriminate good teaching practices from poor ones. No definitive answer exists. Much of the foundational research pointed at answering the question of efficacious teaching practices focuses on attempts to correlate single teaching acts or classroom relationship issues with student achievement or summative teacher ratings (Feldman, 1988; Kemp & Kumar, 1990; Marsh, 1982a). Standardized methods and instruments have been developed about this basic precept. Some of those instruments are the Student Evaluation of Educational Quality (SEEQ), Uniform Student Evaluation Survey (USES), Instructional Development and Educational Assessment survey (IDEA), Endeavor Instrument (developed by Frey [1973] at Northwestern University), Student Instructional Report Survey (SIRS), and The Model of Interpersonal Teacher Behavior and the Affinity-Seeking Relationship form. These forms have been developed and studied for reliability and validity by such researchers as: Abrami and d'Apollonia (1990), Cashin and Downey (1992), Feldman (1976a, 1976b,

Various researchers have produced their own lists of effective teaching elements based on their own analysis of the literature. According to Goodwin and Stevens (1993):

- Generally accepted characteristics of good teachers are enthusiasm, knowledge of the subject area, stimulation of interest in the subject area, organization, clarity, concern and caring for the students, use of higher cognitive levels in discussions and examinations, use of visual aids, encouragement of active learning and student discussion, feedback, and avoidance of harsh criticism. (p. 166)

Feldman (1988) listed 18 specific instructional dimensions in terms of their importance to students in relation to teacher effectiveness. They were:

- Teacher sensitivity and concern with class level and progress; teacher preparation and organization of the course; teacher knowledge of the subject; teacher stimulation of interest in the course and subject matter; teacher enthusiasm; clarity and ability to be understood; teacher availability and helpfulness; teacher concern, respect for students, and friendliness; teacher fairness, impartiality of evaluation, and quality of examinations; nature and value of the course material, including its usefulness and relevance; teacher elocutionary skills; nature, quality, and frequency of feedback from teacher and students; teacher encouragement of questions and discussions, openness to opinions of others; nature and usefulness of supplementary materials and teaching aids; teacher intellectual expansiveness and intelligence; intellectual challenge and encouragement of independent thought; and clarity of course objectives and requirements. (p. 8)
Multidimensionality

Until relatively recently researchers usually pursued the development of lists of practices and relationships related to student gains on a simple correlational basis. Teaching characteristics which had high (positive or negative) correlations with student success were deemed significant, and those with weak or neutral correlations were discarded as useless, having no impact on instructional success. However, some researchers began to question the wisdom of such a simple practice. Abrami (1989) wrote that "effective teaching, as a construct, is a complex web of interrelationships. To describe and then operationalize this network of interrelationships is an awesome task that researchers in this area have not really addressed" (p. 45).

Marsh (1991) determined that effective teaching is a multidimensional activity. He wrote:

"teaching variables "play off" of one another. The presence of a particular variable may have a very powerful impact on learning when it coexists with another variable, however, in the absence of the second variable the presence of the initial variable may have a much weaker or even neutral impact on learning." (p. 402)

Many researchers agreed that teaching consists of many dimensions. It involves creating a complex blend of strategy and pedagogy. There is no single criterion for effective teaching and no single criterion stands alone in its impact on the effect of teaching. As Kemp and Kumar
(1990) explained it, "effective teaching is a multifaceted collection of teaching acts" (p. 110).

Ultimately, there is no single act or trait which will guarantee successful teaching. Effective teaching is a blend of teaching behaviors and conditions each related to the other (Kemp & Kumar, 1990). Differing conceptions of teaching, educational goals, teacher knowledge, teacher activities, and teaching behaviors form a multidimensional collage of action and reaction which makes the act of teaching, and its corresponding level of success, a very complex issue (Darling-Hammond, 1990).

McGreal (1983) suggested that to create an effective evaluation system there is a need to gather data from many sources to form a complete picture of the teaching act. He included in this multifaceted data collection scheme evaluations by parents, peers, self, students, student performance, and artifact collection sources. Only when one views the act of teaching from these many perspectives can one develop a holistic appreciation of the act. Kemp and Kumar (1990) evaluated many of the variables that go into teaching and learning and concluded that, because of its multidimensionality, the teaching act requires a collection of data from many sources in order to evaluate effective teaching. No single source can monitor and appreciate all of the factors which ever so subtly may be influencing the
effectiveness of the teaching act. If a process were to wantonly proceed with an explanation of this extremely complex system with insufficient evidence, it would trivialize the teaching environment and, more significantly, it would belie educational improvement.

Many experts came to the conclusion that because teaching is such a complex process involving interdependent multidimensional variables it cannot be accurately portrayed or understood without student input. "Teaching is a multidimensional activity, and student ratings reflect the variety and range of teaching behaviors, as well as the successes and failures of those who practice its art, craft, and science" (Theall & Franklin, 1990, p. 32). Jacobs (1987) surveyed students to identify factors that they considered important for teaching effectiveness:

Students identified how much they had learned in the course; the instructor's fairness and impartiality in dealing with students; how fair the examinations were; how well-organized and prepared the instructor was for class; the instructor's rapport with students; how interesting the instructor has made the course; the instructor's expertise in the field; the teaching method used; and the instructor's personality. (p. 11)

The Need for Multiple Evaluative Sources

As suggested earlier in this chapter, current practice in teacher evaluation has significant drawbacks. Many of these drawbacks revolve around the use of the principal as the sole source of input for the assessment. These concerns
can be rectified by the inclusion of other sources for data collection. McGreal (1983) suggested that developing an appropriate and realistic perspective by all stakeholders on the major function of an evaluation system (teacher improvement) is an absolute necessity for the development of a successful and effective teacher evaluation system. Scheetz (1986) continued the thought by adding that administration and teachers must work together to create an evaluation system that will bring about the desired result of the system (i.e., effective teaching). Popham (1988) proposed that evaluators rely on multiple sources of evidence of teacher effectiveness. Scriven (1988b) elucidated further that "evidence refers to expert testimony in the area of demonstrable expertise, existing records, incidental or specially arranged observations (includes observations from peers, students, and administrators), exit interviews, materials, tests, and teacher portfolio" (pp. 137-138).

Because of the poor track record of principals, evaluation sources that use a sole rater/observer have also had a poor track record in teacher improvement and a rather abysmal impact on student achievement (Peterson, 1987). He concluded that there was a much better chance of success in terms of determining a base for making suggestions for teacher improvement as well as in making summative
judgments, when the information was gathered from multiple sources. Better quality data will lead to better suggestions for improvement and more accurate summary decisions. Mehrens (1990) concluded: "Certainly one should use more than one piece of data as a basis for an important decision" (p. 322). Centra (1977) noted that the exceptions to the correlations of ratings and achievement indicated that many sources of information should be gathered when evaluating instructors. Much of the predictability error in determining qualitatively sound summative judgments, as well as developing sound educational practices, could effectively be eliminated. Starratt (1992) enumerated the complexity of the teaching process. He wrote:

Recent research is providing a much more comprehensive picture of classroom teaching as it takes place throughout the school year. Teachers are seen as managing an intensely complex, unpredictable, and constantly shifting ecology of minds, emotions, physical stimulations and discomforts, imaginations and fantasy worlds, multiple interpretations of metaphorical language, all simultaneously in motion and interpenetrating one another. (p. 82)

To think that a single data collection source can accurately and comprehensively view and appreciate this richly dynamic world is overly optimistic. Because of the complex nature of the teaching act, the accompanying evaluation structure must also be complex rather than monochromatic. Effective evaluation programs will be a compilation of artifacts and observations that include many
viewpoints. Abrami (1989) emphasized that "teaching effectiveness cannot be operationalized narrowly but must include multiple indicators of effectiveness" (p. 44). Any simple mode of measurement will fail to assess teaching practitioners' validity. The solution does not lie in perfecting the imperfectable but rather in deploying complementary modes of evaluation that compensate for the most serious deficiencies of measurement (Shulman & Pelton, 1988).

Manatt (1997) developed an evaluation plan that encompasses a 360-degree feedback system for use in assessing teaching effectiveness. His plan called for input from supervisors, student achievement, student feedback, peer feedback, parent feedback, and self-evaluation. Manatt suggested that "excellence comes from ever-improving on quality" (p. 11). Each perspective can fill in a different piece of the educational picture.

**Principals' Evaluations**

Legislatures, local school boards, and teachers' unions all have had a hand in determining the evaluation procedures that are practiced in any given school (Duke & Stiggins, 1986; ERS Report, 1988). All agreed on the inherent, almost intuitive, value of using principal-collected data as the cornerstone of the process (Duke & Stiggins, 1990). According to the 1988 ERS Report, over 90% of the schools...
responding had principals do the data collection through formal or informal classroom observation. Most of these evaluation procedures centered around a checklist type of report, with which the principal may or may not have been comfortable (Aiex, 1993). These checklists were specifically chosen to create a record of standard uniformity in data collection (McGreal, 1983). This uniformity is necessary for any legal action resulting in the use of evaluation instruments for teacher termination but without a doubt created a systemic myopia about the very complex act of teaching.

Peterson (1995) reported that the teacher evaluation itself most often consists of a principal's report, recorded on a checklist form that is accompanied by a brief meeting between the teacher and principal. Ellett and Garland (1986) reported that these observations usually consist of two or three 1/2-hour visits. Other researchers (e.g., Bridges, 1992; Johnson, 1990; Lewis, 1982; Peterson & Chenoweth, 1992) stated that responses on these checklists are often based on informal rather than formal classroom visits.

Self-Evaluation

Self-evaluation is another evaluative tool that is utilized in some schools. The 1988 ERS Report stated that some form of teacher self-evaluation was used by 23.2% of
the elementary schools, 22.6% of the junior high schools, and 21.7% of the high schools. Brighton (1965) suggested that self-evaluation recognizes the need for academic freedom and professionalism as its basic philosophy. Teachers find that this type of evaluation does more to esteem them as professionals than any other type of evaluative act. Brighton also suggested that self-evaluation and improvement is the goal of all evaluation systems.

McGreal (1980) believed that self-evaluation was a powerful but often misused system. Some school districts required self-evaluation. These self-evaluations took one of three forms: teachers completed a form that was provided by the district, they wrote a self-report (narrative), or they developed goals based on their perception of need. Usually these self-evaluations were put in a file and were left there, never to be referred to again. True self-evaluation requires teachers to collect their own data and make their own judgments about their own teaching. This type of self-evaluation is akin to the creation of individual teaching portfolios or dossiers.

Although self-evaluation appears to be implicitly teacher-centered and improvement driven, it is not without its philosophical and pragmatic flaws. Wolf (1973) noted that the effects of self-evaluation cannot be separated from
the teachers' attitudes toward evaluation. He reported that overall he was not encouraged to use teachers to evaluate their classroom behavior and did not believe that it would be productive. McNeil and Popham (1973) reported that there are only a few studies indicating that some teachers are self-directed in their learning and expend effort in judging their behavior on the basis of the consequences of their teaching as revealed by the actions of pupils (p. 231). And most condemning, Riner (1992) found that teachers' self-evaluations were not adequate predictors of student achievement.

Wubbels et al. (1992) found that teachers base their self-evaluations, at least partly, on their ideals. This often leads to a distortion in their judgment. They suggested that teacher self-report be used within a broader evaluation system to gain a more clear picture of the teacher's effectiveness.

Peer Evaluation

The usefulness of peer review or peer evaluation has been investigated by many researchers and theorists. Arreola and Aleamoni (1990) noted that the process is more credible because it uses teachers in the same content or grade levels as evaluators. These peer evaluators are familiar with the classroom interactions and content. This makes their suggestions practical and useable by the teacher.
observed. Alfonso (1977) and Goldsberry (1980) suggested that peer supervision has great potential for increasing collegiality and professional interaction, technical feedback, and informal encouragement.

Different formats of peer evaluation are used as part of this evaluation strategy. The effective schools philosophy of school management has discovered that participatory school management by teachers, based on collaborative planning, collegial problem-solving, and constant intellectual sharing can produce both student learning gains and increased teacher satisfaction and retention. Though teachers in these settings may or may not be involved in direct peer review for formal evaluation purposes, they nonetheless practice a form of evaluation and peer review when they identify problems, observe one another, share promising practices and ideas, seek counsel, and offer encouragement to each other (Peterson, 1995). It was becoming increasingly common for peer supervisors or coaches to work with teachers in formative evaluation. Supervision teams or peer partners have time to perform multiple evaluations, have the benefit of current common experience backgrounds, and presumably increase teacher comfort with the evaluation process (Anderson, 1989).

Peer review at the university level generally includes a committee that involves all tenured faculty or all senior
faculty or a combination of both. The committee reviews all evidence of the teacher's instruction and makes a decision that is recommended to the administration (Arreola & Aleamoni, 1990). A study of faculty at Indiana University noted that 43% of the respondents believed peer ratings would be more effective than student ratings in improving instruction (Jacobs, 1987).

Peterson (1995) suggested that a peer review of artifacts become part of the evaluative scheme developed in schools. He cited the fact that students spend a great part of their day interacting with teacher-selected or teacher-created materials. It is logical, therefore, to evaluate that aspect of the teaching act, and the most logical evaluator of such materials are fellow practitioners who can deliberately assess their potential efficacy based on their own experiential base.

Teacher and Student Testing

Testing can also be used as a source of data collection. Evaluating teachers and teaching effectiveness has become the recent objective of standardized testing. Testing can be included in the teacher evaluation process following one or both of two general formats. One format is to test the teacher to determine professional competency. The other is to test students to determine teachers' impact on student performance as measured by some assessment tool.
Anrig (1986) advocated for teacher testing but believed there is difficulty with validity and reliability. Clearly, this source of data for teacher evaluation is clouded in controversy. At the center of the controversy is the issue of predicting teaching success from a paper and pencil examination. Darling-Hammond and Wise (1983) pointed out that there was no consistent relationship between scores on teacher competency tests and measures of teaching performance.

Some groups advocate the use of student tests as evidence of effective teacher performance. Although such a practice makes intuitive sense, it also has its drawbacks. Soar, Medley, and Coker (1983) suggested there were too many variables over which the teacher has no control that contribute to students' performance in school and, therefore, their performance on tests. These variables make student testing invalid as a means of assessing teacher performance.

The Need for Student Evaluation

Ory (1990) noted that 70% of colleges and universities use student ratings of instructors, and there are indicators that that number is increasing. However, a 1988 ERS Report noted that student evaluation of teacher performance has been used in only about 3% of the public schools. The lack of use and implicit reluctance to employ student evaluation
in the teacher assessment process would suggest that students have little to tell or small worth relative to teacher performance and instructional improvement. Researchers and theorists sharply disagree with this conclusion.

Students are valuable sources of teacher assessment in that they are present while the day-to-day work of teaching occurs. They are at the heart of the process and undoubtedly have insight into what is going on. Students are reliable in recognizing indicators of classroom dynamics not readably observed or sensed by visitors to the classroom (Goodlad, 1984). They are the focus of the teaching and, therefore, are in a unique position to gauge its effectiveness as it applies to them. Hayes (1963) suggested that "students are the only individuals who see the teacher day after day in the classroom. They are not experts on how to teach, but they can furnish valuable evidence concerning the way their teachers teach" (p. 168). Mallery (1975) agreed that "students are in the unique position to give a sense of what it feels like to be themselves in the middle of the third-grade class, or the tenth-grade class, or a student-faculty planning committee" (p. 24). McKelvey and Kryiacou (1985) spoke to the obvious when they noted that learning is part of the process of teaching. They suggested
that it makes sense that students should have a voice in that process.

Good teaching requires that the instructor reach the students. There is simply no way around that fact (Machina, 1987). This alone gives student evaluations substantial weight. Who better than the student to tell if he or she has been reached by the instructor, and who better than the student to know if he or she has learned from the instructor? The importance of the student in the teaching-learning interchange should be obvious. Failing to reach the student results in ineffective teaching. If students rate a faculty member as low, then there has been a breakdown in the teaching process somewhere. There has been failure to reach the student. Teachers need to listen to the important feedback students provide regarding their involvement in learning and their satisfaction with the educational process (Mergendoller & Packer, 1985).

McLaughlin and Pfeifer (1988) stated that:

students provide an important perspective on teaching; they are the recipients of instruction. They are in a good position to report on the extent to which a teacher prepares for class sessions, communicates clearly, stimulates interest, demonstrates enthusiasm and an interest in students. If asked appropriate questions, in a valid and reliable format, students are capable of providing very useful information about the quality of instruction and the climate of the classroom. (p. 8)
Students believe that they are competent to recognize and judge good classroom teaching (Jacobs, 1987). Students actively interpret the social worlds of the school and the classroom, and their interpretations structure their actions within these worlds. Jacobs believed that understanding students' perceptions is necessary, if appropriate interventions are to be made in the school organization and the classroom. Dolan (1994) continued this thought. The student is the one who is doing the real work, but the power to direct, control, monitor, evaluate, reward, and punish is given to the adults. Giving students a voice in the dialogue of the improvement process through teacher ratings would help ease their sense of isolation and feelings of helplessness that are often displayed in anger, sullenness, and alienation.

Bonetti (1994) considered the student evaluation process as an "insurance policy" for continued attempts at improvement by instructors, especially those who perform at a substandard level. He suggested that the possibility of peers and superiors being privy to the consequences of the survey results encourages instructors to strive to improve their teaching techniques. Students can provide insight from a different perspective. This alternate vantage can unveil new insights with potentially important connotations. For example Levy, Wubbels, and Brekelmans (1990) found that
secondary students' perceptions of the ways teachers communicate and teachers' perceptions do not correlate, a conclusion which could explain much in terms of why improvements are stifled in some classrooms.

Vargas-Gomez and Yarger (1987) conducted a study of their seventh and eleventh grade students concerning their perceptions of their science teachers. The study concluded that effective teaching results in significantly better student attitudes concerning their teachers. Mallery (1975) reflected that "students have a kind of information that teachers really need in order to know how they are doing" (p. 34). Fraser (1986) and Walberg (1986) both noted that student perceptions of the learning environment had significant correlation with student cognitive and affective learning. This body of research suggested that teachers need the feedback that students provide to reflect on their teaching. Marsh (1991) stated that:

the use of student evaluation of teacher effectiveness can best be used to give teachers diagnostic feedback about their effectiveness to improve instruction, measure effectiveness to make personnel decisions, give information to students about teachers to be used in course selection, and as an outcome process to be used in research on teaching. (pp. 417-418)

Murray (1980) also reported that student evaluations alone do not result in improvement but when they are accompanied by expert consultation, motivational support, and specific suggestions, measurable improvement will occur.
Theall and Franklin (1990) noted that 3 decades of research support the notion that student opinions can provide important information but that the topic continues to generate controversy and confusion. Mallery (1975) cautioned that:

the most astute and sophisticated student-evaluation-of-teachers instrument in the world could be virulent poison in a school where the atmosphere, the assumptions, and the habits were not in some kind of harmony with the instrument, or even with the idea of using one. (p. 27)

McGreal (1980) summarized how administrators and teachers feel about student evaluation as having little support, and the support that does exist is not strong enough to justify using student ratings in a summative evaluation scheme.

Emmerson, Anderson, Anderson, and Brophy (1980) considered that student evaluation could be the basis on which to establish a positive dialogue between student and teacher. Some teachers fear loss of control if the student is allowed to evaluate their teaching performance, but Tucker (1980) reported that many teachers have been conducting their own student evaluation exercises for years and do not consider it an abdication of control of the classroom.

The key to the use of student evaluation of teacher performance is the removal of myths and biases which currently permeate this subject. Teachers will not trust an evaluation system which includes student assessment as long
as it is perceived to be riddled with doubts concerning its reliability and validity. Peterson (1995) suggested that reservations to student evaluation can be overcome by research and careful selection of evaluative practices.

Reliability of Student Evaluation

The debate concerning the use of student evaluation of teachers has been raging for some time. Concerns about the reliability of student evaluation have continually been a major component of this debate. Many researchers have studied the questions of reliability of student evaluation of teachers. Virtually all have found these concerns to be groundless.

Reliability Over Time

Almost a half-century ago Guthrie (1954) found that students' judgments about the quality of teaching were highly correlated from 1 year to the next and that students' judgments of teaching quality were more stable than that of the faculty. However, decades later, Aleamoni (1974) and later Yunker (1983) identified as one of the largest concerns that teachers have about student evaluation is that students cannot make consistent judgments about teaching. This myth has been consistently shown to be false in the research; however, for whatever reason, it persists in the mythology surrounding student evaluation of teachers. Peterson (1988) and Scriven (1988a) both reviewed the
research and found that most studies yielded reliability correlations between .80 and .90.

In 1980 Murray reviewed the body of research on student ratings of college instructors and found consistency across questionnaire items and raters and over time. Seldin (1980) reviewed studies on reliability of student ratings and concluded that student ratings are highly reliable. These findings are consistent with Burdsal and Bardo (1986), McKeachie (1979), and Runco and Thurston (1987). Student ratings, once obtained, have a high level of correlation over time and among question items designed to measure the same instructor characteristic. Seldin, again, in 1984, determined that virtually every study of reliability has shown student rating to be a reliable measure of instructor effectiveness.

Aleamoni (1974) found that teachers were concerned that students would not be able to distinguish the amount of learning or its value until it had been tested in later study or in the workplace. Marsh (1982a) studied this potential fallacy in the use of student ratings and determined it to be unfounded. Students rated instructors at the end of a class and again in a year. The correlation of ratings was 0.83, thus confirming that ratings of instructors were stable over time and that teacher effectiveness ratings were not significantly different with
or without real life applications of subjects learned in a class.

Costin, Greenough, and Menges (1971) found that students can rate classroom instruction with a reasonable degree of reliability, showing consistency in rating over time even when a host of situational variables are imposed. In fact, a large body of research would indicate the stability of student ratings despite potentially contaminating variables. For example, one situational variable which hypothetically could impact student ratings of teachers is the existence of an atypical good or bad experience at the time of the rating. However, Costin et al. (1971) found that students rated teacher performance consistently despite the presence of some monumental positive or negative situational issues.

**Reliability Between Raters**

Aside from the issue of the consistency of student ratings over time, there is also the reliability question (i.e., do different groups of students rate the same teacher consistently?). Drucker and Remmers first conducted a study to determine reliability among student raters in 1951. They concluded that differing groups of students did rate the same instructors in much the same way. Marsh and Overall (1979), continuing the work, found mean ratings to be the same among student raters of the same instructors. Levin
(1979) similarly indicated that student ratings are consistent among student raters for the same instructor. McKeachie (1979) conducted a study along the same avenue of inquiry and determined that mean ratings given by groups of students were highly consistent. He concluded that "reliability is not likely to be a concern for most uses of student ratings" (p. 393).

Validity of Student Evaluation

Student Evaluation and Achievement

Most studies of student rating of teachers relate the student's learning, as determined on formalized tests, to ratings ascribed to the instructor. These studies concluded that students who demonstrate greater achievement give higher instructor ratings (Doyle & Whitely, 1974; Frey, 1973; Lowman, 1984; Marsh, 1982a; McKeachie, 1986). Cohen (1981) reported that "instructors whose classes of students achieved the most were also the instructors who tended to receive the highest ratings" (p. 296).

The fact that student ratings of teacher performance are highly reliable would mean little if they had no relationship with student achievement. Marsh (1987a) determined that the best measure by which to validate student ratings is the correlation between student learning and student ratings. Numerous studies have been conducted concerning the correlation between student achievement and
student ratings of instructors. In a review of the
literature, Feldman (1989) and McLaughlin and Pfeifer (1988)
concluded that the correlation between student achievement
and student ratings of instructors was positive and was a
valid source of teacher evaluation. A large body of
research has been conducted to test the correlation of
student achievement and student ratings (Benton, 1982;
Jacobs, 1987; Koon & Murray, 1995; Levin, 1979; McKeachie,
1979; Wubbels et al., 1992). Researchers have found the
correlation to be positive. Cohen (1981) reviewed 41
studies which correlated students' ratings of teacher
performance and student achievement. He found the mean of
correlations to be .43. Others (Becker, Greene, & Rosen,
1990; Bosshardt & Watts, 1990; Doyle & Whitely, 1974; Frey,
1973; Marsh, Fleiner, & Thomas, 1975; Walstad & Soper, 1989)
have conducted similar research and have come to the
conclusion that student achievement is not only correlated
with students' ratings of instructors, it is highly
correlated.

Although the vast majority of student evaluation
validity research has been done at the collegiate level,
there is a small but growing body of literature on the
subject at the secondary and even elementary levels, which
indicates that younger students are capable of judging
effective teaching and that their ratings correlate well
with student achievement. Ayers (1983) and Levin (1979) noted that there is considerable evidence that student evaluation of teachers in grades 4-12 is a valid source of information. Miron (1981) noted that elementary, secondary, and college teachers have improved their effectiveness as a result of student-generated feedback, a sure sign that students understand the ingredients of efficacious teaching.

Marsh (1987a) found student ratings of instruction to be multidimensional; that is, students are highly sensitive to the interdependence of certain key variables in the teacher's performance and the classroom environment. In fact, Marsh tested student validity of teacher ratings in relation to a wide variety of hypothesized biasing variables and found the ratings to be unaffected. Students seem to be fairly immune to potentially biasing variables in their ratings. For example, Marsh found that student ratings of instructors were not contaminated by student opinions regarding the course taught.

Benton (1982) reviewed validity studies of student evaluations and found that they provide good evidence of the quality of teaching. He warned, however, "that they are only evidence of good teaching and not proof positive of good teaching" (p. 50). Levin (1979) found the same results leading her to advocate the use of student evaluation of instructors. However, both authors caution that using only
one source of data collection is unwise. Student evaluation is most constructive when put into a data collection process using multiple collection sources. Marsh and Bailey (1993) along with Tuckman and Oliver (1968) concluded that students do have the ability to impact teacher improvement through the thoughtful use of student evaluation systems. There was a general consensus among researchers that student evaluations should be part of a multiple source system for comprehensive and meaningful teacher evaluation (Benton, 1982; Jacobs, 1987; Levin, 1979).

**Student Evaluation and Other Reliable Indicators**

Another body of research has been concerned with the correlation between student ratings of instructors and other reliable indicators of teaching effectiveness. Abrami (1985) found student ratings to be highly correlated to student achievement and ratings by other sources. Kemp and Kumar (1990) noted that a construct approach to the validation of student ratings has generally been adopted. Such a construct has shown student ratings to be related to student learning, ratings of former students, faculty self-evaluations, and observations of trained observers.

Marsh (1982a) researched the validity of student evaluations over time. His own studies, along with one with Overall (Marsh & Overall, 1980), correlated the reliability of student ratings with other measures such as teacher
self-evaluation, former students, and the passage of time. Marsh (1984), Marsh and Bailey (1993), and Stroh (1991) reinforced these conclusions concerning the reliability of student ratings as correlated to these criteria.

Marsh and Overall (1979) conducted a study to compare student ratings (undergraduate and graduate) with faculty self-evaluations. The student evaluations were found to be reliable and to have a high degree of correlation. Stallings and Spencer (1974) noted that there was evidence that student perceptions correlated with those of trained observers. Other studies that determined the validity of student ratings as compared to other judges of teacher affectiveness were done by Costin et al. (1971), Feldman (1976a, 1989), Kulik and McKeachie (1975), Murray (1980), and White and Ahmadi (1982).

Studies conducted to validate students' general ability to perceive effective teaching by Tagomori and Bishop (1994) testified to the conclusion that student ratings of teachers are highly valid. McKeachie (1990) reported that "research evidence indicates that students are generally good judges" (p. 195). Other researchers (e.g., Cortis & Grayson, 1978; Costin et al., 1971; Marsh, 1982a; Masters, 1978; Meighan, 1978; Moore, 1990; Wragg & Wood, 1984) identified the general ability of students to competently evaluate teacher effectiveness. Cashin (1990) summarized the research on
student ratings of instructors best by indicating that they are reliable, valid, relatively unbiased, and useful. This conclusion is not reserved to collegiate raters. Aubrecht et al. (1986), Lovegrove and Lewis (1982), McKelvey and Kryiacou (1985), O'Hagan and Edmunds (1982), and Stroh (1991) had made the same conclusions in their studies of high school students. The high correlation of student ratings of teacher performance with student achievement coupled with the consistently high correlation with other rating groups suggested that student ratings are a highly valid data source.

Instrument Validity

Student evaluation of teacher performance relies heavily on the instrument used to collect data. Ultimately the conclusions of any study are highly dependent on the validity of the data collection process. Marsh (1984) warned that using a properly constructed evaluation instrument is necessary to avoid problems with bias, reliability, and validity.

Many researchers used standardized instruments to obtain the data for student ratings. Student Evaluation of Educational Quality (SEEQ), Instructional Development and Educational Assessment form (IDEA), Endeavor, and Student Instructional Report Survey (SIRS) are some of the instruments available for this use. Studies on their
validity have been conducted many times. Researchers have individual preferences of one over another, but they all have been determined to be valid instruments to use in collecting student rating data (Abrami et al., 1990; Aleamoni, 1976; Costin et al., 1971; Frey et al., 1975; Hildebrand, Wilson, & Dienst, 1971; Lehman, 1966; Mallery, 1975; Marsh, 1987b, 1994; Warrington, 1973).

Myths and Biases

Aleamoni (1974) identified variables that have impact on student achievement that were not directly related to teaching effectiveness. These variables are: grade, class size, schedule, terms (time of the year), student gender, teacher gender, interest in the class (required or elective), and seniority of the student. Questions arise that, if these variables impact student learning, might they also impact student rating of teacher performance? Other authors have identified learning style, individual student workload, and other variables that may influence student evaluations. Each group of potentially biasing variables is investigated in the following section.

Personality Congruence

Personality congruence has been the topic of considerable research in this area of student evaluation of teachers. Personality congruence is the similarity of teacher and student behavioral and attitudinal
characteristics and patterns. Often the topic of research relative to personality congruence in student evaluation of teacher performance revolves about the student's learning preferences and the teachers instructional style. Complementary patterns are said to be congruent.

Various researchers have approached personality congruence from a variety of perspectives. Morstain (1977) found that congruence of student and instructor educational orientation resulted in higher ratings for teachers. Tollefson et al. (1989), however, found that similarities in student and teacher attitude accounted for a small proportion of variance in student ratings but considered it too small to be a biasing factor. Potter and Emanuel (1990) noted that the relationship between student's learning style and personality does affect achievement in various, and sometimes unpredictable, ways. Lowman (1984) suggested that discussion strategies of instruction are preferred by some students over lecture strategies and vice-versa which can result in some small bias in student ratings.

The complexity of matching student learning style preferences with teacher behaviors is a perplexing puzzle. The attempt to factor personality congruence or dissonance into the assessment of teacher performance by student raters is equally complex. Assigning meaning to the different studies is best summed up by McKeachie (1979): "Most studies
of student characteristics (personality types) related to ratings have lumped together students and teachers across courses in such a way that it is difficult to know what the results mean" (p. 390). It appears no single solution can answer this multifaceted concern, and the confusion and negativity surrounding it will only be rectified by more research and the multidimensional application of research.

Grade Received

Millman (1981), McCready (1981), and Peterson (1995) found that many teachers believe that the grade which they give a student strongly biases that student when it comes time for the individual to assess the teacher's performance. Kemp and Kumar (1990) found that better grades relate to better course evaluations. Shapiro (1990) concluded that when the average class grade was higher the average ratings were higher also. Other researchers investigated this perception to determine its accuracy (e.g., Gigliotti, 1987; Gigliotti & Buchtel, 1990; Gramlich & Greenlee, 1993; Hildebrand et al., 1971; Marsh, 1982a; McKeachie, 1979; Mehdzadeh, 1990; Miller, 1988; Palmer, Carliner, & Romer, 1978; Ross & Fletcher, 1985). The general conclusion of this work was that there existed a neutral or weak positive correlation between the grade received by a student and the ratings the student gives a teacher. Gigliotti (1987) found that:
(a) expected grade explained about 2% of the variance in whether students would take another course in the field; (b) grade-expectancy violation explained 2% of the variance in whether the students would take another course from the professor; and (c) 1% of the variance in course interest. (p. 342)

Gigliotti and Buchtel (1990) went on to state that "grades cannot be ruled out as a biasing factor" (p. 348). Johnson and Christain (1990) found that perceived learning and expected grade accounted for 36.6% and 3.25%, respectively, of the variance in ratings.

The seemingly contradictory findings relative to the "grade received" issue have led some researchers to suspect the influence of some intervening variables. Holmes (1972) conducted a study of grade expectancy in relation to student ratings of instructors and found that, when students are given the grade they expect (low or high), it has little effect on the rating. However, when given a lower grade than they had expected, the rating overall was lower. This finding indicated that teachers who communicate course and grade expectations to students may experience better student assessments. This expectation was consistent with the work of Ravnsborg (1990). He found that a course that gives feedback/evaluation to students as the course progresses and allows for joint goal-setting correlate positively with high instructor ratings.
Along the same lines of grade expectancy is expectations of the teacher. Koermer and Petelle (1991) conducted a study that related the students' expectations of teacher performance with student ratings. Students with low expectations rated the instructor lower than did students with high expectations of the teacher's performance. The suggestion is that no matter what the instructor does he/she can only bring students' low expectations up to a certain (lower) level. Costin et al. (1971) found in their review of studies on grade expectation and student rating of instructors that generally there was a positive correlation between student grades and instructor rating although it was low. They suggested that "the positive findings might better be viewed as a partial function of the better achieving student's greater interest and motivation, rather than as a mere contamination of the validity of student ratings" (p. 519).

Some have speculated that the difficulty of the course may somehow intermingle with grade expectations of the student and the rating of the teacher by the student. An early study by McCready (1981) found that easier courses do not receive higher ratings. Marsh (1982a) found that easy or hard grading do not affect the student ratings of instructors. A similar study by Gigliotti and Buchtel (1990) reached the same conclusion indicating that the
difficulty of the class does not seem to bias students' perception of the quality of teaching within that class.

**Gender of the Teacher and Student**

Some teachers believe that their gender will account for bias among students in rating their teaching effectiveness. Aleamoni (1981) reviewed the literature and found that there are studies that support the view that gender does constitute bias and other studies that found there is no overall biasing based on gender. McKeachie (1979) stated that his review of the literature showed that there is little biasing caused by student or teacher gender.

Kierstead, D'Agostino, and Dill (1988) found in a study on gender bias that female instructors must behave in accordance with stereotypical sex role expectations in order to achieve the same level of student rating indicators as male instructors while doing the same professional work. Wheeless and Potori (1989) partially dispelled this idea. They found that students were affected more by overall teacher qualities rather than by whether the instructor was male or female.

The student's gender and teacher ratings has been shown to have some relationship. For instance, McDowell and McDowell (1986) found that female students have higher expectations of teachers than male students. Females expect teachers to be more attentive, show greater sensitivity, and
show greater interest in them personally. Males expect teachers to be more dramatic and humorous. Prescott (1988) found that gender of high school students in advanced classes do have different expectations of class difficulty. Aleamoni and Hexner (1980) found female students rate teachers higher than do male students. Decades earlier Bendig (1953) found females to be more critical than males. However, Doyle and Whitely (1974) and Costin et al. (1971) found no difference in ratings attributed to a gender bias.

Class Variables

The phenomenon of multidimensionality would indicate that teacher performance and classroom relationships could "play off" of certain course characteristics. Researchers have reviewed the possibility of these course characteristics influencing or biasing student ratings of teacher performance. Scherr and Scherr (1990) and Marsh (1982b, 1994) found that prior subject interest, expected grade, and higher levels of difficulty accounted for some bias of student ratings that resulted in higher ratings for the instructor. Cashin (1990) reviewed the results of student ratings and conclude that there is an apparent tendency to rate different academic fields differently. Courses in the humanities, foreign languages, the arts, and English tend to have higher general rankings than courses in math and the sciences. Watkins and Akande (1992) suggested
that whether the class is in a student's major or minor area of interest will not bias the instructor's ratings.

Johnson and Christian (1990) noted that perceived learning accounts for 3.2% of the variance in ratings of teaching effectiveness. This would seem to be more of a validation of the student assessment than a biasing variable. Although the perception of learning by the student most certainly is a multifaceted consequence of many variables, judging a teacher's performance based on student learning is the criterion that many theorists use for validation.

**Popularity**

Over 2 decades ago Costin et al. (1971) summarized the dissatisfaction that some teachers have about student ratings of instructors. They wrote that faculty resistance to the use of student rating forms may stem partially from the fact that many rating forms have been prepared by groups or individuals not highly qualified to construct such instruments. Some faculty members will:

- claim that student ratings are unreliable, that the ratings will favor an entertainer over the instructor who gets his material across effectively, that ratings are highly correlated with expected grades (a hard grader would thus get poor ratings), and that students are not competent judges of instruction since long-term benefits of a course may not be clear at the time it is rated. (p. 511)
In 1973, Nautflin, Ware, and Donnelly reported on the now-famous "Dr. Fox" study. In that study, a class was taught by a flamboyant and totally incompetent professor who was "planted" in a college seminar on an experimental basis. At the conclusion of the class, a student rating of the professor's performance was conducted. Dr. Fox received rave reviews on the questionnaire. Since then, the seduction factor of teaching performance has been an active source of controversy in the student evaluation debate.

Potter and Emanuel (1990) studied communication styles to find out if student evaluation is, in fact, nothing more than a glorified popularity contest. Their results show that all communication styles were rated positively but that teachers who are friendly, attentive, and relaxed were rated higher than those determined to be dominant, contentious and precise. This study mirrored the results found by Aleamoni and Spencer (1973), Costin et al. (1971), Frey (1978), Perry, Abrami, and Leventhal (1979), and Williams and Ware (1977). A study by Kierstead et al. (1988) found that warmth and friendliness of the teacher lead to higher ratings. Beatty and Zahn (1990) also noted the importance of sociability factors, and Schechtman (1989) noted the importance of interpersonal skills for successful teaching. Frymier and Thompson (1992) found that teachers who implement affinity-seeking strategies in their classrooms...
were reported to be more credible and better motivators. Those affinity-seeking strategies were teacher interest in the student and a high level of respect which were positively correlated with competence, character, and motivation.

Some teachers have assumed humor accounts for a bias based on a teacher's communication style. However, studies by Bell and Daly (1984), Frymier and Thompson, (1992), Gorham, (1988), McLaughlin, Erikson, and Ellison (1980), and Sorenson (1989) found communication that includes humor, praise, engaging in conversations with student, self-disclosure, eliciting the disclosures of students, asking questions and encouraging discussions, providing feedback, requesting feedback, openness to other viewpoints and flexibility, inviting students to talk outside of class, and referring to the class as we or ours were actually effective teacher communication strategies. Humor, alone, did not constitute effective teaching in the eyes of the students (Smith et al., 1994).

Atamian and Ganguli (1993) conducted a study to determine whether students differentiate between teachers who are popular/favorites and teachers who are effective. Results of the study indicated that students do indeed understand the difference between popular/favorite and effective. It was also shown that students do use the
differentiated status to rate their instructors. Similarly, 
Abrami, Levinthal, and Perry (1982) and Marsh and Ware 
(1982) found expressiveness accounted for higher ratings of 
instructor enthusiasm but did not influence ratings 
concerning instructor knowledge.

Status of the Literature Base

Much of the work concerning the study of student 
assessment of teaching has been done at the higher education 
level. The present study makes a contribution to the 
existing body of information by providing an examination of 
some of the basic precepts regarding student assessment of 
teaching at the secondary level. This study examined and 
compared the composition of effective teaching from two 
alternative vantages (i.e., principal and student). It also 
examined and compared the impact of potentially biasing 
variables on the assessment of teaching by the two groups of 
evaluators. Specific conclusions regarding the study's 
contribution to the existing body of knowledge are detailed 
in Chapter 5.
CHAPTER 3

METHODOLOGY

Introduction

This study began with a review of the professional literature. A simple inquiry into the status of student assessment of teacher performance at the high school level eventually evolved into a research project. Professional literature indicated that very few high schools in the United States were using any type of student assessment of professional performance at all. However, those few who had dabbled in this area were sometimes finding some high correlations between student assessment of instructional performance and student achievement. These two findings seemed inconsistent and warranted further investigation.

This study actually began in 1989. A dissertation advisory committee at the University of Northern Iowa approved the initial study, and work on it began immediately. The original study included data collection from high school students at three relatively small high schools in northeast Iowa. During the data analysis phase of the study, the researcher became gravely ill, and the study had to be abandoned. However, this original study provided important insights. Although the data generated from the original study lost its currency, the process provided valuable experience in both the design of a data
collection instrument and the development of a protocol for later work in the area.

In the winter, of 1995 the study was revived. Based on the findings (and pitfalls) of the original study, a modified design was suggested and approved by the dissertation committee. A new element was implanted into the study; this time there would be a comparison drawn between the ratings of the students and those of the principals.

Development of the Questionnaire

Deciding on Appropriate Instrumentation

One of the more significant concerns of this study was the identification of an appropriate data collection instrument. The literature provided a rich source for input. Virtually all of the studies reviewed in the literature had used some type of survey technique for data collection, most of which were, or included, a written questionnaire given to the student. Ultimately, it was concluded than no single, existing student assessment instrument was available to adequately address all of the research questions posed in this study. The development of a new or hybrid instrument would be necessary.

The development of the student questionnaire began in the literature base. The research design called for the identification of variables of two separate types: teacher
performance variables and teacher/student relationship variables. An extensive review of the literature was performed to identify those variables which had been shown to have the highest correlation to student learning and/or summative rating of the teacher by the students.

A considerable amount of the existing literature suggested that there are certain teaching acts which are highly correlated with successful teaching. A thorough review of the existing literature yielded the following list of teacher performance indicators as the most promising in terms of having a high correlation with student success or perceived teacher efficacy: a low tolerance for classroom distractions, clear and focused classroom presentations by the teacher, clear communication of class information by the teacher, the orderly presentation of logically sequenced learning activities by the teacher, the inclusion of appropriate learning materials in the lesson by the teacher, and the opportunity provided by the teacher for students to ask questions about the class and receive appropriate answers.

**Selecting Questionnaire Items**

Selection of questionnaire items was an integral step. An extensive review of the professional literature was critical to this phase of the study. Topics which were repeatedly displayed in the literature or were prominently
employed in the research with consistently high correlations to student achievement or students' overall ratings of teacher performance were selected for inclusion in the questionnaire used in this study. The literature base for each item is provided below.

**Classroom Control**

Some aspect of classroom control or classroom management was presented on several standardized student data collection instruments. Researchers and data collection systems displayed an array of questions designed to obtain credible evidence regarding the basic issue of classroom management. The Student Instructor Report Survey (SIRS) form had a component that asked the student if the instructor uses time well. Frymier and Thompson (1992) asked if the instructor has conversational rule-keeping. Wubbels et al. (1992) used questions about structure in the classroom setting and whether the instructor holds the student's attention. Feldman investigated classroom management in his studies of 1976b, 1983, and 1984.

**Teacher Presentation**

Most of the researchers and survey instruments asked at least one pointed question about the instructor's presentation skills. Kemp and Kumar (1990) found the question of presentation of subject matter to be a reliable question to ask students. The SIRS report form asks whether
the teacher's presentation was well prepared as does Feldman's body of research (1976b, 1983, 1984). The Instructional Development and Effectiveness Assessment Rating form (IDEA) asked whether the course components "hung together" and whether the instructor had clearly stated objectives. Jacobs (1987) asked students if they found the teacher interesting and if he/she showed expertise. The Endeavor Instrument (Frey, 1973) asked if the instructor showed organization and planning. Marsh in his body of work (1982b, 1983, 1984, 1987a), and Marsh and Hocevar (1991) asked the students if the instructor is organized. The Student Evaluation of Educational Quality (SEEQ) instrument also asked a question about organization and clarity of objectives. Ridley (1986) validated the Uniform Student Evaluation Survey (USES) which asked if the teacher demonstrated command of the subject and gave presentations that were clear and understandable. Smith et al. (1994) asked if the instructor was knowledgeable, interesting, a good speaker, and went beyond lecture in the presentation. Gigliotti (1987) asked if the instructor held the student's attention. McKeachie (1979) investigated survey forms and found that clarity and preparation were consistently listed on the forms.
Teacher Communication

Teacher communication was typically defined as listening as well as getting the message to the student. Kemp and Kumar (1990) found clarity of explanation to be a reliable question to be included in student rating forms. The SIRS form asked if the teacher made helpful comments, the IDEA form asked if the teacher summarized to aid retention and if the teacher related material to real life, the Endeavor and SEEQ forms asked if the teacher encouraged group interaction and class discussion, and the USES form questioned if the teacher was clear and understandable. Feldman, in his 1976b, 1983, 1984, and 1988 investigations, found the questions of clarity and elocutionary skills to be important. Frymier and Thompson (1992) indicated listening to be important, and McKeachie (1979) and Aleamoni (1981) found that clarity was an important element of student questionnaires.

Teacher Organization

Many sources found teacher organization to be an important factor to ask students in relation to effective teaching. The IDEA, SIRS, SEEQ, Endeavor, and USES instruments asked if the course components "hung together," whether there was agreement between stated objectives and the material actually taught, if there was organization and evidence of planning, and whether the instructor came to

Class Material

McKeachie (1979) explained that students spend a great deal of time interacting with teacher-selected or teacher-made materials, and, therefore, asking about class material is a valid and necessary question to include in student surveys. Aleamoni (1981), Deshpande, Webb, and Marks (1970), and Smith et al. (1994) all came to the same conclusion. Feldman (1976b, 1983, 1984, 1988) also found the use of class materials to be a useful question. The SEEQ and IDEA instruments had survey items that relate to this topic.

Student Questions

Encouraging student questions was found to be a reliable question by Kemp and Kumar (1990), Feldman (1976b, 1983, 1984, 1988), Frymier and Thompson (1992), Wubbels et al. (1992), Ravnsborg (1990), Smith et al. (1994), Aleamoni (1981), McKeachie (1979), and Deshpande et al. (1970). These researchers asked the question in a variety of ways.
including: frequency of feedback, elicits disclosure, encouraged students to seek help, openness to others' opinions, willing to discuss other points of view, encourages interaction, provides and requests feedback, and students feel free to ask questions. The IDEA, SIRS, USES, and Endeavor instruments asked succinct questions about class discussion.

Teacher Friendliness

Questions about teacher friendliness were considered important by many researchers: Aleamoni (1976), Beatty and Zahn (1990), Cooper, Stewart, and Gudykunst (1982), Costin et al. (1971), Deshpande et al. (1970), Feldman (1988), Frey (1978), Frymier and Thompson (1992), Jacobs (1987), Kierstead et al. (1988), McKeachie (1979), Schechtman (1989), Smith et al. (1994), Travis (1987), and Ware and Williams (1975). The wording of the questions included: warmth and friendliness, behaves in a friendly manner, interpersonal skills, eye contact, smiles, is approachable, facilitates enjoyment, develops rapport with students, is open, and displays altruism.

Student Respect

Questions pertaining to students' feeling of respect from the teacher were included in the IDEA, SIRS, Endeavor, and SEEQ forms. These standardized data collection forms asked questions about encouraging all comments, genuine
concern, personal attention, individual rapport, and comfort in seeking help. Researchers (Beatty & Zahn, 1990; Cooper et al., 1982; Deshpande et al., 1970; Feldman, 1976b, 1983, 1984, 1988; Frymier & Thompson, 1992; Jacobs, 1987; Kemp & Kumar, 1990; McKeachie, 1979; Smith et al., 1994; Wubbels et al., 1992) found questions about tolerance of student views, listening with interest, empathy, rapport with students, courtesy, consideration, perception of closeness, and pointed questions about respect all to be valid and important questions to ask in surveys.

Teacher Encouragement

Questions of teacher encouragement of students were included in IDEA, SIRS, Endeavor, and USES forms. The questions concerning encouragement were found to be important by Beatty and Zahn (1990), Cashin and Downey (1992), Cooper et al. (1982), Deshpande et al. (1970), Feldman (1988), Frymier and Thompson (1992), Gigliotti and Buchtel (1990), Kemp and Kumar (1990), Kierstead et al. (1988), McKeachie (1979), Smith et al. (1994), and Wubbels et al. (1992). The wording for such inquiry included such prompts as stimulated individual effort, actively helpful, self-concept confirmation, supportiveness, intellectually motivating, and words of encouragement.
Teacher Concern for Students

Frymier and Thompson (1992) best explained the concept of teacher concern when they wrote, "the more affinity seeking strategies teachers are perceived as using, the more credibility they are perceived as having" (p. 307). Other researchers (Beatty & Zahn, 1990; Cooper et al., 1982; Deshpande et al., 1970; Feldman, 1976b, 1983, 1984, 1988; Gigliotti & Buchtel, 1990; Kemp & Kumar, 1990; McKeachie, 1979; Schechtman, 1989; Smith et al., 1994; Wubbels et al., 1992) concurred that concern for students is an important aspect of effective teaching. Questions about student concern were found on the SIRS, SEEQ, USES, and Endeavor forms.

Teacher Fairness

Aleamoni and Hexner (1980), Feldman (1988), Frymier and Thompson (1992), Gigliotti and Buchtel (1990), Jacobs (1987), Kemp and Kumar (1990), Lovegrove and Lewis (1982), Marsh (1994), McKeachie (1979), and Smith et al. (1994) found teacher fairness to be an important construct of effective teaching. Questions of fairness were included in SIRS, USES, SEEQ, Class Level Analysis form, TDI, and Endeavor. These questions were typically centered around fairness in grading and exam questions. Peterson (1995) warned that student ratings of teacher fairness must be clear and concise and leave no room for ambiguity. Such
questions pertaining to fairness can easily yield invalid data and erroneous conclusions from student ratings.

**Teacher Enthusiasm**

Teacher enthusiasm was included in the discussion by most researchers and was questioned in many of the survey forms. There were questions concerning teacher enthusiasm in the SEEQ, USES, and IDEA forms. Deshpande et al. (1970) questioned whether the teacher put the subject across in a lively way, made the class pleasant, used illustrations based on practical experience, and was humorous at appropriate times. Cashin and Downey (1992), Feldman (1976b, 1983, 1984, 1986, 1988), Frymier and Thompson (1992), Marsh (1982b, 1983, 1984, 1987a), Marsh and Hocevar (1991), McKeachie (1979), and Smith et al. (1994) found teacher enthusiasm to be important in effective teaching practices.

**Overall Performance**

Most researchers were looking for the overall performance of teachers as the end product of their investigations. These researchers included Aleamoni and Hexner (1980), Beatty and Zahn (1990), Cashin and Downey (1992), Feldman (1976b, 1983, 1984, 1988), Frymier and Thompson (1992), Gigliotti and Buchtel (1990), Kemp and Kumar (1990), Marsh (1982b, 1983, 1984, 1987a), Marsh and Hocevar (1991), and Smith et al. (1994). Many of the forms...
used in student surveys asked the student to evaluate the overall performance of the teacher. The forms that asked about overall teaching performance included SEEQ, Endeavor, SIRS, USES, and the Class Level Analysis form.

**Grade Received by the Student**

Grade received was the topic of scores of research projects attempting to determine the validity of student surveys and the influence it has on teacher ratings. Although most studies found weak or no correlation between grade received and teacher rating, it continues to be a source of inquiry relative to the issue of student evaluation of teachers. For example, Aleamoni and Hexner (1980) summed up the research and found that correlational studies were inconsistent in the construct of the grade-rating relationship. They found that 22 studies have reported zero relationships whereas 28 studies have reported significant "positive relationships." Aleamoni (1981) found that "in most instances, however, these relationships were relatively weak, as indicated by the fact that the median correlation was approximately .14, with the mean and standard deviation of .18 and .16, respectively" (p. 115). A question about grade expectancy was included in the SIRS, SEEQ, and Endeavor forms. Cashin and Downey (1992) gave the best explanation for including a question about grade in the class when they wrote that:
the student's final course grade offers an analogy. A student's learning is multidimensional, yet teachers summarize multidimensional behavior into a single grade. All that a final evaluation of an instructor's teaching need do is to provide a useable measure of the level of overall performance. (p. 564)

**Teacher's Knowledge of Content**

A question concerning course content or teacher content expertise was ruled out in the questionnaire used in this study. The infamous Dr. Fox study inferred a conclusion that students are not good judges of teacher expertise in the area of content. Hayes (1963) stated that students are not experts in content. McKeachie (1979) noted that students cannot judge all aspects of teaching effectiveness equally well. Abrami supported this conclusion in his 1989 work: "Judgments of the appropriateness of content are more appropriately made by peers" (p. 390). McLaughlin and Pfeifer (1988) concurred, adding that "students are not competent to judge the knowledge of the instructor or the scholarly content and currency of the course" (p. 8).

**Validating the Questionnaire Items**

**Early Studies**

Because no single assessment instrument was found to adequately address the needs of this study, an author-made data collection instrument was designed. Once the items or question topics were determined, the development of individual questions pertaining to each issue or topic was
necessary. In some cases the literature provided useful ideas or examples of questions which could be used in this study. Often these questions were available in existing data collection instruments or question banks which had been employed in some previous study.

The first generation of the data collection instrument was used in the original 1989 study (Appendix B, Exhibit 6). The original questionnaire was piloted by a group of 50 high school students to check their understanding of the questions and to allow the researcher to develop an understanding of the time demands of the data collection process. This pilot unearthed several questions which were confusing to the pilot respondents and other questions which were ambiguously asked. Corrections of these deficiencies occurred prior to the actual data collection of the original study.

**Face Validity**

Time and advancements in the area of student assessment of teaching eventually rendered the results of the 1989 data collection useless. However, the initial efforts in this area provided a useful process model for the contemporary research design. When the study was reborn in 1995, it was necessary to employ the same validation methods as those which proved useful in the early study. Once again the questionnaire items needed to be carefully constructed based
on the existing (and now updated) literature base. The dissertation committee provided valuable insight into the development of the questionnaire. The questions were reviewed by two external experts in the field of survey development, Dr. Lindsen Feun, who teaches courses on measurement and research design at Oakland University in Rochester, Michigan, and Dr. Tony VanderZyl, Assessment Director for Ames Community Schools and adjunct professor of measurement at Iowa State University in Ames, Iowa. They both reviewed the questionnaire for substance, clarity, and measurement facility. Each generation of the questionnaire continued to cycle past the expert reviewers right up to the time of the creation of the final documents which were used for actual research data collection.

Although the face validity concerns were addressed in the aforementioned fashion, external validity was not a major portion of this study. A sound external validation test would be to include an examination of the results of this study with student achievement results. This issue is reviewed in Chapter 5; however, it is not the major purpose of this study.

Piloting the Questionnaire

Once the adult experts had adequately critiqued the questionnaire items, it was time for students to test them. The first step was to have five high school students (from
the high schools participating in the study) separately review the questionnaire on an informal basis. Each student completed a questionnaire and then reviewed their understanding of each question with the researcher. All five volunteer high school students had no problems interpreting and answering the questions being asked. They found the questionnaire items to be asking straightforward questions that could be easily and unambiguously answered.

**Michigan Pilots**

A larger pilot study was performed at two Michigan high schools with a combined N of 750 student questionnaires. These two moderately-sized high schools in the Detroit suburban area were used because of the researcher's familiarity with the high school administrators and their willingness to assist. Based on the feedback from these two pilot runs, three adjustments were necessary. First, two questions continued to yield bimodal data of exceptionally wide range. Upon closer examination, it was clear that there remained a clarity problem with these two questions. Second, some students were not completing the task of filling out each questionnaire for all of their teachers either because of time demands or because the student simply lost interest. This generation of the questionnaire had 26 questions pertaining to teacher behaviors and classroom environment and an additional 11 questions for obtaining
student and teacher demographic information. Third, monitors reported that late in the process some students seemed to race through to complete the session.

Based on this piloting experience, two adaptations were made. First, the unclear or ambiguous questions were retooled. And second, the data collection had to conform to a time commitment of no more than 20 minutes. McLaughlin and Pfeifer (1988) noted that "evaluation fatigue" may occur if evaluations are too long and recommend "a form of no more than 16 to 20 items" (p. 14). Cashin and Downey (1992) added that a short economical form could capture much of the information needed. Although it was unclear how much error was being introduced into data after 20 minutes of collection time, there was little doubt that the first 20 minutes provided more accurate data than that provided after the 20-minute mark. As a result, the instrument was restricted to no more than 20 items per questionnaire (Appendix B, Exhibit 7). It was also decided that all of the teacher demographic information could be obtained via the principal questionnaire (Appendix B, Exhibit 8) thus freeing space on the student questionnaire for information which could only be obtained from that data source.

Field Test

The next step in the development of the data collection process was the formal field testing of the questionnaire.
On January 21, 1997, the questionnaire was distributed to a homeroom of 19 students at the high school in central Iowa where the actual study was to take place. The circumstances of the data collection for this pilot were virtually identical to those of the proposed data collection process. The students involved in the pilot were given the questionnaires and were asked to fill them out per protocol. At the conclusion of the data collection process, the homeroom teacher asked the students to respond to a list of questions pertaining to the activity they had just completed. Their responses were recorded and analyzed.

Post Test Questions

The following questions were asked of the students in the pilot setting after the data collection was completed:

1. Was the teacher coding system easily understood by you?
2. Were the oral directions clear to you?
3. Did you understand what was being asked in questions 1-12? Any problems?
4. Did you have any difficulty filling out the survey forms?
5. What do you believe was being asked in question 13?
6. Any other comments, concerns, or problems in the survey process?
Student Responses

Student responses to the pilot process questions (above) were as follows:

1. When asked if they had easily understood the teacher coding system, all 19 students responded in writing that they had.

2. When asked if the oral directions read to the students by the homeroom teacher before the data collection process had been clear, all 19 students stated in writing that they had been clear.

3. When asked if they had understood what was being asked in questions 1-12 on the questionnaire, all 19 students stated in writing that they had.

4. When asked if they had had any difficulty filling out the questionnaire forms, all 19 students responded in writing that they had no difficulty filling out the forms.

5. When asked what they had believed was being asked in question 13, the following responses were provided by the students in writing:
   "Generally what we thought of the teacher and class."
   "If the teacher was overall good."
   "Did the teacher teach well."
   "The way the teacher does the job. It was asking if I thought the teacher did a good job in the way they taught."
   "An overall opinion of the teacher."
"If the info got through to the student."
"Did the teacher teach well enough that the student who tried learned."
"Did he teach everything good in the class and not get off hand."
"What do you think the teacher's overall quality."
"It was asking if you enjoyed the teaching style of the teacher."
"Did the teacher do a good job or not."
"Did teacher teach class well."
"Did they generally do well."
"If the teacher did a good job teaching the class."
"Did the teacher do a good job teaching."
"My own opinion of the teacher's teaching skills attitude toward the class."
"The teacher's overall job of teaching (your opinion)."
"Our opinion of the teacher's job. Good? Bad?"

When asked for other comments, concerns, or problems in the survey process, the following were the written responses of the students in the pilot:

Ten students stated that they had no comments, concerns, or problems. Two students offered no response to the question. Others wrote the following:

"Why don't all teachers have a code? Don't they want comments?"
"Why don't all teachers do this?"
"On some questions, I had to guess my grade."
"Too short."
"It was good."
"I think this system works and should be used again."

Field Test Conclusions

The field test served as the final screen for the questionnaire. Based on the students' reactions to questions 1, 2, 3, 4, and 6, it was concluded that the teacher codification mechanism, the oral directions, and questions 1-12 were clearly and unambiguously understood by the students, and that there were no procedural flaws in the system. There were no extemporaneous concerns stated by the students in the pilot group nor were there any data collection problems witnessed by the homeroom teacher (survey proctor) during the field test. All students in the field study volunteered and completed the task. There were no codification or task completion errors on any of the 61 questionnaires completed by the field test group. The last students took no more than 9 minutes to finish the data collection task after the directions were given (a sum total of 15 minutes for the entire process) which indicated that the assignment was within the time constraints necessary to avoid "evaluation fatigue" (McLaughlin & Pfeifer, 1988, p. 14).
During the survey development stage, it was felt that the question which would be most difficult to ask concisely, yet unambiguously, would be the one which requested a summative assessment of the teacher's job performance by the student. Questionnaire development experts provided many options for question language pertaining to this topic. These options were field tested. The most successful version of this question from the field tests was, "Overall, the teacher did an excellent job of teaching this class." The January 21, 1997, pilot group of students was asked to describe this "overall rating" (number 13 on the questionnaire) in the post-data collection analysis. Their interpretations (noted above) indicated that there was a general consensus of what was being asked. The fact that some students inferred that the question was asking how well the students learned in the class probably was caused by their own definition of successful teaching. Therefore, it was not felt that this was an interpretation significantly different from those who stated that the question was asking if the teacher did things right or if the teacher taught well.

A single student commented that he/she had to guess regarding the grade received in classes. Although this may have been a concern during the field test (which was performed the day after the classes ended for the semester),
the actual data collection for the study was performed on January 29, 1997. All first semester grades had been released by this date. All students had received report cards at least 3 days prior to the data collection exercise. There was no uncertainty by students noted regarding their first semester grades at the January 29 data collection.

Development of Protocol

The Michigan high school pilots employed an "informal" protocol. General directions for data collection in written outline format were given to the high school principal, who, in turn, passed along these directions to the homeroom teachers proctoring the data collection. Homeroom teachers were allowed to paraphrase the directions. Reviewing the data collection process in hindsight determined that this was a somewhat libertine practice and introduced some very different data collection environments which undermined the reliability of the data collection process. It was determined that exact directions were essential and that each proctor would need to read them exactly as provided. The "Proctor's Guide" emerged from these concerns (Appendix B, Exhibit 9).

Timing of the data collection was found to be of great importance. One of the early pilots was scheduled shortly before the end of a semester. It was assumed that students would "keep up" with their grade status in classes and would
have some "working" appreciation for their grade even if the final grade had not yet been told to them by the teacher. In this pilot, 8% of the student respondents either failed to identify a grade received in the course or wrote (beside the responses for the question asking for their self-reported grade) "I don't know," or simply, "?." This was a disturbing revelation. One of the research questions delves into the biasing influence of the grade received by the student on the teacher assessment provided by the student. Should a significant number of students be unsure of their grade in a class, the potential for error in both the self-reporting of class grades and the rating of the teacher were problematic. It was determined that a narrow window for data collection was essential. The data must be collected after the semester grades were formally known by the students but before too much time had passed between classroom experience and performance rating. This window (Jacobs, 1987) was honored in the actual data collection for this study.

Item discrimination was a key concern in this study. Early pilot efforts which incorporated lengthy questionnaires and the assessment of as many as nine separate teachers by a single rater proved telltale. Proctor feedback indicated that there was more than infrequent occurrence of what appeared to be rater
exhaustion and late thrust "just to get done." This led to the conclusion that the questionnaire had to be limited in time and/or that the number of teachers rated must be reduced. The "least engaged" student generally would follow protocol for up to 20 minutes. Beyond the 20-minute barrier, the credibility of the collection was compromised, first by a few then by a growing number of students. In all the pilot efforts, rater "rushes" and shut-downs were quite rare when the process was kept under 20 minutes. The final instrument and research protocol were purposefully designed to accommodate this time frame.

Research Approval

The school district where the sample was taken has a board policy for screening research proposals within its schools (Appendix A, Exhibit 1). It employs this policy for all external research requests. Per policy, the first step was to submit a research proposal to the district deputy superintendent (Appendix A, Exhibit 2). The proposal, along with Human Subjects Review approval letter from Dr. Norris Durham (University of Northern Iowa Human Subjects Review Committee Chair; Appendix A, Exhibit 3), the dissertation abstract, the two data collection forms, the procedural direction outline, and the proctor's guide were forwarded to the district deputy superintendent December 3, 1996.
A meeting was held on December 6, 1996, to review the research request with the researcher and the deputy superintendent and his research committee. On December 11, 1996, a letter was forwarded to the researcher from the deputy superintendent allowing the research to proceed in accordance with the provisions of the high school administration (Appendix A, Exhibit 4).

Because teacher participation was vital to the study, the researcher reviewed the process with the teachers' association president. The association president related to the researcher concerns relative to the confidentiality of the survey results. The researcher reviewed research protocol with the association president, in particular the teacher codification system which precluded the possibility of the researcher making any connection between teacher volunteer names and participant codes. In addition to this feature, the association requested an association overseer to be named to ensure that strict adherence to the research design was followed and to act as a clearinghouse for survey form collection and redistribution back to the respective volunteer teachers. Following this meeting (and subsequent correspondence), the association president provided the researcher with a letter of endorsement for the project (Appendix A, Exhibit 5).
On January 6, 1997, a meeting was held with the high school principal and the researcher. The high school principal recognized the inherent worth of student assessment of teaching and felt that, so long as the staff members volunteering for the study were provided feedback, there was sufficient value for his building staff to participate in the project. A system was devised to funnel completed questionnaires back to volunteer teachers through the association overseer after the information contained on them had been placed into computer data file.

The high school principal had concerns relative to the possibility of instructional time lost to the data collection process and the staff's ability to opt in or out of the study. Relative to the first concern, it was explained that based on several pilot studies already performed that the process should take no more than 20 minutes. Homeroom was normally 15 minutes, so the principal was willing to extend homeroom by 5 minutes on January 29, 1997, to accommodate the study. Relative to the principal's second concern, the researcher explained that a necessary aspect of the research design was that all student and teacher participation would be purely voluntary. At the conclusion of the January 6th meeting, permission was granted and timetables were established.
The researcher met with the high school faculty on January 6, 1997, and again on January 8, 1997 (for those who were unavailable on January 6). The purpose of these meetings was twofold: to provide teachers with background information about the study and data collection protocol, and to recruit volunteers. Teachers were given until January 14, 1997, to volunteer. Teachers who did volunteer did so by informing the association overseer of their intent to participate. The association overseer, in turn, developed the teacher codification list of volunteer participants. The researcher, by design, did not access the codification list. The codification list was provided to students and principals at the time of the data collection, but it never was provided to the researcher, thus ensuring anonymity to the researcher.

Data Collection

Student Data Collection

Data collection was scheduled for January 29, 1997. The high school principal met with the entire high school staff on the morning of January 22, 1997, to review data collection procedures with them. He provided them with the proctor's guide and reviewed the process with them. Questions regarding the data collection process were answered.
Data were collected in all high school homerooms on the designated morning. Homeroom teachers received an envelope from the researcher in their school mailboxes with the appropriate number of questionnaires, homeroom teacher directions (Appendix B, Exhibit 10), and a proctor's guide. They also received from the association overseer a teacher codification list. Homeroom began at the regular time but was extended to 20 minutes so that every student volunteering to participate in the study could easily finish the task without rushing or giving up. Each homeroom teacher read the proctor's guide directions to the homeroom students. Students filled out a separate questionnaire form for each teacher who had taught them a class during the first semester and who had volunteered to participate in the study. Data collection was done in morning homeroom. This was a concession made by the study to make it acceptable to the high school administration. Seniors at this high school are given the option of being involved in a homeroom or not. Approximately 200 senior students were not enrolled in homeroom classes, and therefore, were not available for data collection. Most students filled out three or four forms. When students had completed the task, they inserted the completed forms into an envelope. When all students had finished, the envelope was sealed. The sealed envelope was delivered to the association overseer. The overseer
inspected the contents of each envelope. The questionnaires were then turned over to the researcher. Once data had been entered and stored electronically, the questionnaire forms were sorted by teacher code, returned to the association overseer who turned them over to the respective teacher volunteers.

**Principal Data Collection**

Data collection involving the high school principals (the head principal and three assistant principals) was performed in much the same way as the student data collection. However, because principals completed questionnaires for all teachers volunteering for the study, they did not conform to the same time lines for collection as the students. In directions given to the principals prior to data collection, they were instructed to only complete questionnaires on those teachers for whom they had substantial working knowledge of the teacher's classroom environment and professional ability. One of the assistant principals had been involved in classroom observations of a select, and relatively small, group of high school teachers. His involvement in data collection was limited, therefore, to those teachers with whom he had had direct supervisory experience. The data collection process for principals began on February 17, 1997, when the researcher delivered the questionnaire forms to the high school principal.
Principals were asked to return the completed forms to the researcher by February 20, 1997, which they did.

Validity and Reliability

Validity

The maximization of the internal validity of both the questionnaires and the research protocol began in the literature. A careful reading of the existing information base of student assessment of teachers provided the initial rough drafts of both instrument and process. Obtaining expert advice from survey developers and the dissertation committee also helped craft these two important components of the research design. In the end, the validity of the data was ensured through a process of methodically developing both the questionnaire and data collection process through screening and fine-tuning of student comments and feedback through the piloting process.

Reliability

The reliability of the instrument was the concern which warranted analytical investigation. The survey data were analyzed with Cronbach's Alpha statistic. These results are reviewed below.

Cronbach Alpha Review

The first step in the Cronbach Alpha reliability analysis generated a reliability analysis scale (Appendix C, Table 26). This table demonstrates a cross-respondent mean...
and standard deviation for each of the 12 variables. Next, a correlation matrix of the 12 variables was generated (Appendix C, Table 27). This table shows moderate to very strong correlations between the 12 independent variables. A reliability analysis scale was generated demonstrating item variances and inter-item correlations (Appendix C, Table 28).

In Table 2 each of the 12 independent variables is statistically screened. In viewing the "Scale Mean if Item Deleted" column, it can be noted that the 12 combinations (of 11 means) yielded very consistent total means. Superficially, this indicated that no single variable greatly altered the total mean. The "Squared Multiple Correlation" column demonstrated a range from .285 to .709. All of squared multiple correlations have a positive and moderate to strong correlation. The "Alpha if Item Deleted" column yielded a range from .931 to .938 or an Alpha squared range from .87 to .88. Again, this indicated two phenomena: The explained variance related to the 12 variables is exceptionally high; and the elimination of any single questionnaire item does little to impact the predictability of the remaining 11 variables.

The reliability coefficient for the 12 items in the questionnaire yielded an Alpha of .939. The standardized item Alpha was .939. This is an extremely high Alpha,
Table 2

Item-Total Statistics: Cronbach Alpha

<table>
<thead>
<tr>
<th>Variable</th>
<th>Scale Mean if Item Deleted</th>
<th>Scale Variance if Deleted</th>
<th>Corrected Item-Total Correlation</th>
<th>Squared Multiple Correlation</th>
<th>Alpha if Item Deleted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>45.5000</td>
<td>88.3549</td>
<td>.4255</td>
<td>.2852</td>
<td>.9439</td>
</tr>
<tr>
<td>Concern</td>
<td>45.3398</td>
<td>80.3640</td>
<td>.8123</td>
<td>.7082</td>
<td>.9306</td>
</tr>
<tr>
<td>Communication</td>
<td>45.3352</td>
<td>81.2900</td>
<td>.7764</td>
<td>.6197</td>
<td>.9320</td>
</tr>
<tr>
<td>Encouragement</td>
<td>45.1565</td>
<td>82.5229</td>
<td>.7811</td>
<td>.6395</td>
<td>.9320</td>
</tr>
<tr>
<td>Enthusiasm</td>
<td>45.2272</td>
<td>81.2701</td>
<td>.7738</td>
<td>.6392</td>
<td>.9321</td>
</tr>
<tr>
<td>Fairness</td>
<td>45.2682</td>
<td>80.6505</td>
<td>.7874</td>
<td>.6523</td>
<td>.9315</td>
</tr>
<tr>
<td>Friendly</td>
<td>45.0897</td>
<td>82.8578</td>
<td>.7804</td>
<td>.6884</td>
<td>.9322</td>
</tr>
<tr>
<td>Relevancy</td>
<td>45.1067</td>
<td>83.3344</td>
<td>.7192</td>
<td>.5432</td>
<td>.9341</td>
</tr>
<tr>
<td>Feedback</td>
<td>45.1067</td>
<td>83.3344</td>
<td>.7192</td>
<td>.5432</td>
<td>.9341</td>
</tr>
<tr>
<td>Presentation</td>
<td>45.5984</td>
<td>80.0460</td>
<td>.7667</td>
<td>.6320</td>
<td>.9324</td>
</tr>
<tr>
<td>Organized</td>
<td>45.2546</td>
<td>84.2338</td>
<td>.6831</td>
<td>.5437</td>
<td>.9353</td>
</tr>
<tr>
<td>Respect</td>
<td>45.1905</td>
<td>81.3334</td>
<td>.8009</td>
<td>.7085</td>
<td>.9312</td>
</tr>
</tbody>
</table>

Note. Reliability Coefficients 12 items. Alpha = .9391. Standardized item alpha = .9394.

indicating that answers generated in the data collection would be similarly replicated over time and situation.

Data Analysis

The data were placed into an excel spreadsheet. The data were then disaggregated by teacher. The data were then scrutinized to locate respondent error. In 76 instances, students had miscoded one of the four-letter teacher codes or juxtaposed two letters. These minor errors were easily corrected with a high-degree of confidence in their accuracy. All questionnaires with more than a single codification problem or lacking an overall assessment rating for the teacher performance were determined to be fatally flawed and were discarded. Eleven questionnaires were found
to be fatally flawed. Questionnaires with other missing data (other than teacher code or overall performance rating) remained in the data base. Those statistical analyses performed by the computer statistical analysis program (SPSS) which required data from particular cells automatically excluded the entries with incomplete (and necessary) data. Teacher demographic information was provided on the principal questionnaire exclusively. When the two spreadsheets were merged, the teacher information was copied onto the student data base, thus facilitating analysis of these independent variables from the student perspective.

The excel spreadsheet was loaded into an SPSS statistical analysis package for data analysis (Nie, Hull, Jenkins, Steinbrenner, & Bent, 1975; Norusis & SPSS, Inc., 1990). The six research questions were studied based on the statistical analysis best suited to investigate them.

The interpretation of significance level is a relative determination. Authors and researchers cited in this study vary somewhat in their interpretations of significance. For the purposes of study, levels of significance are given in Table 3.

The following is the list of research questions and the rationale for the selection of the particular statistical analysis.
Table 3

Significance Levels for Study

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Very Weak</th>
<th>Weak</th>
<th>Moderate</th>
<th>Strong</th>
<th>Very Strong</th>
</tr>
</thead>
<tbody>
<tr>
<td>R-Squared</td>
<td>&lt; .05</td>
<td>.05 - .2</td>
<td>&gt; .2 - .3</td>
<td>&gt; .3 - .6</td>
<td>&gt; .6</td>
</tr>
<tr>
<td>t-Value</td>
<td></td>
<td>.05</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Minimum tolerance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>for Lambda</td>
<td></td>
<td>.001</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Question 1

Is student perception of 12 teacher performance and teacher/student relationship variables (i.e., classroom control, presentation, communication skills, organization, relevancy, feedback, friendliness, respect, encouragement, concern, fairness, and enthusiasm) related to the overall rating of the teacher's performance by the students?

Questionnaire Items:

Teacher Performance Variables

Student Questionnaire Item Numbers:
2 (classroom control)
4 (presentation)
6 (communication skills)
8 (organization)
10 (relevancy)
12 (feedback)

Teacher/Student Relationship Variables

Student Questionnaire Item Numbers:
1 (friendliness)
3 (respect)
Analysis

It was determined that linear regression was the best-suited analysis statistic for Research Question #1. Linear regression not only provided a variable-by-variable correlation coefficient (with one-tailed significance), it also provided an R-squared value for the list of 12 independent variables which provided the amount of explained variance in teacher overall assessment ratings by students. The B-value was generated for each independent variable which provided its linear regression coefficient.

A stepwise regression analysis was also performed. This analysis provided a linear regression coefficient for systematic inclusion of independent variables. Those independent variables generating the highest predictability of student overall rating of the teacher were analyzed first with less influential variables added later.

Question 2

Is principal perception of 12 teacher performance and teacher/student relationship variables (i.e., classroom control, presentation, communication skills, organization,
relevancy, feedback, friendliness, respect, encouragement, concern, fairness, and enthusiasm) related to the overall rating of the teacher's performance by the principal?

**Questionnaire Items:**

**Teacher Performance Variables**

Principal Questionnaire Item Numbers:
2 (classroom control)
4 (presentation)
6 (communication skills)
8 (organization)
10 (relevancy)
12 (feedback)

**Teacher/Student Relationship Variables**

Principal Questionnaire Item Numbers:
1 (friendliness)
3 (respect)
5 (encouragement)
7 (concern)
9 (fairness)
11 (enthusiasm)

**Overall Rating of Teacher Performance**

Principal Questionnaire Item Number:
13 (overall rating)

**Analysis**

It was determined that linear regression was the best-suited analysis statistic for Research Question #2. Linear regression not only provided a variable-by-variable correlation coefficient (with one-tailed significance), it also provided R-squared value for the list of 12 independent variables which provided the amount of explained variance in teacher overall assessment ratings by principals. The
B-value was generated for each independent variable which provided its linear regression coefficient.

A stepwise regression analysis was also performed. This analysis provided a linear regression coefficient for systematic inclusion of independent variables. Those independent variables generating the highest predictability of principal overall rating of the teacher were analyzed first, with less influential variables added later.

**Question 3**

Do students and principals view teachers' classroom performance and teacher/student relationships differently?

**Questionnaire Items:**

**Teacher Performance Variables**

Questionnaire Item Numbers (both forms):
2 (classroom control)
4 (presentation)
6 (communication skills)
8 (organization)
10 (relevancy)
12 (feedback)

**Teacher/Student Relationship Variables**

Questionnaire Item Numbers (both forms):
1 (friendliness)
3 (respect)
5 (encouragement)
7 (concern)
9 (fairness)
11 (enthusiasm)

**Analysis**

It was determined that the multivariate analysis of variance statistic was the best-suited analysis statistic
for Research Question #3. Analysis of variance compared the variance of the 12 independent variables within the principal rating group to that of the variance of these variables within the student rating group. A significance factor (F-value) was provided to determine the probability of the intergroup variance occurring by chance.

**Question 4**

Do students and principals rate teachers' overall performance differently?

**Questionnaire Items:**

Overall Rating of Teacher Performance

Questionnaire Item Number (both forms):
13 (overall rating)

**Analysis**

The t-test was selected as the most appropriate statistical analysis method for Research Question #4. This statistic compared the mean and variance of the dependent variable (i.e., overall assessment of teacher performance) within the principal rating group to that of the mean and variance within the student rating group. A significance factor (F-value) was provided to determine the probability of the intergroup variance occurring by chance.

A discriminate function analysis was performed on the entire body of collected data to determine the probability of prediction of respondent group.
Question 5

Is the grade received by a student in a class, teacher's gender, teacher's age, student's class level, student's gender, and teacher's experience related to the student's assessment of that teacher?

Questionnaire Items:

Teacher Performance Variables

Student Questionnaire Item Numbers:
2 (classroom control)
4 (presentation)
6 (communication skills)
8 (organization)
10 (relevancy)
12 (feedback)

Teacher/Student Relationship Variables

Student Questionnaire Item Numbers:
1 (friendliness)
3 (respect)
5 (encouragement)
7 (concern)
9 (fairness)
11 (enthusiasm)

Overall Rating of Teacher Performance

Student Questionnaire Item Number:
13 (overall rating)

Course Grade Received by Student

Student Questionnaire Number:
14 (course grade)

Teacher's Age, Experience, and Gender

Principal's Questionnaire:
Demographic Input

Student's Gender and Grade Level
Student Questionnaire:  
Demographic Input

Analysis

It was determined that multiple regression was the best-suited analysis statistic for Research Question #5. Multiple regression provided an opportunity to review the influence the list of independent variables (i.e., grade received, teacher gender, teacher age, class level, student gender, and teacher experience) had on the list of dependent variables (i.e., classroom control, presentation, communication skills, organization, relevance, feedback, friendliness, respect, encouragement, concern, fairness, enthusiasm, and overall assessment) for student raters. It provided the R-squared value for the list of 6 independent variables which provided the amount of explained variance in teacher assessment ratings by students. The B-value was provided for each independent variable which expressed its linear regression coefficient.

Question 6

Are teacher's age, teacher's experience, the principal's "liking" of a teacher, perceived student learning, and the teacher's gender related to the principal's assessment of that teacher?

Questionnaire items:

Teacher Performance Variables
Principal Questionnaire Item Numbers:
2 (classroom control)
4 (presentation)
6 (communication skills)
8 (organization)
10 (relevancy)
12 (feedback)

Teacher/Student Relationship Variables
Principal Questionnaire Item Numbers:
1 (friendliness)
3 (respect)
5 (encouragement)
7 (concern)
9 (fairness)
11 (enthusiasm)

Overall Rating of Teacher Performance
Principal Questionnaire Item Number:
13 (overall rating)

Principal's Perception of Amount of Student Learning
Principal Questionnaire Item Number:
14 (student learning)

Principal's "Liking" of the Teacher
Principal Questionnaire Item Number:
15 ("liking")

Teacher's Age, Experience, and Gender
Principal's Questionnaire:
Demographic Input

Analysis

It was determined that multiple regression was the best-suited analysis statistic for Research Question #6. Multiple regression provided an opportunity to review the influence the list of independent variables (i.e., teacher gender, teacher age, principal gender, perceived student...
learning, teacher experience, and the principal "liking" the teacher) had on the list of dependent variables (i.e., classroom control, presentation, communication skills, organization, relevancy, feedback, friendliness, respect, encouragement, concern, fairness, enthusiasm, and overall assessment) for principal raters. It provided a R-squared value for the list of 6 independent variables which provided the amount of explained variance in teacher assessment ratings by principals. The B-value was provided for each independent variable which expressed its linear regression coefficient.

Data Results and Analysis

Results of the analysis are provided in Chapter 4. Conclusions based on the analysis are provided in Chapter 5.
CHAPTER 4
A PRESENTATION OF THE DATA

The problem of this study was to determine the impact of certain teacher behaviors (i.e., classroom control, subject presentation, communication skills, class organization, course relevancy, and providing for feedback) and certain student/teacher relationship characteristics (i.e., friendliness, respect for students, encouragement, concern for students, fairness, and enthusiasm) on student overall assessments of teachers at the secondary level. Certain potentially biasing characteristics (i.e., teacher's age, teaching experience, student grade level, principal affinity for the teacher, grade received by the student, and gender) were tested to determine their impact on student and/or principal assessment of the teacher.

The study was designed to answer six research questions which examined the composition of teacher effectiveness. The study compared the two different evaluator sources for teacher rating similarities and contrasts. Data were collected from 3,210 student rating surveys and 137 principal rating surveys. This chapter is dedicated to the presentation of those data and their analysis. Each research question is presented independently.
First Research Question

Issue

Is student perception of 12 teacher performance and teacher/student relationship variables (i.e., classroom control, presentation, communication skills, organization, relevancy, feedback, friendliness, respect, encouragement, concern, fairness and enthusiasm) related to the overall rating of the teacher's performance by the students?

Analysis

It was determined that linear regression was the best-suited analysis statistic for Research Question #1. Linear regression not only provided a variable-by-variable correlation coefficient (with one-tailed significance), it also provided an $R^2$ value for the list of 12 independent variables which provided the amount of explained variance in teacher overall assessment ratings by students. The $B$-value was generated for each independent variable which provided its linear regression coefficient.

A stepwise regression analysis was also performed. This analysis provided a linear regression coefficient for systematic inclusion of independent variables. Those independent variables generating the highest predictability of student overall rating of the teacher were analyzed first with less influential variables added later.
Results

A table of individual teacher ratings (by student raters) was developed (Appendix C, Table 29). Means for the 12 independent variables for each teacher are provided in this matrix. This table demonstrated that teacher overall ratings, as provided by students, ranged from a low mean of 3.00 to a high of 4.80 (on 1.0 to 5.0 possible scale).

A multiple regression calculation generated the development of a mean average table (Appendix C, Table 30). These means represented the average ratings given by students on 3,180 questionnaires. The ratings were actually a Likert scale of agreement with characteristic statements about teacher performance issues and classroom relationship issues. On the questionnaire a "1" represented "strong disagreement" with a positively-stated performance or relationship variable. A "5" represented "strong agreement" with the stated variable. Therefore, a mean rating of "5.0" represented the highest possible rating on each variable.

The mean (of all 3,180 student ratings) for the 12 independent variables (i.e., classroom control, communication, concern, encouragement, enthusiasm, fairness, feedback, friendliness, organization, presentation, relevancy and respect) ranged from 3.781 (on the "presentation" variable) to 4.311 (on the "friendly" variable). The ±1 standard deviation of the means on the 12
variables ranged from .979 (on the "friendly" variable) to 1.183 (on the "presentation" and the "relevancy" variables).

The mean for the dependent variable (i.e., overall) was also given. It was 4.094. This figure represents the mean rating for overall teacher performance as judged by the student. The ±1 standard deviation for the dependent variable was 1.119.

A correlation matrix for the 12 independent variables (i.e., classroom control, communication, concern, encouragement, enthusiasm, fairness, feedback, friendliness, organization, presentation, relevancy, and respect) and the dependent variable "overall" with the data generated from the student survey is provided in Appendix C (Table 31). All of the correlational relationships between the 12 independent variables were positive and statistically significant. The weakest correlation was between the "feedback" and the "classroom control" variables with a .278 correlation coefficient. The strongest correlation was between the "respect" and the "friendliness" variables with a .763 correlation coefficient. Most of the correlations were very high (71.2% of the independent variable pairings had correlation coefficients in excess of .5). The "classroom control" variable consistently had the weakest correlations with the other 11 independent variables with a correlation coefficient range of .278 to .507 and a mean of
.333. All of the correlations between the independent variables were highly significant.

The matrix also supplied correlational information between the dependent variable (i.e., overall) and the 12 independent variables (i.e., classroom control, communication, concern, encouragement, enthusiasm, fairness, feedback, friendliness, organization, presentation, relevancy, and respect). The range of correlation coefficients was from .387 (i.e., classroom control) to .766 (i.e., concern). Most of the independent variables had very strong correlations with the "overall" variable (10 of the 12 had correlation coefficients larger than .6). All of the correlations between the "overall" variable and the 12 independent variables were statistically significant beyond the .001 level.

A multiple regression analysis which employed a listwise deletion process of 12 independent variables (i.e., classroom control, communication, concern, encouragement, enthusiasm, fairness, feedback, friendliness, organization, presentation, relevancy, and respect) generated an initial R-squared value of .799 (Table 4). In other words, almost 80% of the variance in the "overall" ratings of teacher performance by students can be explained with these 12 variables.
<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE</th>
<th>95% Conf Interval</th>
<th>Beta</th>
<th>T</th>
<th>Sig. of T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class Control</td>
<td>.021693</td>
<td>.010205</td>
<td>.001685 .041702</td>
<td>.019913</td>
<td>2.126</td>
<td>.0336</td>
</tr>
<tr>
<td>Communication</td>
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<td>.013223</td>
<td>.128092 .179945</td>
<td>.149826</td>
<td>11.638</td>
<td>.0000</td>
</tr>
<tr>
<td>Concern</td>
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<tr>
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<td>.0010</td>
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</tr>
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</tr>
<tr>
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<td>.104570 .152901</td>
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<td>.072938</td>
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<td>.721189 -.521352</td>
<td>-12.191</td>
<td>.0000</td>
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</tr>
</tbody>
</table>

**Note:**
- Multiple R = .89381
- R Square = .79889
- Adj R Square = .79813
- Standard Error = .50266
The regression coefficients for the 12 independent variables when considered in aggregate fashion were all positive. A linear equation (classroom control rating x .021 + communication rating x .154 + concern rating x .116 + encouragement rating x .048 + enthusiasm rating x .114 + fairness rating x .141 + feedback rating x .030 + friendliness rating x .152 + organization rating x .092 + presentation rating x .129 + relevancy rating x .076 + respect rating x .077 -.621) explained 79.9% of the variance in student overall ratings of teacher performance. The T-values for all of the regression coefficients of all 12 independent variables were significant at the .05 level.

A stepwise linear regression yielded "concern" from the list of 12 independent variables as the variable which independently could most accurately predict "overall" rating of a teacher by a student respondent (Appendix C, Table 32). The R-squared value for "concern" alone indicated that 58.6% of the variance in student "overall" ratings could be explained by this single variable.

The addition of a second variable, "presentation," explained an additional 10% of the variance of the linear equation for student overall rating. This (two factor) linear regression equation for predicting student overall rating of a teacher has a .503 linear regression coefficient for "concern" and a .395 linear regression coefficient for
"presentation" with a +.568 constant. This equation accounted for 68.8% of the variance in student overall ratings of teacher performance with only 2 independent variables in it.

The addition of a third variable "fairness" to the list of independent variables added another approximately 5.3% to the predictability of the (three factor) linear regression equation. The 3 variables best capable of predicting the students' overall rating of a teacher (i.e., concern, presentation, and fairness) collectively explain 74.1% of the linear variance in the overall ratings for students. Because all 12 independent variables can explain 79.9% of the linear variance of student overall ratings, all of the remaining 9 variables contribute only an additional 7.2% to the explanation to the variance in overall ratings.

Successive additions of the remaining independent variables added minimally to the predictability of overall rating as follows: "communication," 2.3%; "friendliness," 1.4%; "enthusiasm," .8%; "organization," 1.0%; "respect," .2%; and "encouragement" and "feedback" both yielded less than .1% each. The independent variable which yielded the least to the predictability of overall rating of teacher's performance by a student was "classroom control." Although each variable was highly significant in predicting the linear variance of the overall rating, the addition of
"classroom control" to the linear regression equation yielded only .03% to its explanation of variance.

Second Research Question

Issue

Is principal perception of 12 teacher performance and teacher/student relationship variables (i.e., classroom control, presentation, communication skills, organization, relevancy, feedback, friendliness, respect, encouragement, concern, fairness, and enthusiasm) related to the overall rating of the teacher's performance by the principal?

Analysis

It was determined that linear regression was the best-suited analysis statistic for Research Question #2. Linear regression not only provided a variable-by-variable correlation coefficient (with one-tailed significance), it also provided an R-squared value for the list of 12 independent variables which provided the amount of explained variance in teacher overall assessment ratings by principals. The B-value was generated for each independent variable which provided its linear regression coefficient.

A stepwise regression analysis was also performed. This analysis provided a linear regression coefficient for systematic inclusion of independent variables. Those independent variables generating the highest predictability
of principal overall rating of the teacher were analyzed first with less influential variables added later.

Results

A table of individual teacher ratings by principals was developed (Appendix C, Table 33). This table demonstrated that teacher overall ratings, as provided by principals, ranged on a 1.0 to 5.0 possible scale from a low of mean rating of 3.63 to a high of 5.00 (16 teachers).

A multiple regression calculation generated the development of a mean average table (Appendix C, Table 34). These means represented the average ratings of the 12 independent variables and the overall teacher performance rating given by principals on 134 questionnaires. The ratings were actually a Likert scale of agreement with characteristic statements about teacher performance issues and classroom relationship issues. On the questionnaire a "1" represented "strong disagreement" with the stated variable. Therefore, a mean rating of "5.0" represented the highest possible rating on each variable.

The means for the 12 independent variables (i.e., classroom control, communication, concern, encouragement, enthusiasm, fairness, feedback, friendliness, organization, presentation, relevancy, and respect) ranged from 4.623 (on the "friendly" variable) to 4.769 (on the "communication" variable). The ±1 standard deviation of the mean on the 12
variables ranged from .431 (on the "encouragement" variable) to .634 (on the "classroom control" variable).

The mean for the dependent variable (i.e., overall) was also given. It was 4.690. This mean represented the rating of a teacher's overall performance as judged by a principal. The ±1 standard deviation for the dependent variable was .466.

A correlation matrix for the 12 independent variables (i.e., classroom control, communication, concern, encouragement, enthusiasm, fairness, feedback, friendliness, organization, presentation, relevancy, and respect) and the dependent variable (overall) with data generated from the principal survey is provided in Appendix C (see Table 35). All of the correlational relationships between the 12 independent variables were positive. The weakest correlation was between the "friendly" and the "relevancy" variables with a .135 correlation coefficient. The strongest correlation was between the "organized" and the "fairness" variables with a .791 correlation coefficient. Most of the correlations were strong or very strong (69.7% of the independent variable pairings had correlation coefficients in excess of .5). The "classroom control" variable consistently had the weakest correlations with the other 11 independent variables with a correlation coefficient range of .163 to .580 and a mean of .366. The
correlations between almost all of the independent variables were highly significant.

The matrix also supplied correlational information between the dependent variable (overall) and the 12 independent variables (i.e., classroom control, communication, concern, encouragement, enthusiasm, fairness, feedback, friendliness, organization, presentation, relevancy, and respect). The range of correlation coefficients was from .387 (classroom control) to .766 (concern). Most of the independent variables had very strong correlations with the "overall" variable (10 of the 12 had correlation coefficients larger than .6). All of the correlations between the "overall" variable and the 12 independent variables were highly significant with the exception of the relationship between "friendly" and "relevancy" which were not significant at the .05 level.

The regression coefficients for 10 independent variables when considered in multivariate fashion were all positive (Table 5). The notable exceptions were the "communication" variable which yielded a regression coefficient of -.014 and the "respect" variable which yielded a regression coefficient of -.153. A linear equation (classroom control rating x .025 + communication rating x -.014 + concern rating x .038 + encouragement
<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>95% Conf Interval</th>
<th>Beta</th>
<th>T</th>
<th>Sig of T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class control</td>
<td>0.025137</td>
<td>0.033147</td>
<td>-0.040456 .009079</td>
<td>0.034205</td>
<td>0.759</td>
<td>.4492</td>
</tr>
<tr>
<td>Communication</td>
<td>-0.01397</td>
<td>0.05782</td>
<td>-0.130346 .102403</td>
<td>-0.13080</td>
<td>1.238</td>
<td>.8125</td>
</tr>
<tr>
<td>Concern</td>
<td>0.038135</td>
<td>0.055175</td>
<td>-0.071099 .147369</td>
<td>0.04725</td>
<td>0.691</td>
<td>.4908</td>
</tr>
<tr>
<td>Encouragement</td>
<td>0.091032</td>
<td>0.063411</td>
<td>-0.034508 .216571</td>
<td>0.084256</td>
<td>1.436</td>
<td>.1537</td>
</tr>
<tr>
<td>Enthusiasm</td>
<td>0.186503</td>
<td>0.051063</td>
<td>0.085410 .287595</td>
<td>0.204096</td>
<td>3.652</td>
<td>.0004</td>
</tr>
<tr>
<td>Fairness</td>
<td>0.346182</td>
<td>0.073226</td>
<td>0.201212 .491152</td>
<td>0.377067</td>
<td>4.728</td>
<td>.0000</td>
</tr>
<tr>
<td>Feedback</td>
<td>0.126169</td>
<td>0.046324</td>
<td>0.034458 .217880</td>
<td>0.148150</td>
<td>2.724</td>
<td>.0074</td>
</tr>
<tr>
<td>Friendly</td>
<td>0.051385</td>
<td>0.044146</td>
<td>-0.36013 0.138783</td>
<td>0.062109</td>
<td>1.164</td>
<td>.2467</td>
</tr>
<tr>
<td>Organized</td>
<td>0.007080</td>
<td>0.061331</td>
<td>-0.11434 0.128500</td>
<td>0.007750</td>
<td>0.115</td>
<td>.9083</td>
</tr>
<tr>
<td>Presentation</td>
<td>0.067388</td>
<td>0.048002</td>
<td>-0.02764 0.162420</td>
<td>0.081328</td>
<td>1.404</td>
<td>.1629</td>
</tr>
<tr>
<td>Relevancy</td>
<td>0.285924</td>
<td>0.072450</td>
<td>0.142491 .429357</td>
<td>0.268905</td>
<td>3.947</td>
<td>.0001</td>
</tr>
<tr>
<td>Respect</td>
<td>-0.153327</td>
<td>0.061665</td>
<td>-0.27540 0.03124</td>
<td>-0.177889</td>
<td>-2.486</td>
<td>.0143</td>
</tr>
<tr>
<td>(Constant)</td>
<td>-0.273399</td>
<td>0.237430</td>
<td>-0.74345 .196657</td>
<td>-1.151</td>
<td>.2518</td>
<td></td>
</tr>
</tbody>
</table>

**Note:**
- Multiple R: 0.92015
- R Square: 0.84667
- Adjusted R Square: 0.83147
- Standard Error: 0.19136
rating x .091 + enthusiasm rating x .187 + fairness rating x .346 + feedback rating x .126 + friendliness rating x .051 + organization rating x .007 + presentation rating x .067 + relevancy rating x .286 + respect rating x -.153 -.273) explained 84.7% of the variance in principal overall ratings of teacher performance. Only 4 independent variables (i.e., respect, relevancy, enthusiasm, and fairness) demonstrated linear regression significance at the .05 level.

A stepwise linear regression yielded "fairness" from the list of 12 independent variables as the variable which independently could most accurately predict "overall" rating of a teacher by a principal respondent (Appendix C, Table 36). The R-squared value for "fairness" alone indicated that 69.8% of the variance in principal overall ratings could be explained by this single variable.

The addition of a second variable, "enthusiasm," explained an additional 10% of the variance of the linear equation for principal overall rating. This (two factor) linear regression equation for predicting principal overall rating of a teacher has a .322 linear regression coefficient for "enthusiasm" and a .578 linear regression coefficient for "fairness" with a +.444 constant. This equation accounted for 78.0% of the variance in student overall ratings of teacher performance with only 2 independent variables in it.
Successive additions of additional independent variables added to the predictability of overall rating as follows: "relevancy" 4.2% and "feedback" 1.1%. The remaining 8 independent variables were not statistically significant in the stepwise linear regression and, therefore, no additional explanation of variance was possible with their inclusion to the equation.

Third Research Question

Issue

Do students and principals view teachers' classroom performance and teacher/student relationships differently?

Analysis

It was determined that the multivariate analysis of variance statistic was the best-suited analysis procedure for Research Question #3. Although the means of the two respondent groups (i.e., principals and students) demonstrated considerable differences, there was also considerable variance demonstrated within group ratings, especially in student ratings. Multivariate analysis of variance provided a comparison of the variance of each of the 12 independent variables within the principal rating group to that of the variance of corresponding variables within the student rating group. A significance factor (F-value) was provided to determine the probability of the intergroup variance occurring by chance.
Results

A multivariate analysis of variance was performed to determine if students' ratings of teacher performance and classroom relationships significantly differed from those of the principals (Appendix C, Table 37). The F-values for the 12 variables measured by the questionnaire ranged from 13.535 (friendly) to 66.910 (presentation). The significance of F-values for the 12 teacher performance and classroom relationship variables were all well beyond the .05 level.

Individual t-tests performed on each variable independently demonstrated the same findings (Appendix C, Table 38). All of the 12 variables yielded t-values which were highly significant indicating an extremely low probability of differences between the student responses and principal responses occurring by chance.

Fourth Research Question

Issue

Do students and principals rate teachers' overall performance differently?

Analysis

The analysis of variance was selected as the most appropriate statistical analysis method for Research Question #4. This statistic compared the mean and variance of the dependent variable (i.e., overall assessment of
teacher performance) within the principal rating group to that of the mean and variance within the student rating group. A significance factor (F-value) was provided to determine the probability of the intergroup variance occurring by chance.

Results

An analysis of variance was performed to determine if students' ratings of teacher overall performance differed significantly from those of principals (Table 6). The F-value for the difference in rating of overall performance between students and principals was 37.8. The significance of this F-value was well beyond the 0.5 level indicating

Table 6

Analysis of Variance of the Variable "Overall" by the Variable "Respondent" of the Respondent Groups Students and Principals

<table>
<thead>
<tr>
<th>Source</th>
<th>D.F</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F Ratio</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prob. Between</td>
<td>1</td>
<td>45.6285</td>
<td>45.6285</td>
<td>37.8402</td>
<td>.0000</td>
</tr>
<tr>
<td>Groups</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Within Groups</td>
<td>3339</td>
<td>4026.2273</td>
<td>1.2058</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>3340</td>
<td>4071.8557</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
that the two rater groups (i.e., principals and students) have statistically significant rating patterns.

A discriminant function test was performed to determine the predictability of the respondent (i.e., student or principal) based on the response to the single question concerning overall performance (Appendix C, Table 39). Based on this sole response, a student respondent could be accurately predicted 51.5% of the time and a principal respondent could be accurately predicted 73.9% of the time. Enhanced predictability occurred when all 13 variables (i.e., classroom control, presentation, communication skills, organization, relevancy, feedback, friendliness, respect, encouragement, concern, fairness, enthusiasm, and overall) were considered in the discriminant function analysis of respondent group. The analysis showed intergroup mean discrimination (Appendix C, Table 40) as well as discriminating intergroup standard deviations (Appendix C, Table 41). The Wilk's Lambda statistic generated for the 13 variables were all significant at the .05 level (Appendix C, Table 42). However, only 5 variables (i.e., presentation, classroom control, relevancy, friendliness, and communication) met the Wilk's Lambda tolerance level for the purposes of this prediction (Appendix C, Table 43). Employing these 5 variables in a discriminant analysis, it was found that student respondents
could be accurately predicted in 61.0% of the cases and that principal respondents could be accurately predicted in 79.1% of the cases.

Fifth Research Question

Issue

Is the grade received by a student in a class, teacher's gender, teacher's age, student's class level, student's gender, and teacher's experience related to the student's assessment of that teacher?

Analysis

It was determined that multiple regression was the best-suited analysis statistic for Research Question #5. Multiple regression provided an opportunity to examine the influence of the list of independent variables (i.e., grade received, teacher gender, teacher age, class level, student gender, and teacher experience) on the list of dependent variables (i.e., classroom control, presentation, communication skills, organization, relevancy, feedback, friendliness, respect, encouragement, concern, fairness, enthusiasm, and overall assessment) for student raters. It provided the R-squared value for the list of 6 independent variables which provided the amount of explained variance in teacher assessment ratings by students. The B-value was provided for each independent variable which expressed its linear regression coefficient.
Results

Dependent Variable: Classroom Control

The dependent variable "classroom control" is reviewed in Appendix C (Table 44). Students' mean rating for a teacher relative to the classroom control variable was 3.872 with a ±1 standard deviation of 1.021. "Classroom control" had very weak correlations with all of the hypothetically biasing variables (Appendix C, Table 45). However, all exhibited a significant correlation with "classroom control" at the .05 level. A stepwise linear regression of the 6 independent variables (Appendix C, Table 46) showed that "grade received" explained the largest amount of the linear variance of the dependent variable "classroom control" as rated by students. However, the R-squared value was only .003. Three other independent variables (i.e., total years teaching, respondent's gender, and teacher's gender) aided in the explanation of variance of "classroom control." However, even when viewed collectively, they could only explain .961% of the "classroom control" linear variance. "Grade level" of the student and "teacher's age" were not significant in the linear regression and, thus, had no impact on the explanation of variance.

Dependent Variable: Communication

The dependent variable "communication" was reviewed in Appendix C (Table 47). Student's mean rating for a teacher
relative to the communication variable was 4.023 with a ±1 standard deviation of 1.090. "Communication" had weak to very weak correlations with all of the hypothetically biasing variables (Appendix C, Table 48). However, all exhibited a significant correlation with "communication" at the .05 significance level with the exception of "grade level" of the student. A stepwise linear regression of the 6 independent variables (Appendix C, Table 49) showed that "grade received" explained the largest amount of the linear variance of the dependent variable "communication" as rated by students. However, the R-squared value was only .039. Four other independent variables (i.e., total years teaching, teacher's gender, grade level, and teacher's age) aided in the explanation of variance of "communication." However, even when viewed collectively, they could only explain 5.5% of the "communication" linear variance. "Grade received" by the student and "respondent gender" were not significant in the linear regression and, thus, had no impact on the explanation of variance.

**Dependent Variable: Concern**

The dependent variable "concern" is reviewed in Appendix C (Table 50). Student's mean rating for a teacher relative to the concern variable was 4.075 with a ±1 standard deviation of 1.091. "Concern" had weak to very weak correlations with all of the hypothetically biasing
variables (Appendix C, Table 51). However, all exhibited a significant correlation with "communication" at the .05 significance level. A stepwise linear regression of the 6 independent variables (Appendix C, Table 52) showed that "grade received" explained the largest amount of the linear variance of the dependent variable "concern" as rated by students. However, the R-squared value was only .035. Three other independent variables (i.e., teacher's gender, grade level, and total years teaching) aided in the explanation of variance of "concern" for students. However, even when viewed collectively, they could only explain 5.5% of the "concern" linear variance. "Respondent gender" and "teacher age" were not significant in the linear regression and, thus, had no impact on the explanation of variance.

**Dependent Variable: Encouragement**

The dependent variable "encouragement" is reviewed in Appendix C (Table 53). Student's mean rating for a teacher relative to the encouragement variable was 4.236 with a ±1 standard deviation of .985. "Encouragement" had weak to very weak correlations with all of the hypothetically biasing variables (Appendix C, Table 54). However, all exhibited a significant correlation with "communication" at the .05 significance level with the exception of the "teacher's age" variable. A stepwise linear regression of the 6 independent variables (Appendix C, Table 55) showed
that "grade received" explained the largest amount of the linear variance of the dependent variable "encouragement" as rated by students. However, the R-squared value was only .037. Two other independent variables (i.e., teacher's gender and grade level) aided in the explanation of variance of "encouragement" for students. However, even when viewed collectively, they could only explain 4.1% of the "encouragement" linear variance. "Grade received," "grade level," and "teacher's gender" were not significant in the linear regression and, thus, had no impact on the explanation of variance.

**Dependent Variable: Enthusiasm**

The dependent variable "enthusiasm" is reviewed in Appendix C (Table 56). Student's mean rating for a teacher relative to the enthusiasm variable was 4.200 with a ±1 standard deviation of 1.071. "Enthusiasm" had weak to very weak correlations with all of the hypothetically biasing variables (Appendix C, Table 57). However, all exhibited a significant correlation with "communication" at the .05 significance level. A stepwise linear regression of the 6 independent variables (Appendix C, Table 58) showed that "grade received" explained the largest amount of the linear variance of the dependent variable "enthusiasm" as rated by students. However, the R-squared value was only .030. Three other independent variables (i.e., teacher's age,
teacher's gender, and grade level) aided in the explanation of variance of "enthusiasm" for students. However, even when viewed collectively, they could only explain 4.3% of the "enthusiasm" linear variance. "Respondent gender" and "total years teaching" were not significant in the linear regression and, thus, had no impact on the explanation of variance.

**Dependent Variable: Fairness**

The dependent variable "fairness" is reviewed in Appendix C (Table 59). Student's mean rating for a teacher relative to the fairness variable was 4.144 with a ±1 standard deviation of 1.107. "Fairness" had weak to very weak correlations with all of the hypothetically biasing variables and was significantly correlated with only 4 of the 6 independent variables (i.e., respondent gender, grade received, grade level, and total years teaching) at the .05 significance level (Appendix C, Table 60). A stepwise linear regression of the 6 independent variables (Appendix C, Table 61) showed that "grade received" explained the largest amount of the linear variance of the dependent variable "fairness" as rated by students. However, the R-squared value was only .035. Only 1 other independent variable (i.e., teacher's gender) aided in the explanation of variance of "fairness" for students. However, even when viewed collectively, they could only explain 3.8% of the
"fairness" linear variance. "Respondent gender," "grade level," "teacher's age," and "total years teaching" were not significant in the linear regression and, thus, had no impact on the explanation of variance.

**Dependent Variable: Feedback**

The dependent variable "feedback" is reviewed in Appendix C (Table 62). Student's mean rating for a teacher relative to the feedback variable was 4.351 with a ±1 standard deviation of .965. "Feedback" had weak to very weak correlations with all of the hypothetically biasing variables (Appendix C, Table 63). However, all exhibited a significant correlation with "feedback" at the .05 significance level with the exception of "grade received."

A stepwise linear regression of the 6 independent variables (Appendix C, Table 64) showed that "grade received" explained the largest amount of the linear variance of the dependent variable "feedback" as rated by students. However, the R-squared value was only .017. Three other independent variables (i.e., teacher's gender, total years of teaching, and respondent's gender) aided in the explanation of variance of "feedback" for students. However, even when viewed collectively, they could only explain 3.2% of the "feedback" linear variance. "Grade level" and "teacher's age" were not significant in the
linear regression and, thus, had no impact on the explanation of variance.

**Dependent Variable: Friendly**

The dependent variable "friendly" is reviewed in Appendix C (Table 65). Student's mean rating for a teacher relative to the friendly variable was 4.334 with a ±1 standard deviation of .961. "Friendly" had weak to very weak correlations with all of the hypothetically biasing variables (Appendix C, Table 66). However, all exhibited a significant correlation with "friendly" at the .05 significance level with the exception of "grade received."

A stepwise linear regression of the 6 independent variables (Appendix C, Table 67) showed that "grade received" explained the largest amount of the linear variance of the dependent variable "friendly" as rated by students. However, the R-squared value was only .040. Two other independent variables (i.e., total years of teaching and teacher's gender) aided in the explanation of variance of "feedback" for students. However, even when viewed collectively, they could only explain 6.0% of the "friendly" linear variance. "Respondent gender," "grade level," and "teacher's age" were not significant in the linear regression and, thus, had no impact on the explanation of variance.
Dependent Variable: Organized

The dependent variable "organized" is reviewed in Appendix C (Table 68). Student's mean rating for a teacher relative to the organized variable was 4.126 with a ±1 standard deviation of .986. "Organized" had very weak correlations with all of the hypothetically biasing variables and only yielded a statistically significant correlation with 1 of the independent variables (i.e., grade level) at the .05 significance level (Appendix C, Table 69). A stepwise linear regression of the 6 independent variables (Appendix C, Table 70) showed that "grade received" was the only independent variable which explained any significant amount of the linear variance of the dependent variable "organized" as rated by students. The R-squared value for the "grade received" variable was .015. All of the remaining independent variables were not significant in the linear regression and, thus, had no impact on the explanation of variance.

Dependent Variable: Presentation

The dependent variable "presentation" is reviewed in Appendix C (Table 71). Student's mean rating for a teacher relative to the presentation variable was 3.795 with a ±1 standard deviation of 1.163. "Presentation" had weak to very weak correlations with all of the hypothetically biasing variables (Appendix C, Table 72). Only 3 of the 6
exhibited a significant correlation with "friendly" at the .05 significance level (i.e., grade level, teacher's age, and total years teaching). A stepwise linear regression of the 6 independent variables (Appendix C, Table 73) showed that "grade received" explained the largest amount of the linear variance of the dependent variable "presentation" as rated by students. However, the R-squared value was only .032. Two other independent variables (i.e., teacher's age and teacher's gender) aided in the explanation of variance of "presentation" for students. However, even when viewed collectively, they could only explain 3.9% of the "presentation" linear variance. "Respondent gender," "grade level," and "total years teaching" were not significant in the linear regression and, thus, had no impact on the explanation of variance.

**Dependent Variable: Relevancy**

The dependent variable "relevancy" is reviewed in Appendix C (Table 74). Student's mean rating for a teacher relative to the relevancy variable was 3.960 with a ±1 standard deviation of 1.149. "Relevancy" had weak to very weak correlations with all of the hypothetically biasing variables (Appendix C, Table 75). Only 3 independent variables exhibited a significant correlation with "relevancy" at the .05 significance level (i.e., respondent's gender, grade level, and grade received). A
stepwise linear regression of the 6 independent variables (Appendix C, Table 76) showed that "grade received" explained the largest amount of the linear variance of the dependent variable "friendly" as rated by students. However, the R-squared value was only .047. Only 1 other independent variable (i.e., grade level) aided in the explanation of variance of "relevancy" for students. When viewed collectively, they could only explain 5.2% of the "relevancy" linear variance. "Respondent gender," "teacher's age," "teacher's gender," and "total years teaching" were not significant in the linear regression and, thus, had no impact on the explanation of variance.

**Dependent Variable: Respect**

The dependent variable "respect" is reviewed in Appendix C (Table 77). Student's mean rating for a teacher relative to the respect variable was 4.237 with a ±1 standard deviation of 1.036. "Respect" had weak to very weak correlations with all of the hypothetically biasing variables (Appendix C, Table 78). However, all exhibited a significant correlation with "respect" at the .05 significance level with the exception of "grade received." A stepwise linear regression of the 6 independent variables (Appendix C, Table 79) showed that "grade received" explained the largest amount of the linear variance of the dependent variable "respect" as rated by students. However,
the R-squared value was only .033. Two other independent variables (i.e., teacher's gender and grade level) aided in the explanation of variance of "feedback" for students. However, even when viewed collectively, they could only explain 4.0% of the "respect" linear variance. "Respondent gender," "teacher's age," and "total years teaching" were not significant in the linear regression and, thus, had no impact on the explanation of variance.

**Dependent Variable: Overall**

The dependent variable "overall" is reviewed in Appendix C (Table 80). Student's mean for a teacher relative to the overall variable was 4.103 with a ±1 standard deviation of 1.110. "Overall" rating had very weak correlations with all of the hypothetically biasing variables except "grade received" which had a weak correlation (Appendix C, Table 81). However, all exhibited a significance with the exception of "teacher's age." A stepwise linear regression of the 6 independent variables (Appendix C, Table 82) showed that "grade received" explained the largest amount of the linear variance of the dependent variable "overall" as rated by students. However, the R-squared value was only .038. Four other independent variables (i.e., teacher's gender, grade level, total years teaching, and teacher's age) aided in the explanation of variance of "feedback" for students. However, even when
viewed collectively, they could only explain 5.4% of the "overall" linear variance. "Respondent gender" was not significant in the linear regression and, thus, had no impact on the explanation of variance.

Sixth Research Question

Issue

Are teacher's age, teacher's experience, the principal's "liking" of a teacher, perceived student learning, and the teacher's gender related to the principal's assessment of that teacher?

Analysis

It was determined that multiple regression was the best-suited analysis statistic for Research Question #6. Multiple regression provided an opportunity to review the influence the list of independent variables (i.e., teacher gender, teacher age, principal gender, perceived student learning, teacher experience, and the principal "liking" the teacher) had on the list of dependent variables (i.e., classroom control, presentation, communication skills, organization, relevancy, feedback, friendliness, respect, encouragement, concern, fairness, enthusiasm and overall assessment) for principal raters. It provided an R-squared value for the list of 6 independent variables which provided the amount of explained variance in teacher assessment ratings by principals. The B-value was provided for each
independent variable which expressed its linear regression coefficient.

Results
Dependent Variable: Classroom Control

The dependent variable "classroom control" is reviewed in Appendix C (Table 83). Principals' mean rating for a teacher relative to the classroom control variable was 4.470 with a ±1 standard deviation of .634. "Classroom control" had weak correlations with all of the hypothetically biasing variables except a moderate correlation with "student learning" which had a correlation coefficient of .442 (Appendix C, Table 84). However, all (except teacher's age) exhibited a significant correlation with "concern" at the .05 level. A stepwise linear regression of the 5 independent variables (Appendix C, Table 85) showed that "student learning" explained the largest amount of the linear variance of the dependent variable "classroom control" as rated by principals. The R-squared value was .196. Three other independent variables (i.e., total years teaching, like teacher, and teacher's gender) aided in the explanation of variance of "classroom control." When viewed collectively, they explained 37.1% of the "classroom control" linear variance. "Teacher's age" was not significant in the linear regression and, thus, had no impact on the explanation of variance.
Dependent Variable: Communication

The dependent variable "communication" is reviewed in Appendix C (Table 86). Principals' mean rating for a teacher relative to the "communication" variable was 4.769 with a ±1 standard deviation of .436. "Communication" had very weak correlations with all of the hypothetically biasing variables except "student learning" which had a strong correlation (Appendix C, Table 87). None exhibited a significant correlation with "communication" at the .05 level except "student learning." A stepwise linear regression of the 5 independent variables (Appendix C, Table 88) showed that "student learning" explained 38.6% of the linear variance of "communication" ratings by principals. No other independent variables were significant in the linear regression and, thus, had no impact on the explanation of variance.

Dependent Variable: Concern

The dependent variable "concern" is reviewed in Appendix C (Table 89). Principals' mean rating for a teacher relative to the concern variable was 4.694 with a ±1 standard deviation of .498. "Concern" had weak correlations with all of the hypothetically biasing variables with the exception of "student learning" which had a .507 correlation coefficient (Appendix C, Table 90). Four of the 5 independent variables exhibited a significant correlation.
with "concern" at the .05 level. A stepwise linear regression of the 5 independent variables (Appendix C, Table 91) showed that "student learning" explained the largest amount of the linear variance of the dependent variable "concern" as rated by principals. The R-squared value was only .257. Two other independent variables (i.e., like teacher and teacher's gender) aided in the explanation of variance of "concern." When viewed collectively, they explained 39.0% of the "concern" linear variance. "Total years of teaching" and "teacher's age" were not significant in the linear regression and, thus, had no impact on the explanation of variance.

**Dependent Variable: Encouragement**

The dependent variable "encouragement" is reviewed in Appendix C (see Table 92). Principals' mean rating for a teacher relative to the encouragement variable was 4.780 with a ±1 standard deviation of .431. "Encouragement" had weak correlations with all of the hypothetically biasing variables except for "student learning" (Appendix C, Table 93). No independent variables exhibited a significant correlation with "encouragement" at the .05 level except "student learning." A stepwise linear regression of the 5 independent variables (Appendix C, Table 94) showed that "student learning" explained the largest amount of the linear variance of the dependent variable "encouragement" as
rated by principals. The R-squared value was .316. One other independent variable (i.e., like teacher) aided in the explanation of variance of "encouragement." When viewed collectively, the 2 independent variables explained 33.8% of the "encouragement" linear variance. "Teacher's gender," "total years teaching," and "teacher's age" were not significant in the linear regression and, thus, had no impact on the explanation of variance.

Dependent Variable: Enthusiasm

The dependent variable "enthusiasm" is reviewed in Appendix C (Table 95). Principals' mean rating for a teacher relative to the enthusiasm variable was 4.705 with a ±1 standard deviation of .510. "Enthusiasm" had moderate to weak correlations with all of the hypothetically biasing variables except "student learning" (Appendix C, Table 96). Therefore, the independent variables exhibited a significant correlation with "enthusiasm" at the .05 level (like teacher, student learning, and teacher's gender). A stepwise linear regression of the 5 independent variables (Appendix C, Table 97) showed that "enthusiasm" explained the largest amount of the linear variance of the dependent variable "classroom control" as rated by principals. The R-squared value was only .434. Two other independent variables (i.e., like teacher and teacher's gender) modestly aided in the explanation of variance of "enthusiasm." When
viewed collectively, they explained 50.0% of the "enthusiasm" linear variance. "Teacher's age" and "total years teaching" were not significant in the linear regression and, thus, had no impact on the explanation of variance.

**Dependent Variable: Fairness**

The dependent variable "fairness" is reviewed in Appendix C (Table 98). Principals' mean rating for a teacher relative to the fairness variable was 4.724 with a ±1 standard deviation of .508. "Fairness" had weak to very weak correlations with all of the hypothetically biasing variables except "student learning" which had a very strong correlation (Appendix C, Table 99). Two independent variables (i.e., student learning and teacher's age) exhibited a significant correlation with "fairness" at the .05 level. A stepwise linear regression of the 5 independent variables (Appendix C, Table 100) showed that "student learning" explained 62.4% of the linear variance of the dependent variable "fairness" as rated by principals. No other independent variable was significant in the linear regression and, thus, had no impact on the explanation of variance.

**Dependent Variable: Feedback**

The dependent variable "feedback" is reviewed in Appendix C (Table 101). Principals' mean rating for a
teacher relative to the feedback variable was 4.627 with a ±1 standard deviation of .542. "Feedback" had weak to very weak correlations with all of the hypothetically biasing variables except "student learning" which had a strong correlation (Appendix C, Table 102). Only 2 independent variables (i.e., student learning and teacher's age) exhibited a significant correlation with "feedback" at the .05 level. A stepwise linear regression of the 5 independent variables (Appendix C, Table 103) showed that "feedback" explained the largest amount of the linear variance of the dependent variable "feedback" as rated by principals. The R-squared value was only .449. One other independent variable (like teacher) aided in the explanation of variance (an additional 3.2%) of "feedback." "Teacher's age," "teacher's gender," and "total years teaching" were not significant in the linear regression and, thus, had no impact on the explanation of variance.

Dependent Variable: Friendly

The dependent variable "friendly" is reviewed in Appendix C (Table 104). Principals' mean rating for a teacher relative to the friendly variable was 4.623 with a ±1 standard deviation of .563. "Friendly" had weak correlations with all of the hypothetically biasing variables except "like teacher" which had a strong correlation (Appendix C, Table 105). However, all except
"teacher's age" exhibited a significant correlation with "friendly" at the .05. A stepwise linear regression of the 5 independent variables (Appendix C, Table 106) showed that "like teacher" explained the largest amount of the linear variance of the dependent variable "friendly" as rated by principals. The R-squared value was .315. Two other independent variables (i.e., student learning and total years teaching) aided in the explanation of variance of "friendly." When viewed collectively, they explained 39.8% of the "friendly" linear variance. "Teacher's age" and "teacher's gender" were not significant in the linear regression and, thus, had no impact on the explanation of variance.

Dependent Variable: Organized

The dependent variable "organized" is reviewed in Appendix C (Table 107). Principals' mean rating for a teacher relative to the organized variable was 4.675 with a ±1 standard deviation of .510. "Organized" had negligible to very weak correlations with all of the hypothetically biasing variables except "student learning" which had a strong correlation (Appendix C, Table 108). None of the independent variables exhibited a significant correlation with "organized" at the .05 level except "student learning." A stepwise linear regression of the 5 independent variables (Appendix C, Table 109) showed that "student learning" was
the only independent variable which was significant in the linear regression. It explained 46.5% of the variance of "organized" ratings by principals.

**Dependent Variable: Presentation**

The dependent variable "presentation" is reviewed in Appendix C (Table 110). Principals' mean rating for a teacher relative to the presentation variable was 4.619 with a ±1 standard deviation of .503. "Presentation" had negligible to weak correlations with all the hypothetically biasing variables except "student learning" which had a strong correlation (Appendix C, Table 111). Two independent variables (i.e., student learning and teacher's age) exhibited a significant correlation with "presentation" at the .05 level. A stepwise linear regression of the 5 independent variables (Appendix C, Table 112) showed that "student learning" was the only independent variable which was significant in this linear regression. The R-squared value for "presentation" was .451.

**Dependent Variable: Relevancy**

The dependent variable "relevancy" is reviewed in Appendix C (Table 113). Principals' mean rating for a teacher relative to the relevancy variable was 4.701 with a ±1 standard deviation of .438. "Relevancy" had negligible to weak correlations with all of the hypothetically biasing variables except "student learning" which had a very strong
correlation (see Appendix C, Table 114). Only 2 independent variables (i.e., student learning and teacher's age) exhibited a significant correlation with "relevancy" at the .05 level. A stepwise linear regression of the 5 independent variables (Appendix C, Table 115) showed that "student learning" was the only independent variable which was significant in this linear regression. Sixty-five percent of "relevancy" was explained by the principals' rating of the "student learning" variable.

**Dependent Variable: Respect**

The dependent variable "respect" is reviewed in Appendix C (see Table 116). Principals' mean rating for a teacher relative to the respect variable was 4.690 with a ±1 standard deviation of .541. "Respect" had negligible to weak correlations with all of the hypothetically biasing variables except "student learning" which had a correlation coefficient of .514 (Appendix C, Table 117). All independent variables exhibited a significant correlation with "respect" at the .05 level. A stepwise linear regression of the 5 independent variables (Appendix C, Table 118) showed that "student learning" explained the largest amount of the linear variance of the dependent variable "respect" as rated by principals. The R-squared value was only .264. Only 1 other independent variable (i.e., like teacher) aided in the explanation of variance of "respect."
Its presence in the stepwise regression added 10.9% to the explanation of variance in principal ratings of "respect." All other independent variables were not significant in the linear regression and, thus, had no impact on the explanation of variance.

**Dependent Variable: Overall**

The dependent variable "overall" is reviewed in Appendix C (Table 119). Principals' mean average rating for a teacher relative to the overall variable was 4.690 with a ±1 standard deviation of .466. "Overall" had negligible to weak correlations with all of the hypothetically biasing variables (Appendix C, Table 120) except "student learning" which was very strong (.880). Only "student learning" exhibited a significant correlation with "overall" at the .05 level. A stepwise linear regression of the 5 independent variables (Appendix C, Table 121) showed that "student learning" explained the largest amount of the linear variance of the dependent variable "overall" as rated by principals. The R-squared value was .774. One other independent variables (i.e., like teacher) aided in the explanation of variance of "overall"; however, it added only 1.5% to the explanation of variance of principals' ratings of teaching "overall" performance. All other independent variables were not significant in the linear regression and, thus, had no impact on the explanation of variance.
CHAPTER 5
CONCLUSIONS AND FUTURE STUDY

Introduction

The existing body of research pertaining to student assessment of teacher performance relies heavily on higher education-based research. Most of the conclusions derived from the body of research have been untested at the secondary level. The results of this study will add to the growing body of knowledge regarding secondary students' assessment of teaching. Conclusions based upon the results of this study are presented in this chapter.

Research Question #1

Issue

Is student perception of 12 teacher performance and teacher/student relationship variables (i.e., classroom control, presentation, communication skills, organization, relevancy, feedback, friendliness, respect, encouragement, concern, fairness, and enthusiasm) related to the overall rating of the teacher's performance by the students?

Conclusions

Students involved in this study had a mean rating of teacher overall performance of 4.094 (on a 5 point Likert scale) with a standard deviation of 1.119 (Appendix C, Table 30). Twelve teacher performance and relationship variables (i.e., classroom control, presentation, communication...
skills, organization, relevancy, feedback, friendliness, respect, encouragement, concern, fairness, and enthusiasm) all displayed very high scores by student raters. The variables with the highest mean as determined by the students were friendliness/4.311, feedback/4.293, encouragement/4.235, and respect/4.204. Even the 4 performance and/or relationship variables which yielded the lowest mean averages for student raters—presentation/3.781, classroom control/3.890, relevancy/3.919, and concern/4.047—were well above average (or a neutral response on the Likert scale).

The 12 teacher performance and relationship variables as rated by students ranged from moderate to strong correlation with student overall assessments of teacher performance (Appendix C, Table 31). Those performance and/or relationship variables which were most highly correlated with the students' overall rating of teacher performance were: concern for students/.766, friendliness/.751, fairness/.750, and respect for students/.747. Only 2 variables (of the 12 presented on the questionnaire) yielded correlations with overall effectiveness which were lower than .60. They were classroom control/.397 and relevancy/.594.

A multiple regression employing the listwise deletion model showed that collectively the 12 independent variables
explained 78.9% of the variance in student overall ratings of teachers (Appendix C, Table 32). However, a multiple regression stepwise deletion model showed that the "concern for students" variable alone explained 58.6% of the variance in students' overall ratings of teacher. When "presentation" and "fairness" were added to the linear regression equation, 74.1% of the variance in overall ratings could be explained by these 3 variables alone.

Students ratings of 6 performance variables (i.e., classroom control, presentation, communication skills, organization, relevancy, and feedback) and 6 teacher/student relationship variables (i.e., friendliness, respect, encouragement, concern, fairness, and enthusiasm) have been shown to be highly correlated with student overall ratings of teacher performance. These 12 variables when collectively viewed create a construct for determining the overall effectiveness of the teacher from the student perspective. Overall ratings of teacher's performance are highly predictable based on the student's assessment of the teacher's demonstrated capability relative to these performance variables and their observed behavior in relating with students. Students, as a group, have a highly predictable construct for the composition of high quality instruction. They clearly generalize overall teacher
efficacy from their appraisal of a few key component variables.

Research Question #2

Issue

Is principal perception of 12 teacher performance and teacher/student relationship variables (i.e., classroom control, presentation, communication skills, organization, relevancy, feedback, friendliness, respect, encouragement, concern, fairness, and enthusiasm) related to the overall rating of the teacher's performance by the principal?

Conclusions

The mean rating of teacher overall performance by principals involved in this study was 4.690 (on a 5 point Likert scale) with a standard deviation of .466 (Appendix C, Table 34). The 12 teacher performance and relationship variables (i.e., classroom control, presentation, communication skills, organization, relevancy, feedback, friendliness, respect, encouragement, concern, fairness, and enthusiasm) all displayed very high scores by principal raters. The variables which displayed the highest ratings by the principal raters were: encouragement/4.780, communication/4.769, fairness/4.724, and relevancy/4.701. The variable with the lowest mean for principal raters was classroom control/4.470.
Principals' ratings on the 12 teacher performance and relationship variables typically demonstrated very strong correlation with principal overall assessments of teacher performance (Appendix C, Table 35). Those performance and/or relationship variables which were most highly correlated with the principals' overall rating of teacher performance were: fairness/.835, relevancy/.804, and presentation/.723. Two of the 12 variables had much weaker correlations than the other performance and relationship variables. Those variables were friendliness/.361 and classroom control/.459.

A multiple regression employing the listwise deletion model showed that collectively the 12 independent variables explained 84.7% of the variance in principal overall ratings of teachers (Table 5). Of all the independent variables, "fairness" had the highest prediction capability of overall assessment for principal raters (R-squared value of .698). "Enthusiasm," "relevancy," and "feedback" were the only other independent variables which retained their statistical significance in the multiple regression stepwise deletion process; together with "fairness" they explain 83.3% of the variance in overall ratings by the principal (Appendix C, Table 36).

A much different rating construct emerged from principal assessments than did for student raters.
Principals' assessments of teacher performance and the importance of the various components of effectiveness vary markedly from that of their student counterpart. The first two research questions demonstrated six distinct ways that this phenomenon manifested itself.

First, principal ratings in every category (i.e., overall ratings, teacher performance characteristics, and teacher/student relationship areas) were higher than student ratings. For instance, the 4.660 mean average rating for overall performance of the 45 teachers in the study as rated by principals was 11.1% higher than the 4.094 rating given by students. In every variable category this pattern persisted (Table 7).

Table 7

Comparison of Principal and Student Means

<table>
<thead>
<tr>
<th>Variable</th>
<th>Principal</th>
<th>Student</th>
<th>Difference of Means</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>4.690</td>
<td>4.094</td>
<td>.596</td>
</tr>
<tr>
<td>Class control</td>
<td>4.470</td>
<td>3.890</td>
<td>.580</td>
</tr>
<tr>
<td>Communication</td>
<td>4.769</td>
<td>4.048</td>
<td>.721</td>
</tr>
<tr>
<td>Concern</td>
<td>4.694</td>
<td>4.047</td>
<td>.647</td>
</tr>
<tr>
<td>Encouragement</td>
<td>4.780</td>
<td>4.235</td>
<td>.545</td>
</tr>
<tr>
<td>Enthusiasm</td>
<td>4.705</td>
<td>4.163</td>
<td>.542</td>
</tr>
<tr>
<td>Fairness</td>
<td>4.724</td>
<td>4.121</td>
<td>.603</td>
</tr>
<tr>
<td>Feedback</td>
<td>4.627</td>
<td>4.293</td>
<td>.334</td>
</tr>
<tr>
<td>Friendly</td>
<td>4.623</td>
<td>4.311</td>
<td>.312</td>
</tr>
<tr>
<td>Organized</td>
<td>4.675</td>
<td>4.130</td>
<td>.545</td>
</tr>
<tr>
<td>Presentation</td>
<td>4.619</td>
<td>3.781</td>
<td>.838</td>
</tr>
<tr>
<td>Relevancy</td>
<td>4.701</td>
<td>3.919</td>
<td>.782</td>
</tr>
<tr>
<td>Respect</td>
<td>4.690</td>
<td>4.204</td>
<td>.486</td>
</tr>
</tbody>
</table>
Second, the consistency of rating was dramatically different in the two rater groups (Table 8). The standard deviation of principal ratings consistently indicated a much narrower array of data than that of the student raters. Standard deviations for all principal ratings (overall, teacher performance characteristics, and teacher/student relationship areas) were double those of student raters in every category (Table 9).

Table 8
Comparison of Student and Principal Standard Deviations

<table>
<thead>
<tr>
<th>Variable</th>
<th>Student Rating Standard Deviation</th>
<th>Principal Rating Standard Deviation</th>
<th>Difference of Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>1.119</td>
<td>.466</td>
<td>.653</td>
</tr>
<tr>
<td>Class control</td>
<td>1.027</td>
<td>.634</td>
<td>.393</td>
</tr>
<tr>
<td>Communication</td>
<td>1.088</td>
<td>.436</td>
<td>.652</td>
</tr>
<tr>
<td>Concern</td>
<td>1.108</td>
<td>.498</td>
<td>.610</td>
</tr>
<tr>
<td>Encouragement</td>
<td>1.000</td>
<td>.431</td>
<td>.569</td>
</tr>
<tr>
<td>Enthusiasm</td>
<td>1.096</td>
<td>.510</td>
<td>.586</td>
</tr>
<tr>
<td>Fairness</td>
<td>1.119</td>
<td>.508</td>
<td>.611</td>
</tr>
<tr>
<td>Feedback</td>
<td>1.019</td>
<td>.547</td>
<td>.472</td>
</tr>
<tr>
<td>Friendly</td>
<td>.979</td>
<td>.563</td>
<td>.416</td>
</tr>
<tr>
<td>Organized</td>
<td>.992</td>
<td>.510</td>
<td>.482</td>
</tr>
<tr>
<td>Presentation</td>
<td>1.183</td>
<td>.563</td>
<td>.620</td>
</tr>
<tr>
<td>Relevancy</td>
<td>1.183</td>
<td>.438</td>
<td>.745</td>
</tr>
<tr>
<td>Respect</td>
<td>1.057</td>
<td>.541</td>
<td>.516</td>
</tr>
</tbody>
</table>

Third, the perception of teaching efficacy of these 45 high school staff members was different between the two rating groups (Table 9). Students perceived the strongest attributes of the staff to be (in order of importance)
Table 9

Ranking of Student and Principal Means

<table>
<thead>
<tr>
<th>Rank</th>
<th>Principal Ranking</th>
<th>Mean</th>
<th>Student Ranking</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Encouragement</td>
<td>4.780</td>
<td>Friendliness</td>
<td>4.311</td>
</tr>
<tr>
<td>2</td>
<td>Communication</td>
<td>4.769</td>
<td>Feedback</td>
<td>4.293</td>
</tr>
<tr>
<td>3</td>
<td>Fairness</td>
<td>4.724</td>
<td>Encouragement</td>
<td>4.235</td>
</tr>
<tr>
<td>4</td>
<td>Enthusiasm</td>
<td>4.705</td>
<td>Respect</td>
<td>4.204</td>
</tr>
<tr>
<td>5</td>
<td>Relevancy</td>
<td>4.701</td>
<td>Enthusiasm</td>
<td>4.163</td>
</tr>
<tr>
<td>6</td>
<td>Concern</td>
<td>4.694</td>
<td>Organized</td>
<td>4.130</td>
</tr>
<tr>
<td>7</td>
<td>Respect</td>
<td>4.690</td>
<td>Fairness</td>
<td>4.121</td>
</tr>
<tr>
<td>8</td>
<td>Organized</td>
<td>4.675</td>
<td>Communication</td>
<td>4.048</td>
</tr>
<tr>
<td>9</td>
<td>Feedback</td>
<td>4.627</td>
<td>Concern</td>
<td>4.047</td>
</tr>
<tr>
<td>10</td>
<td>Friendliness</td>
<td>4.623</td>
<td>Relevancy</td>
<td>3.919</td>
</tr>
<tr>
<td>11</td>
<td>Presentation</td>
<td>4.619</td>
<td>Class control</td>
<td>3.890</td>
</tr>
<tr>
<td>12</td>
<td>Class control</td>
<td>4.470</td>
<td>Presentation</td>
<td>3.781</td>
</tr>
</tbody>
</table>

Friendliness to students, providing opportunities for feedback, encouragement for students, and respect for students. Principals, on the other hand, saw the same collection of teachers to be strongest in encouragement for students, good communication skills, fairness, and in providing relevant subject matter. Students perceived this group of teachers to be much weaker in the areas of concern for students, relevancy of subject matter, and interesting presentation than did their principal counterparts.

Fourth, principals and students perceived overall performance of individual teachers differently (Table 10). Sixteen teachers were rated as 5.0 in their overall performance by principal raters. When this list is compared to the top 16 teachers (as determined by overall ratings of students), only 6 teachers are on the "highest overall" list.
**Table 10**

**Ranking of 16 Teachers With Highest Overall Ranking**

<table>
<thead>
<tr>
<th>Rank</th>
<th>Teacher Code Principal Ranking</th>
<th>Overall Mean Principals' Ratings</th>
<th>Teacher Code Students' Ranking</th>
<th>Overall Mean Students' Ratings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>adui</td>
<td>5.0</td>
<td>nfwu</td>
<td>4.81</td>
</tr>
<tr>
<td>2</td>
<td>apwi</td>
<td>5.0</td>
<td>jlap</td>
<td>4.80</td>
</tr>
<tr>
<td>3</td>
<td>ciud</td>
<td>5.0</td>
<td>gcdt</td>
<td>4.78</td>
</tr>
<tr>
<td>4</td>
<td>cxgp</td>
<td>5.0</td>
<td>jlip</td>
<td>4.75</td>
</tr>
<tr>
<td>5</td>
<td>fdng</td>
<td>5.0</td>
<td>trdo</td>
<td>4.74</td>
</tr>
<tr>
<td>6</td>
<td>gcdt</td>
<td>5.0</td>
<td>isvo</td>
<td>4.70</td>
</tr>
<tr>
<td>7</td>
<td>hpev</td>
<td>5.0</td>
<td>jifv</td>
<td>4.66</td>
</tr>
<tr>
<td>8</td>
<td>jlap</td>
<td>5.0</td>
<td>wxpf</td>
<td>4.60</td>
</tr>
<tr>
<td>9</td>
<td>jxnf</td>
<td>5.0</td>
<td>cxgp</td>
<td>4.53</td>
</tr>
<tr>
<td>10</td>
<td>ldmv</td>
<td>5.0</td>
<td>hzap</td>
<td>4.50</td>
</tr>
<tr>
<td>11</td>
<td>mluw</td>
<td>5.0</td>
<td>resq</td>
<td>4.49</td>
</tr>
<tr>
<td>12</td>
<td>gnak</td>
<td>5.0</td>
<td>sbgr</td>
<td>4.49</td>
</tr>
<tr>
<td>13</td>
<td>resq</td>
<td>5.0</td>
<td>qnak</td>
<td>4.46</td>
</tr>
<tr>
<td>14</td>
<td>sbqr</td>
<td>5.0</td>
<td>apwi</td>
<td>4.46</td>
</tr>
<tr>
<td>15</td>
<td>txoa</td>
<td>5.0</td>
<td>heqv</td>
<td>4.41</td>
</tr>
<tr>
<td>16</td>
<td>vpgd</td>
<td>5.0</td>
<td>kjch</td>
<td>4.40</td>
</tr>
</tbody>
</table>

students), only 6 teachers are on the "highest overall" list for both rater groups. Nine of the teachers on the students' "highest overall" rating list, including 6 of their top 8, do not appear on the principals' "highest overall" rating list. Similarly, when the list of "lowest overall" ratings is reviewed, the same phenomenon occurs (Table 11). The list of 5 lowest ranked teachers has only 1 teacher in common for the two rater groups. Perhaps the most interesting occurrence happens when comparing the "highest" and "lowest" lists. One teacher (i.e., "fdng") is found on the principals' "highest overall" rating list yet on the students' "lowest overall" rating list. Conversely,
Table 11

Ranking of 5 Teachers With Lowest Overall Rating

<table>
<thead>
<tr>
<th>Rank</th>
<th>Teacher Code</th>
<th>Overall Mean Principals' Rating</th>
<th>Teacher Code</th>
<th>Overall Mean Students' Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>41</td>
<td>Idck</td>
<td>4.38</td>
<td>wkbu</td>
<td>3.46</td>
</tr>
<tr>
<td>42</td>
<td>kjch</td>
<td>4.33</td>
<td>wjeh</td>
<td>3.31</td>
</tr>
<tr>
<td>43</td>
<td>adkl</td>
<td>4.17</td>
<td>fdng</td>
<td>3.29</td>
</tr>
<tr>
<td>44</td>
<td>ohaq</td>
<td>4.00</td>
<td>ewxm</td>
<td>3.11</td>
</tr>
<tr>
<td>45</td>
<td>ewxm</td>
<td>3.63</td>
<td>mqaw</td>
<td>3.00</td>
</tr>
</tbody>
</table>

Teacher "kych" is found on the students' "highest overall" rating list but on the principals' "lowest overall" rating list.

Fifth, the definition of a good teacher was significantly different for the two groups. The highest correlations with overall effectiveness for student raters was (in order of importance) concern for students, friendliness, fairness, and respect for students. However, principals indicated that the most important characteristics of effective teaching were (in order of importance) fairness, relevancy, and interesting presentation (Table 12). One of the variables which was highly correlated to overall teacher effectiveness for student raters was "friendliness" of the teacher (.751); however, it demonstrated the weakest correlation of all 12 independent variables (.361) with principal raters.

Sixth, the two groups of raters yielded a very different list of variables relative to the issue of key
Table 12

Correlates of Efficacy

<table>
<thead>
<tr>
<th>Rank</th>
<th>Principal Ranking</th>
<th>r-value</th>
<th>Student Ranking</th>
<th>r-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Fairness</td>
<td>.835</td>
<td>Concern</td>
<td>.766</td>
</tr>
<tr>
<td>2</td>
<td>Relevance</td>
<td>.804</td>
<td>Friendliness</td>
<td>.751</td>
</tr>
<tr>
<td>3</td>
<td>Presentation</td>
<td>.723</td>
<td>Fairness</td>
<td>.750</td>
</tr>
<tr>
<td>4</td>
<td>Organization</td>
<td>.720</td>
<td>Respect</td>
<td>.747</td>
</tr>
<tr>
<td>5</td>
<td>Enthusiasm</td>
<td>.720</td>
<td>Communication</td>
<td>.743</td>
</tr>
<tr>
<td>6</td>
<td>Feedback</td>
<td>.693</td>
<td>Presentation</td>
<td>.737</td>
</tr>
<tr>
<td>7</td>
<td>Encouragement</td>
<td>.668</td>
<td>Enthusiasm</td>
<td>.736</td>
</tr>
<tr>
<td>8</td>
<td>Communication</td>
<td>.652</td>
<td>Encouragement</td>
<td>.718</td>
</tr>
<tr>
<td>9</td>
<td>Concern</td>
<td>.617</td>
<td>Feedback</td>
<td>.661</td>
</tr>
<tr>
<td>10</td>
<td>Respect</td>
<td>.616</td>
<td>Organized</td>
<td>.636</td>
</tr>
<tr>
<td>11</td>
<td>Control</td>
<td>.459</td>
<td>Relevancy</td>
<td>.594</td>
</tr>
<tr>
<td>12</td>
<td>Friendliness</td>
<td>.361</td>
<td>Control</td>
<td>.387</td>
</tr>
</tbody>
</table>

components in determining efficacious teaching (Table 13). Over 78% of the variance of students' overall ratings of teacher performance could be explained by knowing their ratings in only three component areas (in order of importance): teacher's demonstrated concern for students, interest of teacher presentations, and fairness. By contrast, only 4 variables were needed to explain 83.2% of the variance in their overall ratings of teachers by principals: they were fairness, enthusiasm, relevancy, and feedback. Not only did the two rater groups have different "key component" lists, the only common variable was "fairness" which was the single most important predictor of principal overall ratings but ranked third for student raters. The variable which explained 58.6% of the variance
Table 13  
Comparison of Principal and Student Efficacy Composition

<table>
<thead>
<tr>
<th>Principal Ranking</th>
<th>Stepwise R-Squared</th>
<th>Student Ranking</th>
<th>Stepwise R-Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fairness</td>
<td>69.8</td>
<td>Concern</td>
<td>58.6</td>
</tr>
<tr>
<td>Enthusiasm</td>
<td>78.0</td>
<td>Presentation</td>
<td>68.8</td>
</tr>
<tr>
<td>Relevancy</td>
<td>82.2</td>
<td>Fairness</td>
<td>74.1</td>
</tr>
<tr>
<td>Feedback</td>
<td>83.3</td>
<td>Communication</td>
<td>76.4</td>
</tr>
<tr>
<td>(All others not Significant)</td>
<td></td>
<td>Friendly</td>
<td>77.8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Enthusiasm</td>
<td>78.6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Relevancy</td>
<td>79.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Organized</td>
<td>79.6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Respect</td>
<td>79.8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Encouragement</td>
<td>79.8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Feedback</td>
<td>79.9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Class control</td>
<td>79.9</td>
</tr>
</tbody>
</table>

of students' overall assessments of teacher performance (i.e., concern for students), was not even statistically significant in the stepwise regression equation by principal raters. The prediction of "good teaching" based on "key components" was dramatically different for the two rating groups.

Student evaluations of teachers' performance correlate consistently and positively to colleague ratings, expert external judges, and alumni ratings (Aleamoni, 1987) but not necessarily with principal ratings. Teacher evaluation systems that do not include multiple source input are inherently flawed. Principal assessments and infrequent observational systems are simply not describing the complete
picture. Conclusions reviewed in Chapter 3 are consistent with the findings of this study.

Research Question #3

Issue

Do students and principals view teachers' classroom performance and teacher/student relationships differently?

Conclusions

Students rated teachers differently than principals in all 12 component areas (i.e., classroom control, presentation, communication skills, organization, relevancy, feedback, friendliness, respect, encouragement, concern, fairness, and enthusiasm). In fact, in independent t-tests the differences in ratings in all 12 areas were significant in every instance even at the .001 level (Appendix C, Table 38). Clearly, the two rater groups perceived two very distinct teaching performances or used very different criteria for assessment, or both.

From this study (and others reviewed in the literature), it was clear that there was significant interplay between and among teaching variables. The aforementioned t-tests demonstrated that the two respondent groups (i.e., students and principals) had distinct response patterns in rating the 12 dependent teacher performance and relationship variables; however, the t-tests could not take into consideration the interplay (or multidimensionality) of
the variables. A multivariate analysis of variance was used to test the variance between the two rater groups (Appendix C, Table 37). The total variance represented the combined variance of all student and principal ratings. The manova analysis tested each variable to determine differences in variance while controlling for the other 11 variables. It was found that the ratings of the two respondent groups on all 12 variables was significantly distinct (even at the .001 level). Even when controlling for interdependence of variables, the two rater groups exhibited distinct rating patterns on all 12 variables.

Research Question #4

Issue
Do students and principals rate teacher's overall performance differently?

Conclusions
The difference in mean ratings of overall teacher performance between the two rater groups was enormous (students = 4.094 and principals = 4.660). This difference was statistically significant even at the .001 level of significance. This difference was found to be so profound that simply knowing the overall rating of teacher performance by a rater could accurately predict a principal rater 73.9% of the time (Appendix C, Table 39).
Research Question #5

Issue

Is the grade received by a student in a class, teacher's gender, teacher's age, student's class level, student's gender, and teacher's experience related to the student's assessment of that teacher?

Conclusions

All of the student assessment variables (i.e., classroom control, presentation, communication skills, organization, relevancy, feedback, friendliness, respect, encouragement, concern, fairness, enthusiasm, and overall) were analyzed separately to determine the impact of certain potentially biasing factors (i.e., grade received by a student in a class, teacher's gender, teacher's age, student's class level, student's gender, and teacher's experience) (Table 14). Negligible to very weak correlations were noted with all performance ratings and potentially biasing variables. The notable exception was with "grade received" which demonstrated a consistently positive, weak correlation (.059 to .217) with all ratings.

In all instances, the potentially biasing variable which explained the most variance in the student's rating of a particular variable was "grade received." In a multiple regression stepwise deletion model, the variable "grade
<table>
<thead>
<tr>
<th>Variable</th>
<th>Most Significant</th>
<th>Explained Variance</th>
<th>Other Factors (Which Are Statistically Significant)</th>
<th>Combined Explanation of Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class Control</td>
<td>Grade Received</td>
<td>.3%</td>
<td>Total years, Respondent gender, Teacher’s gender</td>
<td>1.0%</td>
</tr>
<tr>
<td>Communication</td>
<td>Grade Received</td>
<td>3.9%</td>
<td>Total years, Teacher’s gender, Grade level, Teacher’s age</td>
<td>5.5%</td>
</tr>
<tr>
<td>Concern</td>
<td>Grade Received</td>
<td>3.4%</td>
<td>Teacher’s gender, Grade level, Total years</td>
<td>5.5%</td>
</tr>
<tr>
<td>Encouragement</td>
<td>Grade Received</td>
<td>3.7%</td>
<td>Teacher’s gender, Grade level</td>
<td>4.1%</td>
</tr>
<tr>
<td>Enthusiasm</td>
<td>Grade Received</td>
<td>3.0%</td>
<td>Teacher’s age, Teacher’s gender, Grade level</td>
<td>4.3%</td>
</tr>
<tr>
<td>Fairness</td>
<td>Grade Received</td>
<td>3.5%</td>
<td>Respondent age, Grade level, Teacher’s age, Total years</td>
<td>3.8%</td>
</tr>
<tr>
<td>Feedback</td>
<td>Grade Received</td>
<td>1.7%</td>
<td>Teacher’s gender, Total years, Respondent gender</td>
<td>3.2%</td>
</tr>
<tr>
<td>Friendly</td>
<td>Grade Received</td>
<td>4.0%</td>
<td>Total years, Teacher’s gender</td>
<td>6.0%</td>
</tr>
<tr>
<td>Organized</td>
<td>Grade Received</td>
<td>1.5%</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Presentation</td>
<td>Grade Received</td>
<td>3.2%</td>
<td>Teacher’s age, Teacher’s gender</td>
<td>3.9%</td>
</tr>
<tr>
<td>Relevancy</td>
<td>Grade Received</td>
<td>4.7%</td>
<td>Grade level</td>
<td>5.2%</td>
</tr>
<tr>
<td>Respect</td>
<td>Grade Received</td>
<td>3.3%</td>
<td>Teacher’s gender, Grade level</td>
<td>4.0%</td>
</tr>
<tr>
<td>Overall</td>
<td>Grade Received</td>
<td>3.8%</td>
<td>Teacher’s gender, Grade level, Total years, Teacher’s age</td>
<td>5.4%</td>
</tr>
</tbody>
</table>
received" explained the most variance with all teacher performance, teacher/student relationship, and overall ratings. However, in all cases the variance was only a very modest amount (i.e., the least variance in ratings explained by "grade received" was with classroom control .3% and most explanation was with relevancy 4.7%). Other potentially biasing variables helped explain some of the rating variance of typically a minimal amount. In every instance, the additional explanation added to the linear regression was no more than an additional 2% even when all 5 remaining variables (teacher's gender, teacher's age, student's class level, student's gender, and teacher's experience) were included.

The grade received by the student had a consistent but weak biasing impact on the ratings (i.e., teacher performance, teacher/student relationship, and overall) done by students. The findings of this study relative to this phenomenon (i.e., "grade received" influencing the students' rating of teacher performance) are consistent with virtually all of the studies cited in Chapter 3 of this document. All other variables (i.e., teacher's gender, teacher's age, student's class level, student's gender, and teacher's experience) had negligible to weak impact on any student ratings. The amount of variance in ratings explained by these 6 potentially biasing variables ranged significantly
Research Question #6

Issue

Are teacher's age, teacher's experience, the principal's "liking" of a teacher, perceived student learning, and the teacher's gender related to principal's assessment of that teacher?

Conclusions

All of the principal assessment variables (i.e., classroom control, presentation, communication skills, organization, relevancy, feedback, friendliness, respect, encouragement, concern, fairness, enthusiasm, and overall) were analyzed separately to determine the impact of certain potentially biasing factors (i.e., teacher's age, teacher's experience, the principal's "liking" of a teacher, perceived student learning, and the teacher's gender) (Table 15). The principal's perception of student learning in a teacher's class yielded moderate to very high correlations (.442 to .880) with all principal ratings (whether on teacher performance variables, teacher/student relationship variables, or overall assessments). The notable exception to this was with the "friendliness" variable which produced a .206 coefficient of correlation with the "student
Table 15

Potentially Biasing Variables in Principal Assessments

<table>
<thead>
<tr>
<th>Variable</th>
<th>Most Significant Biasing Variable</th>
<th>Explained</th>
<th>Other Factors (Which Are Statistically Significant)</th>
<th>Combined Explanation of Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class Control</td>
<td>Student Learning</td>
<td>19.6%</td>
<td>Total years, Teacher affinity, Teacher's gender</td>
<td>37.1%</td>
</tr>
<tr>
<td>Communication</td>
<td>Student Learning</td>
<td>38.6%</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Concern</td>
<td>Student Learning</td>
<td>25.7%</td>
<td>Teacher affinity, Teacher's gender</td>
<td>39.0%</td>
</tr>
<tr>
<td>Encouragement</td>
<td>Student Learning</td>
<td>31.6%</td>
<td>Teacher affinity</td>
<td>33.8%</td>
</tr>
<tr>
<td>Enthusiasm</td>
<td>Student Learning</td>
<td>43.4%</td>
<td>Teacher affinity, Teacher's gender</td>
<td>50.0%</td>
</tr>
<tr>
<td>Fairness</td>
<td>Student Learning</td>
<td>62.4%</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Feedback</td>
<td>Student Learning</td>
<td>45.0%</td>
<td>Teacher affinity</td>
<td>48.1%</td>
</tr>
<tr>
<td>Friendly</td>
<td>Teacher Affinity</td>
<td>31.2%</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Organized</td>
<td>Student Learning</td>
<td>46.5%</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Presentation</td>
<td>Student Learning</td>
<td>45.1%</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Relevancy</td>
<td>Student Learning</td>
<td>65.1%</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Respect</td>
<td>Student Learning</td>
<td>26.4%</td>
<td>Teacher affinity</td>
<td>37.3%</td>
</tr>
<tr>
<td>Overall</td>
<td>Student Learning</td>
<td>77.4%</td>
<td>Teacher affinity</td>
<td>78.9%</td>
</tr>
</tbody>
</table>
learning" variable. With the exception of the "student learning" variable, all potentially biasing variables (i.e., teacher's age, teacher's experience, the principal's "liking" of a teacher, and the teacher's gender) typically yielded very weak correlations with any performance variables (including overall assessment). Again there were some rare exceptions to the rule. The principal's affinity for the teacher and the teacher's gender did demonstrate a weak to moderate correlation with some of the performance variables. The principal's rating of a teacher's friendliness and his/her affinity for the teacher had a high correlation (.561).

In almost all instances, the potentially biasing variable which explained the most variance in the principal's rating of a particular performance variable was "student learning." In a multiple regression stepwise deletion model, the variable "student learning" explained the most variance in all teacher performance, teacher/student relationship, and overall ratings. The only exception to this was the "friendliness" variable where "teacher affinity" explained the most variance. In some principal ratings "student learning" explained a relatively small amount of the variance (i.e., classroom control 19.6% and respect 26.4%). However, in all cases it explained a very large portion of the variance in the principal's rating.
(i.e., overall 77.4% and relevancy 65.1%). "Friendliness" was omitted from the list because "student learning" was not the primary explanation of variance in the stepwise deletion of variables.

Other potentially biasing variables (i.e., teacher's age, teacher's experience, the principal's "liking" of a teacher, and the teacher's gender) helped explain some of the rating variance; however, it was typically a small amount. Most variables (i.e., communication, encouragement, fairness, feedback, organization, presentation, relevancy, and overall) were virtually immune to the influence of these potentially biasing variables. However, the explanation of variance of some principal ratings was increased considerably with the incorporation of the following variables: classroom control, 18%; concern, 14%; enthusiasm, 6%; and respect, 11%.

General Conclusions

The data clearly support the thesis that teaching performance is an extremely complex interplay of many variables. There was a covariate relationship demonstrated among the teaching variables which varied from immense to non-existent. Of most significance for this study, this interdependence of teaching components (commonly referred to as multidimensionality) varied dramatically between the two rater groups (i.e., students and principals). Student
assessors of teacher performance demonstrated a distinct pattern of components which comprised effective teaching. This pattern was very different from that demonstrated by principal raters.

Potentially biasing factors similarly demonstrated different impact between the two rater groups. A consistent, although weak, bias was demonstrated by the "grade received" variable with student raters. Almost negligible impact was registered by any other potentially biasing variable with student raters. The perceived amount of student learning was consistently highly correlated to all aspects of teacher performance by principal raters; however, other potentially biasing variables demonstrated fluctuating impact on the various performance variables.

Inferential Conclusions

Because principals observe such a tiny portion of classroom behavior, their perception of what is going on in a classroom is significantly different than that of a student, who has a much better opportunity (at least quantitatively) to develop a comprehensive panorama of the classroom. As a result, students develop a very different perspective of the classroom along with a different appreciation for what is important than the principal. Principals typically emphasized characteristics which were easily quantifiable from infrequent observation or
non-observational data-gathering techniques as their main source of information in determining a general overall assessment of teacher performance. Students, on the other hand, keyed in on more qualitatively rich environmental or relationship types of variables in their summative assessments of teacher performance.

Students' ratings of teacher performance consistently demonstrated a complex interplay among the various teaching components. This collage of component variables was highly resistant to influence by potentially biasing variables. Even the teacher's assessment of student performance (i.e., grade received) had little impact on the students' assessment of teaching performance at either the overall or componential level. Students appeared to be able to draw upon an extensive collection of background information which made their assessments of teacher performance stable, consistent, and uniform in pattern.

Principal ratings of teacher performance appeared to be less multidimensional than those of students. They contained fewer intricate combinations of variables used to determine generic conclusions. They also appeared to be more susceptible to potentially biasing variables than did student assessors.

Student assessments of teachers were more negative than those of principals. The mean average ratings of teacher
performance issued by students were consistently lower than principals. However, students' assessments consistently formed a tighter cluster than principals' assessments. Standard deviations for student rating mean averages were half those of principals' ratings. Wider fluctuations within rater groups were far less probable with student raters than with principal raters.

The halo effect which seems to be (more) present in principal assessments of teacher performance appears to have a logical explanation. Because principals' jobs require them to do many things other than tending to the teaching/learning process, they have a very limited time to observe classroom performance. Principals must draw conclusions based on their observations and, from them, make very important decisions regarding teacher employment. These high stakes conclusions are made based on a very narrow band of sample information. Conclusions drawn via such methods have a high degree of potential error inherent in them. This error in conclusions is more apt to be reported toward the positive pole for principals than negative for an obvious reason: a challenge to a false-negative conclusion cannot be supported, a challenge to a false-positive conclusion would be unusual.

Although this researcher is very reluctant to add student assessment into any high stakes evaluation process
design, the use of student assessment in the improvement of instruction process at the secondary level has high potential. Many of the methodological and inferential gaps inherent in single source (principal) data collection for teacher assessment can be supplemented by the inclusion of student ratings. Such information, supplied in a constructive environment, would create a more comprehensive and accurate picture of teacher performance. Principal raters bring experience and perspective to the assessment process which others cannot. Students also bring their unique contributions of classroom omnipresence and learner impact. Together these two assessment sources could provide instructional improvement information that neither could provide independently.

The general conclusion of this study is that secondary students can and should play an important role in the instructional improvement process. Students bring a new perspective to bear in the teacher evaluation process. This perspective was found to be distinct from the perspective of the principals in this study. Manatt (1997) stated the need for additional perspectives in the instructional improvement process. Peterson (1995) puts it bluntly: "there no longer are excuses for not having student reports as an important part of teacher evaluation" (p. 85). Teacher evaluation systems which rely on single perspectives with infrequent
observations of classroom performance are inadequate.
"Teacher evaluation is a disaster. The practices are shoddy
and the principles are unclear. . . . Using classroom visits
to evaluate teaching is not just incorrect, it is a
disgrace" (Scriven, 1981, pp. 244, 251). This study echoes
these conclusions.

Other Issues
During the course of this study, other issues, beyond
those posed in the original research questions, became
apparent to the researcher. They are reviewed in the
following paragraphs.

Communality of Components

Issue
Do teacher performance characteristics form a different
group of factors than teacher/student relationship issues?
1. Teacher performance variables include classroom
control, presentation, communication skills, organization,
relevancy, and feedback.
2. Teacher/student relationship variables include
friendliness, respect, encouragement, concern, fairness, and
enthusiasm.

Analysis
The components of effective teaching which were tested
in this study were derived from the professional literature.
Six of the variables (i.e., classroom control, presentation,
communication skills, organization, relevancy, and feedback) were concerned with teacher performance whereas another 6 (i.e., friendliness, respect, encouragement, concern, fairness, and enthusiasm) were characteristics that defined the quality of the relationships between the students and the teacher. At the abstract level, the two sets of teaching variables can easily be categorized into two distinct classifications. However, at the application level, the issue of distinct divisions (or communality) must be tested. Factor analysis was performed to determine if the 12 teaching characteristics formed a cluster of assessment issues which was distinct from teacher/student relationship issues.

**Results**

The first test performed on the data in the factor analysis process was a correlation of variables (Table 16). The correlations between every paired set of independent variables were all positive and moderate to very high.

The next test performed was the generation of Eigenvalues for all assessment variables. The Eigenvalues of all variables loaded after the initial variable were all less than 1.0 (Figure 1). The generation of such Eigenvalues indicated that the relationship between all variables was high and that no single variable or subset of variables was unrelated to the main cluster (Table 17).
Table 16

Correlation Matrix of 12 Independent Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Cntrl</th>
<th>Comm</th>
<th>Concern</th>
<th>Encour</th>
<th>Enthus</th>
<th>Fairness</th>
<th>Feedbk</th>
<th>Friend</th>
<th>Organiz</th>
<th>Present</th>
<th>Relev</th>
<th>Respect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communication</td>
<td>0.40097</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concern</td>
<td>0.31173</td>
<td>0.67212</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Encouragement</td>
<td>0.33184</td>
<td>0.66350</td>
<td>0.73386</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Enthusiasm</td>
<td>0.30262</td>
<td>0.60312</td>
<td>0.68383</td>
<td>0.65296</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fairness</td>
<td>0.37681</td>
<td>0.65246</td>
<td>0.69080</td>
<td>0.62930</td>
<td>0.61917</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feedback</td>
<td>0.28482</td>
<td>0.58820</td>
<td>0.62305</td>
<td>0.59001</td>
<td>0.62513</td>
<td>0.60617</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Friendly</td>
<td>0.29264</td>
<td>0.61490</td>
<td>0.73043</td>
<td>0.65895</td>
<td>0.67927</td>
<td>0.67679</td>
<td>0.64729</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organization</td>
<td>0.51494</td>
<td>0.62378</td>
<td>0.53565</td>
<td>0.54847</td>
<td>0.53282</td>
<td>0.59803</td>
<td>0.49958</td>
<td>0.47594</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Presentation</td>
<td>0.31005</td>
<td>0.64304</td>
<td>0.64743</td>
<td>0.66077</td>
<td>0.70578</td>
<td>0.6067</td>
<td>0.55938</td>
<td>0.62549</td>
<td>0.56303</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relevancy</td>
<td>0.29887</td>
<td>0.50648</td>
<td>0.51563</td>
<td>0.50369</td>
<td>0.52327</td>
<td>0.50811</td>
<td>0.48636</td>
<td>0.46302</td>
<td>0.45085</td>
<td>0.57543</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>Respect</td>
<td>0.34033</td>
<td>0.69426</td>
<td>0.73901</td>
<td>0.65683</td>
<td>0.64378</td>
<td>0.73594</td>
<td>0.64212</td>
<td>0.76305</td>
<td>0.51804</td>
<td>0.62336</td>
<td>0.49871</td>
<td>1.000</td>
</tr>
</tbody>
</table>
Figure 1.
Factor Scree Plot and Eigenvalue Table for 12 Assessment Variables.

Table 17

Eigenvalues of 12 Assessment Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Communality</th>
<th>Factor</th>
<th>Eigenvalue</th>
<th>Pct of Variance</th>
<th>Cum. Pct</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class Control</td>
<td>1.00000</td>
<td>1</td>
<td>7.31570</td>
<td>61.0</td>
<td>61.0</td>
</tr>
<tr>
<td>Communication</td>
<td>1.00000</td>
<td>2</td>
<td>.97234</td>
<td>8.1</td>
<td>69.1</td>
</tr>
<tr>
<td>Concern</td>
<td>1.00000</td>
<td>3</td>
<td>.64461</td>
<td>5.4</td>
<td>74.4</td>
</tr>
<tr>
<td>Encouragement</td>
<td>1.00000</td>
<td>4</td>
<td>.49775</td>
<td>4.1</td>
<td>78.6</td>
</tr>
<tr>
<td>Enthusiasm</td>
<td>1.00000</td>
<td>5</td>
<td>.44272</td>
<td>3.7</td>
<td>82.3</td>
</tr>
<tr>
<td>Fairness</td>
<td>1.00000</td>
<td>6</td>
<td>.43094</td>
<td>3.6</td>
<td>85.9</td>
</tr>
<tr>
<td>Feedback</td>
<td>1.00000</td>
<td>7</td>
<td>.37887</td>
<td>3.2</td>
<td>89.0</td>
</tr>
<tr>
<td>Friendly</td>
<td>1.00000</td>
<td>8</td>
<td>.32080</td>
<td>2.7</td>
<td>91.7</td>
</tr>
<tr>
<td>Organized</td>
<td>1.00000</td>
<td>9</td>
<td>.27612</td>
<td>2.3</td>
<td>94.0</td>
</tr>
<tr>
<td>Presentation</td>
<td>1.00000</td>
<td>10</td>
<td>.27117</td>
<td>2.3</td>
<td>96.3</td>
</tr>
<tr>
<td>Relevancy</td>
<td>1.00000</td>
<td>11</td>
<td>.23460</td>
<td>2.0</td>
<td>98.2</td>
</tr>
<tr>
<td>Respect</td>
<td>1.00000</td>
<td>12</td>
<td>.21437</td>
<td>1.8</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Note. PC extracted 1 factor.
The factor analysis demonstrated that, upon first attempt to factor analyze, the 12 component variables clustered into a single factor (Table 18). Even though the correlational range was wide ("classroom control" \( r = .476 \) to "concern" \( r = .857 \)), all variables demonstrated moderate to very high correlations to the first cluster factor.

Classroom control explained 61% of the variance of the first cluster group, and although it correlated moderately \( (r = .476) \) to the first factor, its correlation was appreciably less than all other 11 variables. No second factor cluster was demonstrated.

Table 18

First Factor Correlational Table

<table>
<thead>
<tr>
<th>Factor Matrix</th>
<th>Factor 1</th>
<th>Final Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classroom Control</td>
<td>.47624</td>
<td>.22681</td>
</tr>
<tr>
<td>Communication</td>
<td>.81836</td>
<td>.66971</td>
</tr>
<tr>
<td>Concern</td>
<td>.85713</td>
<td>.73467</td>
</tr>
<tr>
<td>Encouragement</td>
<td>.82646</td>
<td>.68304</td>
</tr>
<tr>
<td>Enthusiasm</td>
<td>.82025</td>
<td>.67280</td>
</tr>
<tr>
<td>Fairness</td>
<td>.83109</td>
<td>.69071</td>
</tr>
<tr>
<td>Feedback</td>
<td>.77251</td>
<td>.59677</td>
</tr>
<tr>
<td>Friendly</td>
<td>.83008</td>
<td>.68903</td>
</tr>
<tr>
<td>Organized</td>
<td>.72539</td>
<td>.52619</td>
</tr>
<tr>
<td>Presentation</td>
<td>.81175</td>
<td>.65893</td>
</tr>
<tr>
<td>Relevancy</td>
<td>.67177</td>
<td>.45127</td>
</tr>
<tr>
<td>Respect</td>
<td>.84604</td>
<td>.71578</td>
</tr>
</tbody>
</table>

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Conclusions

The 12 variables selected for this study consistently demonstrated a high degree of correlation and covariance. They clearly are extremely interdependent. Although they logically can be categorized into performance or relationship headings, the data would indicate that they comprise a single factor with a high degree of intervariable dependency.

Student Learning and Teacher Rating

Issue

How does principal's perception of student learning (when viewed independently) correlate to the principal's assessment of the teacher's overall performance?

Analysis

The statistical analysis of this issue was done by performing a bivariate regression of the "overall" and the "student learning" variables of the response data generated from the principal assessment instruments.

Results

The regression produced a linear regression equation with the "student learning" variable having a regression equation coefficient (Beta value) of .874 (see Table 19). "Student learning" (as perceived by the principal) explained 77.4% of the variance in the principals' overall rating of teacher performance.
Table 19
Bivariate Regression of Student Learning and Overall Assessment by Principal Raters

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple R</td>
<td>.87981</td>
<td>R Square</td>
<td>.77406</td>
<td>Adjusted R Square</td>
</tr>
</tbody>
</table>

Variables in the Equation

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>Beta</th>
<th>T</th>
<th>Sig. T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Learning</td>
<td>.874179</td>
<td>.041108</td>
<td>.879805</td>
<td>21.265</td>
<td>.0000</td>
</tr>
<tr>
<td>Constant</td>
<td>.596660</td>
<td>.193458</td>
<td></td>
<td>3.084</td>
<td>.0025</td>
</tr>
</tbody>
</table>

Conclusions
Principal perception of student learning played a very large role in the overall assessment of teacher performance by the principal. It is quite plausible that the principals have developed a tautological definition of teacher effectiveness (i.e., teachers whose students learn a large amount of subject matter are perceived to be effective in their overall performance). This perception of student learning may have a significant biasing impact on principal evaluation of teacher performance. It is plausible that principals know which teachers have the best student achievement performance before ever visiting the classroom and may judge teacher performance with this critical piece already known.
Same Gender Bias

Issue

Is there a same gender bias in the performance assessment of teachers by student or principal raters?

Analysis

An analysis of variance was performed on the data sets by student and principal raters. The analysis was set up to detect significant differences in the overall performance assessment of the teacher between the group of "same gender" ratings and "other gender" ratings (Table 20).

Table 20

Gender Mean Comparison Overall Rating: Student Raters

<table>
<thead>
<tr>
<th>Rater Gender</th>
<th>Male Teacher (N = 1,384)</th>
<th>Female Teacher (N = 1,826)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male Student Rater (N = 1,241)</td>
<td>3.591</td>
<td>4.093</td>
</tr>
<tr>
<td>Female Student Rater (N = 1,553)</td>
<td>4.075</td>
<td>4.207</td>
</tr>
</tbody>
</table>

Note. N = 2,794 Questionnaires. (416 Missing Data).

Results

The difference between female and male student ratings of teacher overall performance was significant at the .05 level (Table 21). The ratings of female and male teacher overall ratings by student raters was significant at the .05 level. The difference between "same gender" and "other gender" assessments of teacher overall performance by student raters was not significant.
Table 21

Analysis of Variance: Same Gender Bias for Student Raters

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>DF</th>
<th>MS</th>
<th>F</th>
<th>Sig of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within = Residual</td>
<td>3420.63</td>
<td>2787</td>
<td>1.23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student Gender</td>
<td>9.52</td>
<td>1</td>
<td>9.52</td>
<td>7.75</td>
<td>.005</td>
</tr>
<tr>
<td>Teacher Gender</td>
<td>12.72</td>
<td>1</td>
<td>12.72</td>
<td>10.36</td>
<td>.001</td>
</tr>
<tr>
<td>Student Gender by Teacher Gender</td>
<td>.02</td>
<td>1</td>
<td>.02</td>
<td>.01</td>
<td>.907</td>
</tr>
</tbody>
</table>

The difference between female and male principal ratings of teacher overall performance was significant at the .05 level (Table 22). The ratings of female and male teacher overall ratings by principal raters was not significant. The difference between "same gender" and "opposite gender" assessments of teacher overall performance by principal raters was not significant (Table 23).

Table 22

Gender Mean Comparison Overall Rating: Principal Raters

<table>
<thead>
<tr>
<th>Rater Gender</th>
<th>Male Teacher (N = 56)</th>
<th>Female Teacher (N = 78)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male Principal Rater (N = 94)</td>
<td>4.634</td>
<td>4.594</td>
</tr>
<tr>
<td>Female Principal Rater (N = 40)</td>
<td>4.800</td>
<td>4.920</td>
</tr>
</tbody>
</table>

Note. N = 134 Questionnaires. (3 Missing Data).

Conclusions

The issue of gender bias in teacher evaluation has been a source of much research (see Chapter 2, Myths and Biases). Some studies have supported the idea of the existence of a
Table 23

Analysis of Variance: Same Gender Bias for Principal Raters

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>SS</th>
<th>DF</th>
<th>MS</th>
<th>F</th>
<th>Sig of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Within + Residual</td>
<td>26.78</td>
<td>130</td>
<td>.21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Principal Gender</td>
<td>1.61</td>
<td>1</td>
<td>1.61</td>
<td>7.82</td>
<td>.006</td>
</tr>
<tr>
<td>Teacher Gender</td>
<td>.04</td>
<td>1</td>
<td>.04</td>
<td>.21</td>
<td>.649</td>
</tr>
<tr>
<td>Principal Gender by Teacher</td>
<td>.17</td>
<td>1</td>
<td>.02</td>
<td>.0</td>
<td>.907</td>
</tr>
</tbody>
</table>

Gender bias; others have not. Some have found female students rate differently than male students. Others have shown a cross-gender bias. In virtually all studies, the influence, if existent, is weak. This study would concur that there are some gender-related correlations; however, they are weak. Gender did play a role in the assessment of teacher overall performance, but again, its influence varied with rater group. Both principals and students rated female and male teachers differently. However, gender of the rater influenced student raters in their assessments of teacher overall performance but did not with principal raters. Neither principal raters nor student raters demonstrated a "same gender" influence or bias.

Biasing Without Major Biasing Variables

Issue

"Student learning" explained a large portion of principal ratings of teacher performance (R-squared = .774). "Grade received" explained the largest portion of the
variance in student overall rating of teacher performance (R-squared = .038). What is the impact of the potentially biasing variables if "student learning" and "grade received" are eliminated from consideration?

Analysis

Multiple regression with stepwise deletion was employed to determine the influence of potentially biasing variables on the overall ratings of principal and student raters.

Results

The overall ratings of teacher performance by principals only have 2 variables (from the list of 5 potentially biasing variables) which demonstrated significance in linear regression (see Table 24). They were "principal gender" and "liking for teacher." Together these two variables explained 14.7% of the variance in the principals' overall rating of teacher performance.

All 5 potentially biasing variables demonstrated linear regression significance in the overall ratings of teacher performance by students (Table 25). Collectively these 5 variables explained 1.6% of the variance in the students' overall rating of teacher performance.

Conclusions

Five potentially biasing variables provided on the questionnaire yielded 2 variables (i.e., "principal's gender" and "like teacher") which demonstrated considerable
Table 24
Biasing Variables Impact on Principal Ratings

<table>
<thead>
<tr>
<th>Variable(s) Entered on Step Number 1..</th>
<th>Principal's Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple R</td>
<td>.25945</td>
</tr>
<tr>
<td>R Square</td>
<td>.06732</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable(s) Entered on Step Number 2..</th>
<th>Like Teacher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple R</td>
<td>.38317</td>
</tr>
<tr>
<td>R Square</td>
<td>.14682</td>
</tr>
</tbody>
</table>

**Variables in the Equation**

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>Beta</th>
<th>T</th>
<th>Sig of T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Like Teacher</td>
<td>.323649</td>
<td>.092634</td>
<td>.360378</td>
<td>3.494</td>
<td>.0006</td>
</tr>
<tr>
<td>Principal Gender</td>
<td>.491057</td>
<td>.104675</td>
<td>.483887</td>
<td>4.691</td>
<td>.0000</td>
</tr>
<tr>
<td>(Constant)</td>
<td>3.000346</td>
<td>.463365</td>
<td></td>
<td>6.475</td>
<td>.0000</td>
</tr>
</tbody>
</table>

**Variables not in the Equation**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Beta In Partial</th>
<th>MinTol</th>
<th>T</th>
<th>Sig of T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher's Gender</td>
<td>-.028135</td>
<td>-.030184</td>
<td>.603065</td>
<td>-.344</td>
</tr>
<tr>
<td>Teacher's Age</td>
<td>-.145619</td>
<td>-.157552</td>
<td>.611829</td>
<td>-1.819</td>
</tr>
<tr>
<td>Total Years Teaching</td>
<td>-.050769</td>
<td>-.054901</td>
<td>.611416</td>
<td>-.627</td>
</tr>
</tbody>
</table>

Table 25
Biasing Variables Impact on Student Ratings

<table>
<thead>
<tr>
<th>Variable(s) Entered on Step Number 1..</th>
<th>Total Years Teaching</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple R</td>
<td>.07373</td>
</tr>
<tr>
<td>R Square</td>
<td>.00544</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable(s) Entered on Step Number 2..</th>
<th>Teacher's Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple R</td>
<td>.09506</td>
</tr>
<tr>
<td>R Square</td>
<td>.00904</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable(s) Entered on Step Number 3..</th>
<th>Student's Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple R</td>
<td>.11023</td>
</tr>
<tr>
<td>R Square</td>
<td>.01215</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable(s) Entered on Step Number 4..</th>
<th>Student's Grade Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple R</td>
<td>.12026</td>
</tr>
<tr>
<td>R Square</td>
<td>.01446</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable(s) Entered on Step Number 5..</th>
<th>Teacher's Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple R</td>
<td>.12722</td>
</tr>
<tr>
<td>R Square</td>
<td>.01619</td>
</tr>
</tbody>
</table>

**Variables in the Equation**

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>Beta</th>
<th>T</th>
<th>Sig of T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Gender</td>
<td>.112119</td>
<td>.041571</td>
<td>.050853</td>
<td>2.697</td>
<td>.0070</td>
</tr>
<tr>
<td>Grade Level</td>
<td>-.047062</td>
<td>.018914</td>
<td>.047091</td>
<td>-2.488</td>
<td>.0129</td>
</tr>
<tr>
<td>Teacher's Gender</td>
<td>.095369</td>
<td>.043182</td>
<td>.042511</td>
<td>2.209</td>
<td>.0273</td>
</tr>
<tr>
<td>Teacher's Age</td>
<td>.087574</td>
<td>.034777</td>
<td>.097936</td>
<td>2.518</td>
<td>.0119</td>
</tr>
<tr>
<td>Total Yrs. Teaching</td>
<td>-.102549</td>
<td>.026717</td>
<td>-.150463</td>
<td>-3.838</td>
<td>.0001</td>
</tr>
<tr>
<td>(Constant)</td>
<td>4.540411</td>
<td>.208898</td>
<td></td>
<td>21.735</td>
<td>.0000</td>
</tr>
</tbody>
</table>
influence in principal ratings (14.7% of explained variance in the overall rating). All other potentially biasing variables were not significant in the linear regression.

The list of potentially biasing variables provided for students ("student's grade level" and "grade received" were substituted for "like teacher" on the student questionnaire) appeared to have very little impact on the overall performance ratings of teachers; however, all of them, to a large extent demonstrated a very weak influence due to the degree of freedom in the significance test.

Again, the two rater groups (i.e., principals and students) behaved differently. Potentially biasing variables did not demonstrate the same influencing pattern for the two rater groups. For example, on the common variable of respondent gender, principals' stepwise regression added this variable first to the regression equation (R-squared value of .067), whereas students' stepwise regression did not include it until the third step (adding only .3%, or a total for all 3 variables of only 1.2% of explained variance).

The two rater groups also demonstrated discrepant influence to potentially biasing variables. Principal raters demonstrated more inclination to bias than did student raters, although "total years teaching," "teacher's age," "student's gender," and "teacher's gender" all yielded
statistically significant influence on student overall ratings of teacher performance. No potentially biasing variable explained more than .5% of overall rating variance. From a practical perspective, the influence of any one of these potentially biasing variables is negligible. Their collective influence explained only 1.6% of the variance of overall ratings.

In this study, even the collective influence of these 5 variables was negligible in student overall ratings of teacher performance. On the other hand, principals' ratings were much more susceptible to bias. "Principal's gender" and "like teacher" combined to account for 14.7% of the variance of their overall ratings of teachers' performance.

The concern normally associated with student evaluation (i.e., certain potentially biasing variables will excessively influence student ratings of teacher performance) were not demonstrated in this study. There was a consistent but weak influence on student ratings demonstrated by the "grade received" variable; however, 5 other variables had a negligible influence on student ratings. This study concurred with others reviewed in the literature that biasing of student ratings of teachers is, for the most part, a myth.

Ironically, in the findings of this study, the same could not be said for principals' ratings of teacher
performance. Principals were much more susceptible to biasing influences than were their student rater counterparts.

Future Study

The scope of this study was limited to three main considerations. They were: (a) What are the components which make up effective teaching as perceived by students and principals? (b) Are the components of effective teaching different for students and principals? and (c) Are principals' and students' ratings of teaching influenced by certain biasing factors? This section reveals additional issues which represent the next steps of logical inquiry in advancing this study.

Student Achievement and Overall Performance Ratings

Principal perception of student learning within a particular classroom greatly influenced the principal's rating of the teacher (R-squared = .774). An important issue to be addressed in future study is the accuracy of the principal's perception of student achievement. Of course, it is impossible to conclude, given the available data set, that student learning heavily influenced the principal's assessment of teacher performance. However, an additional piece to this puzzle could be added by testing the accuracy of the principal's assessment of student learning with
properly validated and scored learning performance examples. Should a solid correlation between principal perception and student achievement be demonstrated, the aforementioned conclusion would be warranted.

With the inclusion of the student achievement data, it would be possible to correlate principal and student overall assessments with learning. As pointed out earlier in this document (Chapter 2), this is the commonly employed test for determining teacher efficacy. Not only would this allow for a validity check on the assessment of rater respondents, it would also allow the comparison of the validity of student and principal ratings of teacher performance.

Explaining Differences

The list of components which constitute effective teaching differs for students and principals. Students value (in order of importance) teacher concern for students, presentation, fairness, good communication skills, and friendliness in determining overall teacher effectiveness (Appendix C, Table 32). However, principals most value (in order of importance) fairness, enthusiasm, relevancy, and feedback in determining overall efficacy (Appendix C, Table 36). Five variables (i.e., presentation, classroom control, relevancy, friendliness, and communication) were found to significantly distinguish the two rater groups (Appendix C, Table 43). Presentation, classroom control, relevancy, and
communication skills were significantly more important for principals, whereas friendliness was significantly more important for students in determining teacher effectiveness. The question which emerges from these findings and begs for an answer is: Why? At first glance, it would appear that principals are placing emphasis on a well-disciplined, highly methodical classroom environment. Students find friendliness to be an important component in judging overall teaching effectiveness; however, in a stepwise regression of the 12 identified variables, friendliness is not of significance for principals. This issue of classroom control versus human relations needs more exploration. Are principals looking for a more teacher-centered classroom environment and, if so, why do students feel less inclined to use such a model in determining teacher effectiveness?

Weighting of Potentially Biasing Variables

Consistent with a large body of research in the area of student assessment of teaching, a positive and weak biasing factor related to the grade a student received was exposed in this study. Although the myth of the student rating of a teacher being heavily influenced by the grade received by the student was not founded in this, and most other studies, it remains a common reason cited for avoiding student input in most instructional improvement models. This study needs
to be combined with many others to form a more realistic construct of the influence of student grading relative to student assessment of teacher performance. This type of evidence is imperative if the "grade bias" perception is to be altered.

Many researchers have suggested that variables which have consistently demonstrated a biasing influence on assessments can be neutralized by establishing a reliable weighting coefficient in an expectancy equation. Such an endeavor will require two related areas of future study. First, a comprehensive list of all potentially biasing variables must be developed. This will require research on a broad scale. Not only will the items in this list have to be tested, the variables will need to be examined in a wide continuum of scenarios and relative to other potentially interdependent factors. Second, much more must be known about the nuances of each biasing variable, particularly the weight of its impact in the presence of other covariate variables.

Combination of Variables
(Multidimensionality)

This study demonstrated that there are 12 variables (i.e., classroom control, credible presentation of material, effective communication skills, organization, relevancy, presence of sound feedback systems, friendliness, respect

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for students, encouragement of students, concern for students fairness, and enthusiasm) which are highly correlated with perceived successful teaching. Further, it showed significant covariance of all of these variables, and the (perceived) presence of one variable impacted or influenced the (perceived) presence of another. No single variable guaranteed overall effectiveness, nor did the absence of any single teaching component necessarily lead to (perceived) teaching failure. It is apparent that the real key to efficacious teaching is a combination of these component parts that work for the teacher and the student. These findings are consistent with previous research relative to the multidimensionality of various aspects of teaching. As Marsh and others have concluded, the components of effective teaching "play off" one another; the presence or absence of one variable affects the presence or impact of a second.

Study's Contribution

This study needs to be incorporated into a body of studies of student assessment of teacher performance to provide useful practical information for the improvement of teaching. More must be learned relative to the interplay of the teaching components tested in this study and other important component variables of the teaching/learning dynamic. Additional studies are necessary to test the
interdependency of such key teaching variables and their impact on student achievement. A broad-based information bank which takes into consideration the entire teaching/learning spectrum (e.g., teacher styles, teacher personalities, course content, and student learning needs) is necessary to implement the use of such findings at a diagnostic level.
REFERENCES


Alexander, L. (1993). What we were doing when we were interrupted. In J. F. Jennings (Ed.), *National issues in education: The past is prologue* (pp. 3-18). Washington, DC: Office of Educational Research and Management.


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APPENDIX A

PERMISSION TO CONDUCT

THE STUDY
Exhibit 1  Ames Community School District Board Policy
for Curriculum Research

Ames Community School District
Ames, Iowa  50010-6719

CURRICULUM RESEARCH

It is the policy of the Ames Community Schools to cooperate with the educational research activities of individual staff members or researchers from other educational institutions as long as those requests meet the research guidelines of the district and do not interfere with the educational activities of students or the professional activities of the staff.

Confidentiality will be assured all participants. The Board of Directors will be regularly informed of approved activities and the outcomes of those activities.

ADOPTED:  March 7, 1988; Revised November 1993

REVIEWED: November 1, 1993
1st Review - December 2, 1996
CURRICULUM RESEARCH

1. All research requests to use students, faculty or staff of Ames Community Schools as research subjects are to be in written form and submitted to the Deputy Superintendent.

2. Copies of all materials pertinent to the research project are to be delivered to the Ames Community Schools no later than fifteen (15) working days before the principal researcher's anticipated first contact with students or teachers. These are to include:
   a) a copy of the Human Subjects form from the principal researcher's parent institution. (If the parent institution will not approve the project until after approval by Ames Community Schools, the researcher should note that any approval from the district is strictly contingent upon approval by the Human Subjects Committee of the researcher's parent institution),
   b) copies of all measurement instruments including, but not limited to questionnaires, video tape or observational coding schemes, tests and interview schedules,
   c) copies of any necessary parent permission forms that will be used in this project, (i.e., any forms needed to obtain permission from parents for their children's participation in the proposed study and/or for the use of their children's school records),
   d) a copy of the proposal for research for the project (this must include an abstract of no more than two (2) type written pages) and
   e) a copy of the proposed timeline of all research efforts.

3. After all research materials have been received, the Deputy Superintendent will contact staff members in the district whose responsibilities will be affected by the proposed research. These staff members will form an ad hoc committee to review the research proposal and make recommendations to the Associate Superintendent for Curriculum and Instruction on the feasibility of conducting the proposed research in the Ames Community Schools.

4. The Deputy Superintendent will make the final decision on whether to:
   a) request further clarification of research procedures,
   b) approve the research as proposed.
c) approve the research contingent on suggested procedural changes or
d) deny approval to conduct the proposed research in the Ames Community
Schools.

5. The Deputy Superintendent will inform the principal researcher in writing on the
decision of the Ames Community Schools.

6. If the research is approved, a liaison between the principal researcher and
Ames Community Schools will be appointed by the Deputy Superintendent.

7. If the proposed research is approved, before any research efforts commence in
the Ames Community Schools, the principal researcher will provide the Deputy
Superintendent with the following:
   a) a written agreement to make any procedural changes on which approval
      of the research was contingent,
   b) a copy of the final approval of the proposed research from the Human
      Subjects Committee of the principal researcher's parent institution and
   c) a timeline under which the research will be conducted.

8. The Board of Directors will be informed of the approved research by the Deputy
Superintendent.

9. In the course of the research effort, if the researcher determines that changes
need to be made in the agreed upon procedures, such changes are to be
submitted in writing to and must be approved by the Deputy Superintendent
before such changes are set in place. The Deputy Superintendent will inform
the principal researcher in writing regarding the approval or disapproval of the
proposed procedural changes.

10. A written summary of the results of the research conducted in the Ames
Community Schools is to be delivered to the Deputy Superintendent no later
than six (6) months after the completion of data collection.

11. The summary will be shared with the Board of Directors by the Deputy
Superintendent.

March 1988, November 1993
Exhibit I  Ames Community School District Board Policy
for Curriculum Research (Continued)

Ames Community School District
Ames, Iowa 50010-6710

CURRICULUM RESEARCH

Application to Conduct Research
Ames Community Schools
120 South Kellogg
Ames, Iowa 50010

Date: 12/3/96

Name of Researcher(s)    Richard N. Johns

Address of principal researcher    2020 Ashmore Drive
                                  Ames IA 50014

Telephone number of principal researcher (515) 292-0767

Institution    University of Northern Iowa

Grade level(s) of students involved    9-12

Anticipated number of students involved    1,576

Form(s) of data collected (e.g., questionnaire, video tape, interview)

questionnaire

Date of first contact with students    January 1997

Date of last contact with students    January 1997

Date by which ALL original data forms will be destroyed (e.g., questionnaires, video tapes)

Original questionnaires will be returned to teachers by February 1997.
Exhibit 2 Permission to Conduct Study

December 3, 1996

Dr. Ralph Farrar  
Deputy Superintendent  
Ames Community School District  
120 S. Kellogg  
Ames, IA 50010

Dear Dr. Farrar:

I would like to request that I be allowed to perform research in the Ames Community School District. Specifically I would like to distribute a questionnaire to ninth through twelfth grade students at Ames High School and a similar questionnaire to Ames High School administrators. The subject of inquiry will be related to teacher performance. This research is in conjunction with my doctoral work being done at the University of Northern Iowa. My dissertation chair is Dr. Robert Decker.

I have included a copy of my dissertation abstract, the questionnaires to be used, and a release from the University of Northern Iowa Human Subjects Review Board. I would like to do the data collection during the months of December 1996 and January 1997. I have reviewed the request with the Ames Education Association and with Mr. Chuck Achter, Ames High School principal. Response to questionnaires will be strictly on a voluntary basis. Any teachers whose performance is reviewed will similarly be on a voluntary basis only.

If you have further questions, please contact me.

Respectfully submitted,

[Signature]

R. Nick Johns
Exhibit 3 University of Northern Iowa: Human Subjects Review Board Approval of Research

University of Northern Iowa
Department of Sociology and Anthropology

January 10, 1989

Mr. R. Nick Johns
Educational Administration
University of Northern Iowa
Cedar Falls, IA 50614

Dear Mr. Johns:

Your project, "Student Assessment of Teacher Performance in Secondary School\"", which you submitted for human subjects review on December 19, 1988 has been determined to be exempt from further review under the guidelines stated in the UNI Human Subjects Handbook. You may commence participation of human research subjects in your project.

Your project need not be submitted for continuing review unless you alter it in a way that increases the risk to the participants. If you make any such changes in your project, you should notify the Graduate College Office.

If you decide to seek federal funds for this project, it would be wise not to claim exemption from human subjects review on your application. Should the agency to which you submit the application decide that your project is not exempt from review, you might not be able to submit the project for review by the UNI Institutional Review Board within the federal agency's time limit (30 days after application). As a precaution against applicants' being caught in such a time bind, the Board will review any projects for which federal funds are sought. If you do seek federal funds for this project, please submit the project for human subjects review no later than the time you submit your funding application.

If you have any further questions about the Human Subjects Review System, please contact me. Best wishes for your project.

Sincerely,

Norris M. Durham, Ph.D.
Chair, Institutional Review Board

cc: Dr. John Sommerville, Graduate Dean
December 11, 1996

Mr. Nick Johns
Superintendent Ames Community School District
120 South Kellogg
Ames, Iowa 50010

Dear Nick:

It is my pleasure to inform you that the Ad Hoc Research Committee has given their approval to your research project. The committee believes that the results of this study could have a positive impact on the Ames Community School District, as well as provide others with valuable research. Our policy related to research requires that there be a liaison person with the district. Please be advised that Chuck Achter will be your liaison person during your data gathering experience. If you have any questions, comments or concerns please feel free to contact me.

Sincerely,

Dr. Ralph Farrar
Deputy Superintendent

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Exhibit 5 Ames Education Association Research Endorsement

Ames Education Association
Ames, Iowa
December 10, 1996

Ames High School Teachers:

This letter is to inform you that the Executive Board of the Association has discussed the research proposal from Superintendent Nick Johns. We are convinced that any information gathered will remain anonymous and will not be used in any way against any teacher.

This proposal is for research only and will not be implemented in the evaluation procedure that we are piloting this year. Any change in the evaluation process must go through negotiations and receive approval from the teachers.

We encourage any of you to participate in this research.

Sincerely,

Rev Horn
Ames Education Association President
Exhibit 6 Student Data Collection Instrument: Early Field Test Model

STUDENT QUESTIONNAIRE: The purpose of this questionnaire is to obtain research information from you, the student, about your high school teacher. Please answer each question below by marking directly on this form the response which best answers the question for you. Do not place your name on this sheet. Fill out one sheet for each teacher with whom you had class this semester. Remember completing this form is voluntary.

1. Teacher's name (Please print): ________________________________

2. Title of course (Please print): _________________________________

3. What grade do you believe you will receive in this class? (Circle one): A B C D F

4. Is the grade you will receive in this class fair? (Circle one):
   A. My grade is far too low, I deserve a much better grade.
   B. My grade is a little lower than I deserve.
   C. My grade is fair, it is what I have earned.
   D. My grade is a little higher than I deserve.
   E. My grade is too high, I should get a much lower grade.

5. Do you like this teacher's personality? (Circle one):
   A. No, this teacher has an unpleasant personality.
   B. Only on few occasions do I like this teacher's personality.
   C. I feel neutral about this teacher's personality.
   D. Most of the time I like this teacher's personality.
   E. Yes, this teacher has a good personality.

6. In this class, students ____ (Circle one):
   A. Constantly disruptive.
   B. Are disruptive sometimes.
   C. Sometimes behave, sometimes do not.
   D. Are usually well behaved.
   E. Are always well behaved.

7. This teacher makes the class ____ (Circle one):
   A. Very boring.
   B. Sometimes boring.
   C. Of average interest.
   D. Usually quite interesting.
   E. Always highly interesting.

8. This class is ____ (Circle one):
   A. Very difficult.
   B. Somewhat difficult.
   C. Of average difficulty.
   D. Somewhat easy.
   E. Very easy.
Exhibit 6 Student Data Collection Instrument: Early Field Test Model (Continued)

9. This teacher uses _____ (Circle one):
   A. A wide variety of teaching methods.
   B. Several teaching methods.
   C. A few teaching methods.
   D. Only a couple of teaching methods.
   E. The same method all the time.

10. This teacher loses his/her temper _____ (Circle one):
    A. Often.
    B. Quite a bit.
    C. Sometimes.
    D. Only only on very rare occasions.
    E. Never.

11. This teacher is _____ (Circle one):
    A. Very disorganized.
    B. Somewhat disorganized.
    C. Average in organization.
    D. Usually well organized.
    E. Extremely organized.

12. What is your high school grade point average? (Circle one):
    A. Higher than 3.6.
    B. Between 3.0 and 3.6.
    C. Between 2.5 and 2.0.
    D. Between 2.0 and 2.5.
    E. Lower than 2.0.

13. This teacher asks questions to see if we understand _____ (Circle one):
    A. Never.
    B. Rarely.
    C. Sometimes.
    D. Usually.
    E. Always.

14. Is this teacher the kind of person you would like to be? _____ (Circle one):
    A. No, not at all.
    B. Not much like I'd like to be.
    C. Somewhat like I'd like to be.
    D. Yes, a lot like what I'd like to be.
    E. Yes, exactly.

15. How well does this teacher understand the material he/she teaches? (Circle one):
    A. This teacher does not know the subject at all well.
    B. There are gaps in this teacher's understanding of the subject material.
    C. This teacher has adequate (only) command of the subject.
    D. This teacher knows the subject material well.
    E. This teacher is obviously an expert in the subject.

16. Does this teacher encourage you to learn? _____ (Circle one):
    A. No, he/she never encourages me.
    B. I receive only a little encouragement from this teacher.
    C. He/she sometimes encourages me.
    D. I often get encouragement from this teacher.
    E. This teacher is very encouraging for me.
Exhibit 6  Student Data Collection Instrument:
Early Field Test Model (Continued)

17. Is this teacher's personality much like your own? (Circle one)
   A. We have almost opposite personalities.
   B. We are very different.
   C. We have some similarities but not many.
   D. We are very similar.
   E. Our personalities are nearly identical.

18. In this class, homework ______ (Circle one):
   A. Is never assigned.
   B. Does not help me learn.
   C. Helps me learn somewhat.
   D. Helps me learn a lot.
   E. Is essential for my learning.

19. Does this teacher care about you as a person? (Circle one):
   A. This teacher does not care about me at all.
   B. This teacher cares for me very little.
   C. This teacher cares for me somewhat.
   D. This teacher cares for me a lot.
   E. This is one of the most caring teachers I have ever known.

20. My rating of this teacher's overall performance as a teacher of this class. ______ (Circle one):
   A. A. Excellent.
   B. B. Good.
   C. C. Average.
   D. D. Poor.
   E. Very bad.
Exhibit 7 Student Data Collection Instrument: Final Form

STUDENT SURVEY

Teacher’s Code _____________________

Your Gender: M  F Your Grade Level: 9  10  11  12

Circle the answer which most closely demonstrates your level of agreement with each statement. Remember you are rating only the teacher and class which you have named above. Do not place your name on this sheet.

1. This teacher is friendly with students. 1 2 3 4 5
2. The teacher allows few distractions in this class. 1 2 3 4 5
3. This teacher shows respect for students and their opinions. 1 2 3 4 5
4. The teacher presents material in an interesting way in this class. 1 2 3 4 5
5. The teacher encourages students to do well in this class. 1 2 3 4 5
6. The teacher communicates clearly to students. 1 2 3 4 5
7. This teacher demonstrates a real concern for the students. 1 2 3 4 5
8. This teacher's classroom activities are well organized. 1 2 3 4 5
9. This teacher is fair and consistent in dealing with students. 1 2 3 4 5
10. The material taught in this class is valuable and meaningful for you. 1 2 3 4 5
11. The teacher is enthusiastic when teaching you this subject. 1 2 3 4 5
12. Students are provided the opportunity to frequently ask questions and receive answers in this class. 1 2 3 4 5
13. Overall, the teacher did an excellent job of teaching this class. 1 2 3 4 5
14. What is your grade in this class? (Guess if you do not know). A B C D F Other

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Exhibit 8  Principal Data Collection Instrument:  
Final Form

PRINCIPAL SURVEY
Teacher's Code  Your Gender: M  F  Teacher's Gender: M  F
Teacher's Age:  20-29  30-39  40-49  50-59  60-69
Teacher's Years: (in district):  1-5  6-10  11-15  16-20  21+
Teacher's Total Years of Teaching:  1-5  6-10  11-15  16-20  21+

Circle the answer which most closely demonstrates your level of agreement with each statement. Remember you are rating only the teacher whom you have named above. Do not place your name on this sheet.

1. This teacher is friendly with students.  (Strongly disagree)  (Strongly agree)  1  2  3  4  5
2. The teacher allows few distractions in class.  1  2  3  4  5
3. This teacher shows respect for students and their opinions.  1  2  3  4  5
4. The teacher presents material in an interesting way in class.  1  2  3  4  5
5. The teacher encourages students to do well in class.  1  2  3  4  5
6. The teacher communicates clearly to students.  1  2  3  4  5
7. This teacher demonstrates a real concern for students.  1  2  3  4  5
8. This teacher's classroom activities are well organized.  1  2  3  4  5
9. This teacher is fair and consistent in dealing with students.  1  2  3  4  5
10. The material taught in this teacher's class is valuable and meaningful for students.  1  2  3  4  5
11. This teacher demonstrates enthusiasm when teaching.  1  2  3  4  5
12. Students are provided the opportunity to frequently ask questions and receive answers in this teacher's class.  1  2  3  4  5
13. Overall, this teacher does an excellent job of teaching.  1  2  3  4  5
14. Students learn a lot in this teacher's classes.  1  2  3  4  5
15. I like this teacher as a person.  1  2  3  4  5

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Exhibit 9 Proctor’s Guide

PROCTOR’S GUIDE

The Student Views the Teacher:
Investigating Student Perception in Assessment of High School Teachers

The data collection process which you are about to perform is in conjunction with a study being conducted by R. Nick Johns for dissertation research through the University of Northern Iowa. His major doctoral advisor is Dr. Robert Decker (319-273-2443). The study has been screened and approved by the University of Northern Iowa Human Subjects Review Board, the Ames Community School District Research Review Committee and the Ames Education Association Executive Board.

The purpose of this study is to collect valid information from students relative to the act of teaching to determine what teacher behaviors are most closely associated with perceived teacher effectiveness. This student information will be compared with information provided by a similar process from building principals.

As a proctor to this data collection process you have an important role. It is essential that the data collection be done in such a way as to provide accurate input for the study. Please adhere to the following guidelines to ensure qualitatively sound data collection.

The students in your homeroom who wish to participate in this study will be asked to fill out a separate survey for each teacher participating in the study. Student participation is voluntary and anonymous.

To Begin:
The following statement should be read to the students as you begin the data collection process:

"Today you will be involved in the data collection phase of a research project. This study is set up to obtain information about what things high school students believe to be important in the teaching/learning process. Your involvement in this study will provide valuable information as to the validity of using student input in the improvement of high school educational efforts.

Your involvement in this study is voluntary. If you wish to participate, it is important that you answer each question independently because each question is inquiring about a separate issue.

You have been given a list of teachers from this high school who have volunteered to participate in this study. Review this list and determine how many of the teachers on the list you had for a class first semester this year. You will be rating teaching characteristics for each teacher you had. Please indicate to the proctor how many participating teachers you had for classes first semester. If you had the same teacher for two different classes use two forms; a separate form for each class. The proctor will provide you with the appropriate number of rating forms.

Do not begin filling in forms until given further instructions."

Hand out to students a separate rating form for each teacher appearing on the "teacher list" whom they had for a class first semester.

(please turn to backside)
Please continue orally:

"This is an anonymous survey. Do not place your name on the survey.

You now should have one survey for each teacher with whom you had a class first semester. At the top left of each survey form there is a slot after the words: Teacher's Code. From the "teacher list" obtain the code designation for each of your teachers. Write each teacher's code number on a separate survey form. Do not write the teacher's name on the survey form, use only the code provided for you on the teachers' list."

Wait for task completion, then continue orally:

"Each survey should now have a different code number on it designating a separate teacher. Once again, do not place the teacher's name on the survey form.

You are now ready to answer the questions on the survey. Remember that each survey form represents a different teacher. Also remember that each question on the survey is addressing a different issue than any other question. Answer each question independently. Your honesty and accuracy in filling out the questionnaire are absolutely essential.

When you have finished filling out all of your forms please place them in the envelope at the front of the classroom."

Concluding:

When all of the students have placed their survey forms in the box, please tape the box closed. At the conclusion of homeroom period, have your sealed survey box delivered to the Alan Junck's room. The Ames Education Association research inspectors will be provided the surveys for teacher dissemination once data have been collected from them.
HOMEROOM TEACHER DIRECTIONS

1. This packet includes blank forms which are designed to perform student assessments of teacher performance.

2. There should be an adequate supply of blank forms in this packet to allow all students in your homeroom to perform the task.
   In the unlikely event that you do not have a sufficient supply of forms, the homeroom next to you probably has a surplus.
   Also administrators will be in the hallway area with additional blank forms.

3. Follow the PROCTOR'S GUIDE precisely. Provide blank forms to the students as prescribed in the PROCTOR'S GUIDE.

4. This morning the homeroom period will be extended to twenty (20) minutes (the maximum time it took Ames High School students to perform this task in a pilot run was 15 minutes).

5. When students have finished the task of filling out the assessment forms, have them return the completed forms into this envelope.

6. When all students have placed their completed forms into this envelope, tape the envelope closed.

7. Deliver the sealed envelope to Alan Junck's classroom (Room #44).
Table 26

**Alpha Reliability Scale**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>St. Dev.</th>
<th>Cases</th>
</tr>
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<tbody>
<tr>
<td>Control</td>
<td>3.9117</td>
<td>1.0211</td>
<td>3317.0</td>
</tr>
<tr>
<td>Concern</td>
<td>4.0719</td>
<td>1.0983</td>
<td>3317.0</td>
</tr>
<tr>
<td>Communication</td>
<td>4.0764</td>
<td>1.0983</td>
<td>3317.0</td>
</tr>
<tr>
<td>Encouragement</td>
<td>4.2552</td>
<td>.9908</td>
<td>3317.0</td>
</tr>
<tr>
<td>Enthusiasm</td>
<td>4.1845</td>
<td>1.0838</td>
<td>3317.0</td>
</tr>
<tr>
<td>Fairness</td>
<td>4.1435</td>
<td>1.1091</td>
<td>3317.0</td>
</tr>
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<td>Friendly</td>
<td>4.3220</td>
<td>.9692</td>
<td>3317.0</td>
</tr>
<tr>
<td>Relevancy</td>
<td>3.9501</td>
<td>1.1731</td>
<td>3317.0</td>
</tr>
<tr>
<td>Feedback</td>
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<td>1.0067</td>
<td>3317.0</td>
</tr>
<tr>
<td>Presentation</td>
<td>3.8132</td>
<td>1.1761</td>
<td>3317.0</td>
</tr>
<tr>
<td>Organized</td>
<td>4.1571</td>
<td>.9857</td>
<td>3317.0</td>
</tr>
<tr>
<td>Respect</td>
<td>4.2211</td>
<td>1.0477</td>
<td>3317.0</td>
</tr>
</tbody>
</table>

Table 27

**Correlation Matrix (Alpha)**

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<thead>
<tr>
<th>Variable</th>
<th>Control</th>
<th>Concern</th>
<th>Comm</th>
<th>Encour</th>
<th>Enthus</th>
<th>Fairness</th>
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<th>Relevan</th>
<th>Feedback</th>
<th>Present</th>
<th>Organized</th>
<th>Respect</th>
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</tr>
<tr>
<td>Concern</td>
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<td>1.0000</td>
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Table 28

**Reliability Analysis Scale (Alpha)**

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*Note. N of Cases = 3,317.*
Table 29

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Note. Female = 1. Male = 0.
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Note. N of Cases = 3,180.

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Table 32

**Stepwise Regression of Student Assessments**

<p>| Dependent Variable: Overall | Variable(s) Entered on Step Number 1 | Concern | Multiple R | .76576 |
|                            | R Square | .58638 |
| Variable(s) Entered on Step Number 2. | Presentation | Multiple R | .82970 |
|                            | R Square | .68840 |
| Variable(s) Entered on Step Number 3. | Fairness | Multiple R | .86086 |
|                            | R Square | .74108 |
| Variable(s) Entered on Step Number 4. | Communication | Multiple R | .87404 |
|                            | R Square | .76394 |
| Variable(s) Entered on Step Number 5. | Friendly | Multiple R | .88191 |
|                            | R Square | .77776 |
| Variable(s) Entered on Step Number 6. | Enthusiasm | Multiple R | .88630 |
|                            | R Square | .78553 |
| Variable(s) Entered on Step Number 7. | Relevancy | Multiple R | .89031 |
|                            | R Square | .79265 |
| Variable(s) Entered on Step Number 8. | Organized | Multiple R | .89195 |
|                            | R Square | .79557 |
| Variable(s) Entered on Step Number 9. | Respect | Multiple R | .89304 |
|                            | R Square | .79753 |
| Variable(s) Entered on Step Number 10. | Encouragement | Multiple R | .89346 |
|                            | R Square | .79828 |
| Variable(s) Entered on Step Number 11. | Feedback | Multiple R | .89365 |
|                            | R Square | .79861 |
| Variable(s) Entered on Step Number 12. | Class Control | Multiple R | .89381 |
|                            | R Square | .79889 |</p>
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Table 34

Principals' Assessment Means

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Note. N of Cases = 134.

Table 35

Correlation Matrix with One-Tailed Significance of Principal Assessments

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### Table 36

**Stepwise Regression of Principal Assessments**

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**Variables not in Equation**

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### Table 37

**Multivariate Analysis of Variance by Respondent Groups on 12 Variables**

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Table 39

<table>
<thead>
<tr>
<th>Actual Group</th>
<th>Group Cases</th>
<th>Predicted Group Membership</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1 (Students)</td>
<td>3207</td>
<td>1651</td>
</tr>
<tr>
<td>Group 2 (Principals)</td>
<td>134</td>
<td>35</td>
</tr>
</tbody>
</table>

Note. Percent of "grouped" cases correctly classified: 52.38%.

Table 40

<table>
<thead>
<tr>
<th>Respondent</th>
<th>Overall Fairness</th>
<th>Control</th>
<th>Concern</th>
<th>Commun</th>
<th>Encourage</th>
<th>Enthusiasm</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (Students)</td>
<td>4.09393</td>
<td>3.88962</td>
<td>4.04733</td>
<td>4.04827</td>
<td>4.23459</td>
<td>4.16336</td>
</tr>
<tr>
<td>Total</td>
<td>4.11804</td>
<td>3.91310</td>
<td>4.07348</td>
<td>4.07740</td>
<td>4.26664</td>
<td>4.18527</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Respondent</th>
<th>Feedback</th>
<th>Friendly</th>
<th>Organized</th>
<th>Presentation</th>
<th>Relevancy</th>
<th>Respect</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (Students)</td>
<td>4.29261</td>
<td>4.31085</td>
<td>4.13758</td>
<td>3.78066</td>
<td>3.91934</td>
<td>4.20377</td>
</tr>
<tr>
<td>2 (Principals)</td>
<td>4.62687</td>
<td>4.62313</td>
<td>4.67537</td>
<td>4.61940</td>
<td>4.70149</td>
<td>4.69030</td>
</tr>
<tr>
<td>Total</td>
<td>4.30613</td>
<td>4.32348</td>
<td>4.15912</td>
<td>3.81457</td>
<td>3.95097</td>
<td>4.22345</td>
</tr>
</tbody>
</table>
### Table 41

**Comparison of Group Standard Deviations: Principals and Students**

<table>
<thead>
<tr>
<th>Respondent</th>
<th>Fairness</th>
<th>Control</th>
<th>Concern</th>
<th>Commun</th>
<th>Encourage</th>
<th>Enthusiasm</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (Students)</td>
<td>1.11878</td>
<td>1.02697</td>
<td>1.10756</td>
<td>1.08832</td>
<td>1.00047</td>
<td>1.09589</td>
</tr>
<tr>
<td>2 (Principals)</td>
<td>.46613</td>
<td>.63353</td>
<td>.49778</td>
<td>.43639</td>
<td>.43143</td>
<td>.50771</td>
</tr>
<tr>
<td>Total</td>
<td>1.10615</td>
<td>1.02039</td>
<td>1.09693</td>
<td>1.07904</td>
<td>.98968</td>
<td>1.08362</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Respondent</th>
<th>Feedback</th>
<th>Friendly</th>
<th>Organized</th>
<th>Presentation</th>
<th>Relevancy</th>
<th>Respect</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (Students)</td>
<td>1.01870</td>
<td>.97901</td>
<td>.99243</td>
<td>1.18277</td>
<td>1.18314</td>
<td>1.05674</td>
</tr>
<tr>
<td>2 (Principals)</td>
<td>.54733</td>
<td>.56341</td>
<td>.51026</td>
<td>.56255</td>
<td>.43838</td>
<td>.54080</td>
</tr>
<tr>
<td>Total</td>
<td>1.00605</td>
<td>.96759</td>
<td>.98324</td>
<td>1.17574</td>
<td>1.17246</td>
<td>1.04520</td>
</tr>
</tbody>
</table>

### Table 42

**Wilks' Lambda (U-statistic) and Univariate F-ratio by Respondent Group**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Wilks' Lambda</th>
<th>F</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>.98872</td>
<td>37.7901</td>
<td>.0000</td>
</tr>
<tr>
<td>Class Control</td>
<td>.98744</td>
<td>42.1358</td>
<td>.0000</td>
</tr>
<tr>
<td>Concern</td>
<td>.98651</td>
<td>45.2899</td>
<td>.0000</td>
</tr>
<tr>
<td>Communication</td>
<td>.98270</td>
<td>58.3022</td>
<td>.0000</td>
</tr>
<tr>
<td>Encouragement</td>
<td>.98822</td>
<td>39.4831</td>
<td>.0000</td>
</tr>
<tr>
<td>Enthusiasm</td>
<td>.99030</td>
<td>32.4565</td>
<td>.0000</td>
</tr>
<tr>
<td>Fairness</td>
<td>.98850</td>
<td>38.5228</td>
<td>.0000</td>
</tr>
<tr>
<td>Friendly</td>
<td>.99956</td>
<td>13.4440</td>
<td>.0002</td>
</tr>
<tr>
<td>Organized</td>
<td>.98839</td>
<td>38.9076</td>
<td>.0000</td>
</tr>
<tr>
<td>Presentation</td>
<td>.98025</td>
<td>66.7335</td>
<td>.0000</td>
</tr>
<tr>
<td>Relevancy</td>
<td>.98273</td>
<td>58.2103</td>
<td>.0000</td>
</tr>
<tr>
<td>Respect</td>
<td>.99159</td>
<td>28.0882</td>
<td>.0000</td>
</tr>
<tr>
<td>Feedback</td>
<td>.99572</td>
<td>14.2506</td>
<td>.0002</td>
</tr>
</tbody>
</table>
Table 43

**Predicting Respondent Group: Discriminant Analysis Stepwise Variable Selection**

<table>
<thead>
<tr>
<th>Selection rule: minimize Wilks' Lambda</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum number of steps</td>
</tr>
<tr>
<td>Minimum tolerance level</td>
</tr>
<tr>
<td>Minimum F to enter</td>
</tr>
<tr>
<td>Maximum F to remove</td>
</tr>
</tbody>
</table>

**Canonical Discriminant Functions**

| Maximum number of functions | 1.0 |
| Minimum cumulative percent of variance | 100.00 |
| Prior Maximum significance of Wilks' Lambda | 1.0000 |
| Probability for each group is | 0.50000 |

<table>
<thead>
<tr>
<th>Step Entered</th>
<th>Variable</th>
<th>Remove</th>
<th>Wilks' Lambda</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Presentation</td>
<td>1</td>
<td>.98025</td>
<td>.0000</td>
</tr>
<tr>
<td>2</td>
<td>Class Control</td>
<td>2</td>
<td>.97504</td>
<td>.0000</td>
</tr>
<tr>
<td>3</td>
<td>Relevancy</td>
<td>3</td>
<td>.97241</td>
<td>.0000</td>
</tr>
<tr>
<td>4</td>
<td>Friendly</td>
<td>4</td>
<td>.97000</td>
<td>.0000</td>
</tr>
<tr>
<td>5</td>
<td>Communication</td>
<td>5</td>
<td>.96804</td>
<td>.0000</td>
</tr>
</tbody>
</table>

**Standardized canonical discriminant function coefficients**

- Class Control: .35010
- Communication: .36321
- Friendly: -.47498
- Presentation: .53669
- Relevancy: .36281

Minimum F level or tolerance or VIN insufficient for further computation.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Tolerance</th>
<th>Tolerance</th>
<th>F to Enter</th>
<th>Wilks' Lambda</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>.2480265</td>
<td>.2480265</td>
<td>2.3490251</td>
<td>.9673546</td>
</tr>
<tr>
<td>Concern</td>
<td>.3665415</td>
<td>.3665415</td>
<td>3.6263519</td>
<td>.9669813</td>
</tr>
<tr>
<td>Encouragement</td>
<td>.4184601</td>
<td>.4184601</td>
<td>.1965566</td>
<td>.9679842</td>
</tr>
<tr>
<td>Enthusiasm</td>
<td>.3971303</td>
<td>.3953135</td>
<td>.0849617</td>
<td>.9680168</td>
</tr>
<tr>
<td>Fairness</td>
<td>.4276385</td>
<td>.4276385</td>
<td>.5904268</td>
<td>.9678689</td>
</tr>
<tr>
<td>Organized</td>
<td>.4937360</td>
<td>.4345656</td>
<td>.3716878</td>
<td>.9679329</td>
</tr>
<tr>
<td>Respect</td>
<td>.3582154</td>
<td>.3582154</td>
<td>.0444101</td>
<td>.9680287</td>
</tr>
<tr>
<td>Feedback</td>
<td>.5008158</td>
<td>.4520360</td>
<td>2.8774857</td>
<td>.9672001</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Cases</th>
<th>Predicted</th>
<th>Predicted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actual Group</td>
<td>Group 1</td>
<td>Group 2</td>
</tr>
<tr>
<td>Group 1 (Student)</td>
<td>3201</td>
<td>1954</td>
</tr>
<tr>
<td>Prediction Accuracy</td>
<td>61.0%</td>
<td>39.0%</td>
</tr>
<tr>
<td>Group 2 (Principal)</td>
<td>134</td>
<td>28</td>
</tr>
<tr>
<td>Prediction Accuracy</td>
<td>20.9%</td>
<td>79.1%</td>
</tr>
</tbody>
</table>

**Note.** Percent of "grouped" cases correctly classified: 61.77%.
Table 44

Analysis of Means: Dependent Variable Class Control (Student Raters)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class Control</td>
<td>3.872</td>
<td>1.021</td>
</tr>
<tr>
<td>Respondent Gender</td>
<td>.551</td>
<td>.506</td>
</tr>
<tr>
<td>Grade Received</td>
<td>4.244</td>
<td>.873</td>
</tr>
<tr>
<td>Grade Level</td>
<td>10.376</td>
<td>1.103</td>
</tr>
<tr>
<td>Teacher's Age</td>
<td>3.253</td>
<td>1.197</td>
</tr>
<tr>
<td>Teacher's Gender</td>
<td>.608</td>
<td>.488</td>
</tr>
<tr>
<td>Total Years Teaching</td>
<td>3.513</td>
<td>1.618</td>
</tr>
</tbody>
</table>

Note. N of Cases = 2,461.

Table 45

Correlation Matrix with Two-Tailed Significance: Class Control (Student Raters)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Concern TotalYr</th>
<th>Gender</th>
<th>Grade Rec</th>
<th>Level</th>
<th>Teach. Age</th>
<th>Teach. Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class Control</td>
<td>1.000</td>
<td>.052</td>
<td>.059</td>
<td>-.035</td>
<td>.050</td>
<td>-.052</td>
</tr>
<tr>
<td>Gender of Respondent</td>
<td>.052</td>
<td>1.000</td>
<td>.091</td>
<td>-.059</td>
<td>.025</td>
<td>.060</td>
</tr>
<tr>
<td>Grade Recieved</td>
<td>.059</td>
<td>.005</td>
<td>1.000</td>
<td>-.006</td>
<td>.054</td>
<td>-.113</td>
</tr>
<tr>
<td>Grade Level</td>
<td>-.035</td>
<td>.002</td>
<td>.377</td>
<td>1.000</td>
<td>-.026</td>
<td>-.076</td>
</tr>
<tr>
<td>Teacher's Age</td>
<td>.042</td>
<td>.025</td>
<td>.377</td>
<td>.095</td>
<td>.000</td>
<td>.061</td>
</tr>
<tr>
<td>Teacher's Gender</td>
<td>.050</td>
<td>.054</td>
<td>.034</td>
<td>1.000</td>
<td>-.026</td>
<td>.859</td>
</tr>
<tr>
<td>Total Years Teaching</td>
<td>.007</td>
<td>.107</td>
<td>.095</td>
<td>.095</td>
<td>.100</td>
<td>.000</td>
</tr>
</tbody>
</table>
Table 46

**Stepwise Regression: Class Control (Student Raters)**

<table>
<thead>
<tr>
<th>Variable(s) Entered on Step Number</th>
<th>Grade Received</th>
<th>Multiple R</th>
<th>R Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step Number 1.</td>
<td>1.05867</td>
<td>0.00344</td>
<td></td>
</tr>
<tr>
<td>Step Number 2.</td>
<td>1.07338</td>
<td>0.00568</td>
<td></td>
</tr>
<tr>
<td>Step Number 3.</td>
<td>1.08846</td>
<td>0.00783</td>
<td></td>
</tr>
<tr>
<td>Step Number 4.</td>
<td>1.09802</td>
<td>0.00961</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable(s) Entered on Step Number</th>
<th>Total Years Teaching</th>
<th>Multiple R</th>
<th>R Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step Number 1.</td>
<td>1.05867</td>
<td>0.00344</td>
<td></td>
</tr>
<tr>
<td>Step Number 2.</td>
<td>1.07338</td>
<td>0.00568</td>
<td></td>
</tr>
<tr>
<td>Step Number 3.</td>
<td>1.08846</td>
<td>0.00783</td>
<td></td>
</tr>
<tr>
<td>Step Number 4.</td>
<td>1.09802</td>
<td>0.00961</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable(s) Entered on Step Number</th>
<th>Respondent's Gender</th>
<th>Multiple R</th>
<th>R Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step Number 1.</td>
<td>1.05867</td>
<td>0.00344</td>
<td></td>
</tr>
<tr>
<td>Step Number 2.</td>
<td>1.07338</td>
<td>0.00568</td>
<td></td>
</tr>
<tr>
<td>Step Number 3.</td>
<td>1.08846</td>
<td>0.00783</td>
<td></td>
</tr>
<tr>
<td>Step Number 4.</td>
<td>1.09802</td>
<td>0.00961</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable(s) Entered on Step Number</th>
<th>Teacher's Gender</th>
<th>Multiple R</th>
<th>R Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step Number 1.</td>
<td>1.05867</td>
<td>0.00344</td>
<td></td>
</tr>
<tr>
<td>Step Number 2.</td>
<td>1.07338</td>
<td>0.00568</td>
<td></td>
</tr>
<tr>
<td>Step Number 3.</td>
<td>1.08846</td>
<td>0.00783</td>
<td></td>
</tr>
<tr>
<td>Step Number 4.</td>
<td>1.09802</td>
<td>0.00961</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variables in the Equation</th>
<th>B</th>
<th>SE B</th>
<th>Beta</th>
<th>T</th>
<th>Sig T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respondent Gender</td>
<td>1.00208</td>
<td>0.04084</td>
<td>0.049607</td>
<td>2.453</td>
<td>.0142</td>
</tr>
<tr>
<td>Grade Received</td>
<td>0.056264</td>
<td>0.023762</td>
<td>0.048091</td>
<td>2.368</td>
<td>.0180</td>
</tr>
<tr>
<td>Teacher's Gender</td>
<td>-0.090113</td>
<td>0.042854</td>
<td>-0.043085</td>
<td>-2.103</td>
<td>.0356</td>
</tr>
<tr>
<td>Total Years Teaching</td>
<td>0.025661</td>
<td>0.012821</td>
<td>0.040661</td>
<td>2.001</td>
<td>.0455</td>
</tr>
<tr>
<td>(Constant)</td>
<td>3.542845</td>
<td>0.118712</td>
<td>29.844</td>
<td>.0000</td>
<td></td>
</tr>
</tbody>
</table>

Table 47

**Analysis of Means: Dependent Variable Communication (Student Raters)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication</td>
<td>4.023</td>
<td>1.090</td>
</tr>
<tr>
<td>Respondent’s Gender</td>
<td>.551</td>
<td>.506</td>
</tr>
<tr>
<td>Grade Received</td>
<td>4.244</td>
<td>.873</td>
</tr>
<tr>
<td>Grade Level</td>
<td>10.376</td>
<td>1.103</td>
</tr>
<tr>
<td>Teacher’s Age</td>
<td>3.251</td>
<td>1.198</td>
</tr>
<tr>
<td>Teacher’s Gender</td>
<td>.609</td>
<td>.488</td>
</tr>
<tr>
<td>Total Years Teaching</td>
<td>3.511</td>
<td>1.620</td>
</tr>
</tbody>
</table>

*Note. N of Cases = 2,465.*
Table 48

Correlation Matrix with Two-Tailed Significance: Communication (Student Raters)

<table>
<thead>
<tr>
<th>Yrs.</th>
<th>Communication</th>
<th>R. Gender</th>
<th>GradeRec</th>
<th>Level</th>
<th>Teach. Age</th>
<th>Teach.Gender</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication</td>
<td>1.000</td>
<td>.043</td>
<td>.197</td>
<td>-.070</td>
<td>-.027</td>
<td>.056</td>
<td>-.075</td>
</tr>
<tr>
<td>Gender Respondent</td>
<td>.043</td>
<td>1.000</td>
<td>.092</td>
<td>-.060</td>
<td>.023</td>
<td>.061</td>
<td>.008</td>
</tr>
<tr>
<td>Grade Received</td>
<td>.017</td>
<td>.000</td>
<td>.000</td>
<td>.022</td>
<td>.124</td>
<td>.001</td>
<td>.348</td>
</tr>
<tr>
<td>Grade Level</td>
<td>.197</td>
<td>.092</td>
<td>1.000</td>
<td>-.007</td>
<td>.053</td>
<td>-.112</td>
<td>.028</td>
</tr>
<tr>
<td>Grade Level</td>
<td>.000</td>
<td>.000</td>
<td>.370</td>
<td>.004</td>
<td>.000</td>
<td>.079</td>
<td>.000</td>
</tr>
<tr>
<td>Teacher's Age</td>
<td>-.070</td>
<td>-.060</td>
<td>-.007</td>
<td>1.000</td>
<td>-.025</td>
<td>-.076</td>
<td>.032</td>
</tr>
<tr>
<td>Teacher's Age</td>
<td>.000</td>
<td>.002</td>
<td>.370</td>
<td>.103</td>
<td>.000</td>
<td>.054</td>
<td>.000</td>
</tr>
<tr>
<td>Teacher's Gender</td>
<td>-.027</td>
<td>.023</td>
<td>.053</td>
<td>-.025</td>
<td>1.000</td>
<td>-.027</td>
<td>.859</td>
</tr>
<tr>
<td>Teacher's Gender</td>
<td>.089</td>
<td>.124</td>
<td>.004</td>
<td>.103</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>Total Years Teaching</td>
<td>-.075</td>
<td>.008</td>
<td>.028</td>
<td>.032</td>
<td>.859</td>
<td>-.151</td>
<td>1.000</td>
</tr>
<tr>
<td>Total Years Teaching</td>
<td>.000</td>
<td>.348</td>
<td>.079</td>
<td>.054</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
</tbody>
</table>

Table 49

Stepwise Regression: Communication (Student Raters)

<table>
<thead>
<tr>
<th>Variable(s) Entered on Step Number 1</th>
<th>Grade Received</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple R</td>
<td>.19695</td>
</tr>
<tr>
<td>R Square</td>
<td>.03879</td>
</tr>
<tr>
<td>Variable(s) Entered on Step Number 2</td>
<td>Total Years Teaching</td>
</tr>
<tr>
<td>Multiple R</td>
<td>.21266</td>
</tr>
<tr>
<td>R Square</td>
<td>.04522</td>
</tr>
<tr>
<td>Variable(s) Entered on Step Number 3</td>
<td>Teacher's Gender</td>
</tr>
<tr>
<td>Multiple R</td>
<td>.22311</td>
</tr>
<tr>
<td>R Square</td>
<td>.04978</td>
</tr>
<tr>
<td>Variable(s) Entered on Step Number 4</td>
<td>Grade Level</td>
</tr>
<tr>
<td>Multiple R</td>
<td>.23127</td>
</tr>
<tr>
<td>R Square</td>
<td>.05349</td>
</tr>
<tr>
<td>Variable(s) Entered on Step Number 5</td>
<td>Teacher's Age</td>
</tr>
<tr>
<td>Multiple R</td>
<td>.23517</td>
</tr>
<tr>
<td>R Square</td>
<td>.05530</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>Beta</th>
<th>T</th>
<th>Sig T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade Received</td>
<td>.252658</td>
<td>.024718</td>
<td>.202292</td>
<td>10.222</td>
<td>.0000</td>
</tr>
<tr>
<td>Grade Level</td>
<td>-.056511</td>
<td>.019507</td>
<td>-.057201</td>
<td>-2.897</td>
<td>.0038</td>
</tr>
<tr>
<td>Teacher's Age</td>
<td>.077997</td>
<td>.035870</td>
<td>.085732</td>
<td>2.174</td>
<td>.0298</td>
</tr>
<tr>
<td>Teacher's Gender</td>
<td>.122810</td>
<td>.045621</td>
<td>.055013</td>
<td>2.692</td>
<td>.0072</td>
</tr>
<tr>
<td>Total Years Teaching</td>
<td>-.066783</td>
<td>.026791</td>
<td>-.143843</td>
<td>-3.613</td>
<td>.0003</td>
</tr>
<tr>
<td>(Constant)</td>
<td>3.548825</td>
<td>.241777</td>
<td>14.678</td>
<td>.0000</td>
<td></td>
</tr>
</tbody>
</table>

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Table 50

### Analysis of Means: Dependent Variable Concern (Student Raters)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concern</td>
<td>4.075</td>
<td>1.091</td>
</tr>
<tr>
<td>Respondent Gender</td>
<td>.552</td>
<td>.505</td>
</tr>
<tr>
<td>Grade Received</td>
<td>4.245</td>
<td>.873</td>
</tr>
<tr>
<td>Grade Level</td>
<td>10.377</td>
<td>1.103</td>
</tr>
<tr>
<td>Teacher Age</td>
<td>3.251</td>
<td>1.198</td>
</tr>
<tr>
<td>Teacher Gender</td>
<td>.609</td>
<td>.488</td>
</tr>
<tr>
<td>Total Years Teaching</td>
<td>3.511</td>
<td>1.620</td>
</tr>
</tbody>
</table>

**Note.** N of Cases = 2,462.

Table 51

### Correlation Matrix with Two-Tailed Significance: Concern (Student Raters)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Concern</th>
<th>Total Yrs.</th>
<th>R.Gender</th>
<th>Grade Rec</th>
<th>Level</th>
<th>Teach. Age</th>
<th>Teach. Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concern</td>
<td>1.000</td>
<td>.041</td>
<td>.186</td>
<td>-.081</td>
<td>-.021</td>
<td>.103</td>
<td>-.065</td>
</tr>
<tr>
<td>Respondent Gender</td>
<td>.041</td>
<td>1.000</td>
<td>.091</td>
<td>-.061</td>
<td>.023</td>
<td>.060</td>
<td>.007</td>
</tr>
<tr>
<td>Grade Received</td>
<td>.186</td>
<td>.091</td>
<td>1.000</td>
<td>-.008</td>
<td>.053</td>
<td>-.112</td>
<td>.028</td>
</tr>
<tr>
<td>Grade Level</td>
<td>-.081</td>
<td>-.061</td>
<td>-.008</td>
<td>1.000</td>
<td>-.025</td>
<td>-.077</td>
<td>.032</td>
</tr>
<tr>
<td>Teacher’s Age</td>
<td>-.021</td>
<td>.023</td>
<td>.353</td>
<td>-.025</td>
<td>1.000</td>
<td>-.027</td>
<td>.859</td>
</tr>
<tr>
<td>Teacher’s Gender</td>
<td>.145</td>
<td>.127</td>
<td>.004</td>
<td>.104</td>
<td>.104</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>Total Years Teaching</td>
<td>.103</td>
<td>.060</td>
<td>-.112</td>
<td>-.077</td>
<td>.027</td>
<td>1.000</td>
<td>-.151</td>
</tr>
</tbody>
</table>

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Table 52

**Stepwise Regression: Concern (Student Raters)**

<table>
<thead>
<tr>
<th>Variable(s) Entered on Step</th>
<th>Number</th>
<th>Grade Received</th>
<th>Multiple R</th>
<th>R Square</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.</td>
<td></td>
<td>.18575</td>
<td>.03450</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable(s) Entered on Step</th>
<th>Number</th>
<th>Teacher's Gender</th>
<th>Multiple R</th>
<th>R Square</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2.</td>
<td></td>
<td>.22385</td>
<td>.05011</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable(s) Entered on Step</th>
<th>Number</th>
<th>Grade Level</th>
<th>Multiple R</th>
<th>R Square</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3.</td>
<td></td>
<td>.23445</td>
<td>.05497</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable(s) Entered on Step</th>
<th>Number</th>
<th>Total Years Teaching</th>
<th>Multiple R</th>
<th>R Square</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4.</td>
<td></td>
<td>.23988</td>
<td>.05754</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable in the Equation</th>
<th>Beta In</th>
<th>Partial</th>
<th>Min Toler</th>
<th>T</th>
<th>Sig T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade Received</td>
<td>.249123</td>
<td>.024642</td>
<td>.199299</td>
<td>10.110</td>
<td>.0000</td>
</tr>
<tr>
<td>Grade Level</td>
<td>-.068067</td>
<td>.019433</td>
<td>-.068828</td>
<td>-3.503</td>
<td>.0005</td>
</tr>
<tr>
<td>Teacher's Gender</td>
<td>.251741</td>
<td>.044668</td>
<td>.112640</td>
<td>5.636</td>
<td>.0000</td>
</tr>
<tr>
<td>Total Years Teach</td>
<td>-.034573</td>
<td>.013346</td>
<td>-.051337</td>
<td>-2.590</td>
<td>.0096</td>
</tr>
<tr>
<td>(Constant)</td>
<td>3.692114</td>
<td>.238750</td>
<td></td>
<td>15.464</td>
<td>.0000</td>
</tr>
</tbody>
</table>

Table 53

**Analysis of Means: Dependent Variable Encouragement (Student Raters)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Encouragement</td>
<td>4.236</td>
<td>.985</td>
</tr>
<tr>
<td>Respondent Gender</td>
<td>.551</td>
<td>.506</td>
</tr>
<tr>
<td>Grade Received</td>
<td>4.244</td>
<td>.873</td>
</tr>
<tr>
<td>Grade Level</td>
<td>10.376</td>
<td>1.103</td>
</tr>
<tr>
<td>Teacher's Age</td>
<td>3.251</td>
<td>1.198</td>
</tr>
<tr>
<td>Teacher's Gender</td>
<td>.609</td>
<td>.488</td>
</tr>
<tr>
<td>Total Years Teaching</td>
<td>3.511</td>
<td>1.620</td>
</tr>
</tbody>
</table>

*Note, N of Cases = 2,465.*
Table 54

**Correlation Matrix with Two-Tailed Significance: Encouragement (Student Raters)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Encour</th>
<th>R. Gender</th>
<th>Grade Rec</th>
<th>Level</th>
<th>T. Age</th>
<th>T. Gender</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yr</td>
<td>1.000</td>
<td>.057</td>
<td>.179</td>
<td>-0.070</td>
<td>-.006</td>
<td>.052</td>
<td>-.039</td>
</tr>
<tr>
<td>Encouragement</td>
<td>.057</td>
<td>1.000</td>
<td>.092</td>
<td>-.060</td>
<td>.023</td>
<td>.061</td>
<td>.008</td>
</tr>
<tr>
<td>Respondent Gender</td>
<td>.002</td>
<td>.000</td>
<td>1.000</td>
<td>-.007</td>
<td>.124</td>
<td>.001</td>
<td>.348</td>
</tr>
<tr>
<td>Grade Received</td>
<td>.179</td>
<td>.092</td>
<td>.000</td>
<td>.370</td>
<td>.004</td>
<td>.000</td>
<td>.797</td>
</tr>
<tr>
<td>Grade Level</td>
<td>-.070</td>
<td>-.060</td>
<td>-.007</td>
<td>1.000</td>
<td>-.025</td>
<td>-.076</td>
<td>.032</td>
</tr>
<tr>
<td>Teacher's Age</td>
<td>-.006</td>
<td>.023</td>
<td>.053</td>
<td>.103</td>
<td>.000</td>
<td>.000</td>
<td>.054</td>
</tr>
<tr>
<td>Teacher's Gender</td>
<td>.392</td>
<td>.124</td>
<td>.004</td>
<td>.000</td>
<td>.091</td>
<td>.000</td>
<td>.859</td>
</tr>
<tr>
<td>Total Years Teaching</td>
<td>-.039</td>
<td>.008</td>
<td>.028</td>
<td>.032</td>
<td>.859</td>
<td>-.151</td>
<td>1.000</td>
</tr>
<tr>
<td></td>
<td>.028</td>
<td>.348</td>
<td>.079</td>
<td>.054</td>
<td>.000</td>
<td>.000</td>
<td></td>
</tr>
</tbody>
</table>

Table 55

**Stepwise Regression: Encouragement (Student Raters)**

<table>
<thead>
<tr>
<th>Variable(s) Entered on Step Number 1.</th>
<th>Grade Received</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple R</td>
<td>.17927</td>
</tr>
<tr>
<td>R Square</td>
<td>.03214</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable(s) Entered on Step Number 2.</th>
<th>Teacher's Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple R</td>
<td>.19327</td>
</tr>
<tr>
<td>R Square</td>
<td>.03735</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable(s) Entered on Step Number 3.</th>
<th>Grade Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple R</td>
<td>.20344</td>
</tr>
<tr>
<td>R Square</td>
<td>.04139</td>
</tr>
</tbody>
</table>

**Variables in the Equation**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Beta</th>
<th>Partial</th>
<th>Min. Toler.</th>
<th>T</th>
<th>Significant T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade Rec.</td>
<td>.210382</td>
<td>.022414</td>
<td>.186446</td>
<td>9.386</td>
<td>.0000</td>
</tr>
<tr>
<td>Level</td>
<td>-.056875</td>
<td>.017669</td>
<td>-.063723</td>
<td>-3.219</td>
<td>.0013</td>
</tr>
<tr>
<td>T. Gender</td>
<td>.1365500</td>
<td>.040179</td>
<td>.067705</td>
<td>3.399</td>
<td>.0007</td>
</tr>
<tr>
<td>(Constant)</td>
<td>3.850042</td>
<td>.213057</td>
<td>18.070000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 56

**Analysis of Means: Dependent Variable Enthusiasm (Student Raters)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enthusiasm</td>
<td>4.200</td>
<td>1.071</td>
</tr>
<tr>
<td>Respondent Gender</td>
<td>.552</td>
<td>.506</td>
</tr>
<tr>
<td>Grade Received</td>
<td>4.245</td>
<td>.871</td>
</tr>
<tr>
<td>Grade Level</td>
<td>10.375</td>
<td>1.103</td>
</tr>
<tr>
<td>Teacher's Age</td>
<td>3.252</td>
<td>1.198</td>
</tr>
<tr>
<td>Teacher's Gender</td>
<td>.608</td>
<td>.488</td>
</tr>
<tr>
<td>Total Years Teaching</td>
<td>3.513</td>
<td>1.619</td>
</tr>
</tbody>
</table>

Note. N of Cases = 2,461.
Table 57

Correlation Matrix with Two-Tailed Significance: Enthusiasm (Student Raters)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Enths</th>
<th>Student Gender</th>
<th>Grade Rec</th>
<th>Gr. Level</th>
<th>Teacher Age</th>
<th>Teach Gender</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enthusiasm</td>
<td>1.000</td>
<td>.048</td>
<td>.174</td>
<td>.041</td>
<td>.068</td>
<td>.049</td>
<td>-.054</td>
</tr>
<tr>
<td>Yrs</td>
<td>.009</td>
<td>.000</td>
<td>.022</td>
<td>.024</td>
<td>.061</td>
<td>.008</td>
<td>.004</td>
</tr>
<tr>
<td>Respondent Gender</td>
<td>.009</td>
<td>.000</td>
<td>.002</td>
<td>.002</td>
<td>.001</td>
<td>.350</td>
<td></td>
</tr>
<tr>
<td>Grade Received</td>
<td>.174</td>
<td>.091</td>
<td>.041</td>
<td>.054</td>
<td>.011</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>Grade Level</td>
<td>.041</td>
<td>.000</td>
<td>.044</td>
<td>.004</td>
<td>.000</td>
<td>.064</td>
<td></td>
</tr>
<tr>
<td>Teacher Age</td>
<td>-.068</td>
<td>.024</td>
<td>-.025</td>
<td>1.000</td>
<td>-.026</td>
<td>.860</td>
<td></td>
</tr>
<tr>
<td>Teacher Gender</td>
<td>.049</td>
<td>.119</td>
<td>.004</td>
<td>.098</td>
<td>.000</td>
<td>.149</td>
<td></td>
</tr>
<tr>
<td>Total Years Teaching</td>
<td>.008</td>
<td>.001</td>
<td>.000</td>
<td>.098</td>
<td>.000</td>
<td>.149</td>
<td>1.000</td>
</tr>
</tbody>
</table>

Table 58

Stepwise Regression: Enthusiasm (Student Raters)

| Variable(s) Entered on Step Number 1. Grade | Multiple R | .17384   |
|                                               | R Square   | .03022   |
| Variable(s) Entered on Step Number 2. Teacher's Age | Multiple R | .19016   |
|                                               | R Square   | .03616   |
| Variable(s) Entered on Step Number 3. Teacher's Gender | Multiple R | .20185   |
|                                               | R Square   | .04074   |
| Variable(s) Entered on Step Number 4. Grade Level | Multiple R | .20678   |
|                                               | R Square   | .04276   |

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>Beta</th>
<th>T</th>
<th>Significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade Received</td>
<td>.22929</td>
<td>.024485</td>
<td>.186308</td>
<td>9.361</td>
<td>.0000</td>
</tr>
<tr>
<td>Grade Level</td>
<td>.043714</td>
<td>.019232</td>
<td>.045022</td>
<td>.273</td>
<td>.0231</td>
</tr>
<tr>
<td>Teacher's Age</td>
<td>-.066721</td>
<td>.017683</td>
<td>-.074642</td>
<td>-3.773</td>
<td>.0002</td>
</tr>
<tr>
<td>Teacher's Gender</td>
<td>.157173</td>
<td>.043735</td>
<td>.071651</td>
<td>3.594</td>
<td>.0003</td>
</tr>
<tr>
<td>(Constant)</td>
<td>2.894709</td>
<td>.238905</td>
<td></td>
<td>12.117</td>
<td>.0000</td>
</tr>
</tbody>
</table>

Table 59

Analysis of Means: Dependent Variable Fairness (Student Raters)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fair</td>
<td>4.144</td>
<td>1.107</td>
</tr>
<tr>
<td>Respondent Gender</td>
<td>.551</td>
<td>.506</td>
</tr>
<tr>
<td>Grade Received</td>
<td>4.264</td>
<td>.873</td>
</tr>
<tr>
<td>Grade Level</td>
<td>10.376</td>
<td>1.103</td>
</tr>
<tr>
<td>Teacher's Age</td>
<td>3.251</td>
<td>1.198</td>
</tr>
<tr>
<td>Teacher's Gender</td>
<td>.609</td>
<td>.488</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Total Years Teaching</th>
<th>3.511</th>
<th>1.620</th>
</tr>
</thead>
</table>

*Note. N of Cases = 2,465.*
Table 60

**Correlation Matrix with Two-Tailed Significance: Fairness (Student Raters)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Fairness</th>
<th>R.Gender</th>
<th>Grade Rec</th>
<th>Grade Level</th>
<th>Teach Age</th>
<th>Teach Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fairness</td>
<td>1.000</td>
<td>.045</td>
<td>.188</td>
<td>-.036</td>
<td>.013</td>
<td>.028</td>
</tr>
<tr>
<td>Total Yrs</td>
<td>.013</td>
<td>1.000</td>
<td>.092</td>
<td>-.060</td>
<td>.023</td>
<td>.061</td>
</tr>
<tr>
<td>Respondent’s Gender</td>
<td>.013</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.124</td>
<td>.001</td>
</tr>
<tr>
<td>Grade Received</td>
<td>.188</td>
<td>.092</td>
<td>1.000</td>
<td>-.007</td>
<td>.053</td>
<td>-.112</td>
</tr>
<tr>
<td>Grade Level</td>
<td>.000</td>
<td>.000</td>
<td>.370</td>
<td>1.000</td>
<td>.025</td>
<td>-.076</td>
</tr>
<tr>
<td>Teacher’s Age</td>
<td>-.036</td>
<td>-.060</td>
<td>-.007</td>
<td>1.000</td>
<td>.025</td>
<td>-.076</td>
</tr>
<tr>
<td>Teacher’s Gender</td>
<td>.036</td>
<td>.002</td>
<td>.370</td>
<td>.103</td>
<td>.000</td>
<td>.054</td>
</tr>
<tr>
<td>Total Years Teaching</td>
<td>-.034</td>
<td>.008</td>
<td>.028</td>
<td>.032</td>
<td>.859</td>
<td>-.151</td>
</tr>
</tbody>
</table>

Table 61

**Stepwise Regression: Fairness (Student Raters)**

<table>
<thead>
<tr>
<th>Variable(s) Entered on Step</th>
<th>Number</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple R</td>
<td>.18762</td>
<td></td>
</tr>
<tr>
<td>R Square</td>
<td>.03520</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable(s) Entered on Step</th>
<th>Number</th>
<th>Teacher’s Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple R</td>
<td>.19391</td>
<td></td>
</tr>
<tr>
<td>R Square</td>
<td>.03760</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE</th>
<th>Beta</th>
<th>T</th>
<th>Significant T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade</td>
<td>.245125</td>
<td>.025250</td>
<td>.193156</td>
<td>9.708</td>
<td>.0000</td>
</tr>
<tr>
<td>Teacher’s Gender</td>
<td>.111819</td>
<td>.045132</td>
<td>.049297</td>
<td>2.478</td>
<td>.0133</td>
</tr>
<tr>
<td>(Constant)</td>
<td>3.035404</td>
<td>.115669</td>
<td>.26242</td>
<td>.0000</td>
<td></td>
</tr>
</tbody>
</table>

Table 62

**Analysis of Means: Dependent Variable Feedback (Student Raters)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feedback</td>
<td>4.351</td>
<td>.965</td>
</tr>
<tr>
<td>Respondent’s Gender</td>
<td>.551</td>
<td>.506</td>
</tr>
<tr>
<td>Grade Received</td>
<td>4.244</td>
<td>.873</td>
</tr>
<tr>
<td>Grade Level</td>
<td>10.376</td>
<td>1.103</td>
</tr>
<tr>
<td>Teacher’s Age</td>
<td>3.251</td>
<td>1.198</td>
</tr>
<tr>
<td>Teacher’s Gender</td>
<td>.608</td>
<td>.488</td>
</tr>
<tr>
<td>Total Years Teaching</td>
<td>3.510</td>
<td>1.620</td>
</tr>
</tbody>
</table>

*Note. N of Cases = 2,463.*
Table 63  
Correlation Matrix with Two-Tailed Significance: Feedback (Student Raters)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Feedback</th>
<th>R. Gender</th>
<th>Grade Rec</th>
<th>Grade Level</th>
<th>Teach Age</th>
<th>Teach Gender</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feedback</td>
<td>1.000</td>
<td>.064</td>
<td>.132</td>
<td>.021</td>
<td>-.046</td>
<td>.081</td>
<td>-.064</td>
</tr>
<tr>
<td>Respondent Gender</td>
<td>.064</td>
<td>1.000</td>
<td>.092</td>
<td>-.145</td>
<td>.012</td>
<td>.000</td>
<td>.001</td>
</tr>
<tr>
<td>Grade Received</td>
<td>.001</td>
<td>.000</td>
<td>1.000</td>
<td>-.007</td>
<td>.053</td>
<td>-.113</td>
<td>.028</td>
</tr>
<tr>
<td>Grade Level</td>
<td>.132</td>
<td>.092</td>
<td>.000</td>
<td>1.000</td>
<td>-.026</td>
<td>.077</td>
<td>.032</td>
</tr>
<tr>
<td>Teacher's Age</td>
<td>-.046</td>
<td>.023</td>
<td>.053</td>
<td>.026</td>
<td>1.000</td>
<td>-.027</td>
<td>.859</td>
</tr>
<tr>
<td>Teacher's Gender</td>
<td>.012</td>
<td>.123</td>
<td>.005</td>
<td>.101</td>
<td>.088</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>Total Years Teaching</td>
<td>-.064</td>
<td>.008</td>
<td>.028</td>
<td>.032</td>
<td>.088</td>
<td>.000</td>
<td>.000</td>
</tr>
</tbody>
</table>

Table 64  
Stepwise Regression: Feedback (Student Raters)

Variable(s) Entered on Step Number 1. Grade Received  
Multiple R .13219  
R Square .01747

Variable(s) Entered on Step Number 2. Teacher's Gender  
Multiple R .16354  
R Square .02675

Variable(s) Entered on Step Number 3. Total Years Teaching  
Multiple R .17233  
R Square .02970

Variable(s) Entered on Step Number 4. Respondent's Gender  
Multiple R .17850  
R Square .03186

Variables in the Equation

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>Beta</th>
<th>T</th>
<th>Significant T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respondent's Gender</td>
<td>.089453</td>
<td>.038161</td>
<td>.046847</td>
<td>2.344</td>
<td>.0192</td>
</tr>
<tr>
<td>Grade Received</td>
<td>.153834</td>
<td>.022207</td>
<td>.139062</td>
<td>6.927</td>
<td>.0000</td>
</tr>
<tr>
<td>Teacher's Gender</td>
<td>.168369</td>
<td>.040048</td>
<td>.085137</td>
<td>4.204</td>
<td>.0000</td>
</tr>
<tr>
<td>Total Years Teaching</td>
<td>-.033210</td>
<td>.011966</td>
<td>-.055733</td>
<td>-2.775</td>
<td>.0056</td>
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<tr>
<td>(Constant)</td>
<td>3.663027</td>
<td>.110979</td>
<td></td>
<td>33.007</td>
<td>.0000</td>
</tr>
</tbody>
</table>
Table 65

**Analysis of Means Dependent: Variable Friendly (Student Raters)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Friendly</td>
<td>4.334</td>
<td>.961</td>
</tr>
<tr>
<td>Respondent Gender</td>
<td>5.51</td>
<td>.506</td>
</tr>
<tr>
<td>Grade Received</td>
<td>4.244</td>
<td>.873</td>
</tr>
<tr>
<td>Grade Level</td>
<td>10.375</td>
<td>1.103</td>
</tr>
<tr>
<td>Teacher’s Age</td>
<td>3.250</td>
<td>1.198</td>
</tr>
<tr>
<td>Teacher’s Gender</td>
<td>.609</td>
<td>.488</td>
</tr>
<tr>
<td>Total Years Teaching</td>
<td>3.510</td>
<td>1.620</td>
</tr>
</tbody>
</table>

Note. N of Cases = 2,463.

Table 66

**Correlation Matrix with Two-Tailed Significance: Friendly (Student Raters)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Friendly</th>
<th>Rsp.Gender</th>
<th>Grade Rec.</th>
<th>Level</th>
<th>Teach. Age</th>
<th>Teach. Gender</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yrs</td>
<td>.000</td>
<td>.045</td>
<td>.200</td>
<td>-.026</td>
<td>-.069</td>
<td>.083</td>
<td>-.104</td>
</tr>
<tr>
<td>Friendly</td>
<td>1.000</td>
<td>.013</td>
<td>.000</td>
<td>.096</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>Respondent Gender</td>
<td>.045</td>
<td>1.000</td>
<td>.091</td>
<td>-.061</td>
<td>.023</td>
<td>.061</td>
<td>.007</td>
</tr>
<tr>
<td>Grade Received</td>
<td>.013</td>
<td>.091</td>
<td>1.000</td>
<td>-.007</td>
<td>-.053</td>
<td>-.112</td>
<td>.028</td>
</tr>
<tr>
<td>Grade Level</td>
<td>.000</td>
<td>.000</td>
<td>.359</td>
<td>1.000</td>
<td>.005</td>
<td>.000</td>
<td>.082</td>
</tr>
<tr>
<td>Teacher’s Age</td>
<td>-.026</td>
<td>-.061</td>
<td>-.007</td>
<td>1.000</td>
<td>-.026</td>
<td>-.076</td>
<td>.032</td>
</tr>
<tr>
<td>Teacher’s Gender</td>
<td>.096</td>
<td>.001</td>
<td>.359</td>
<td>.095</td>
<td>.000</td>
<td>.000</td>
<td>.058</td>
</tr>
<tr>
<td>Total Years Teaching</td>
<td>-.069</td>
<td>.022</td>
<td>.052</td>
<td>-.026</td>
<td>1.000</td>
<td>.027</td>
<td>.859</td>
</tr>
<tr>
<td>Teacher’s Gender</td>
<td>.000</td>
<td>.132</td>
<td>.005</td>
<td>.085</td>
<td>-.027</td>
<td>.090</td>
<td>.000</td>
</tr>
<tr>
<td>Total</td>
<td>-.104</td>
<td>.001</td>
<td>.000</td>
<td>.090</td>
<td>1.000</td>
<td>-.151</td>
<td>1.000</td>
</tr>
<tr>
<td>.000</td>
<td>.360</td>
<td>.082</td>
<td>.058</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
</tbody>
</table>

Table 67

**Stepwise Regression: Friendly (Student Raters)**

<table>
<thead>
<tr>
<th>Variable (s) Entered on Step Number 1: Grade</th>
<th>Multiple R</th>
<th>.19975</th>
</tr>
</thead>
<tbody>
<tr>
<td>R Square</td>
<td>.03990</td>
<td></td>
</tr>
<tr>
<td>Variable (s) Entered on Step Number 2: Total Year’s Teaching</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multiple R</td>
<td>.220793</td>
<td></td>
</tr>
<tr>
<td>R Square</td>
<td>.05195</td>
<td></td>
</tr>
<tr>
<td>Variable (s) Entered on Step Number 3: Teacher’s Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multiple R</td>
<td>.24538</td>
<td></td>
</tr>
<tr>
<td>R Square</td>
<td>.06021</td>
<td></td>
</tr>
</tbody>
</table>

Variables in the Equation

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>Beta</th>
<th>T</th>
<th>Sig T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade Received</td>
<td>.234361</td>
<td>.021664</td>
<td>.212848</td>
<td>10.818</td>
<td>.0000</td>
</tr>
<tr>
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<td>.182050</td>
<td>.039166</td>
<td>.092479</td>
<td>4.648</td>
<td>.0000</td>
</tr>
<tr>
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<td>-.057042</td>
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<td>-.096148</td>
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<td>.0000</td>
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</table>

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Table 68

**Analysis of Means: Dependent Variable Organized (Student Raters)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organized</td>
<td>4.126</td>
<td>.986</td>
</tr>
<tr>
<td>Respondent's Gender</td>
<td>.551</td>
<td>.506</td>
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<tr>
<td>Grade Received</td>
<td>4.244</td>
<td>.872</td>
</tr>
<tr>
<td>Grade Level</td>
<td>10.377</td>
<td>1.103</td>
</tr>
<tr>
<td>Teacher's Age</td>
<td>3.251</td>
<td>1.198</td>
</tr>
<tr>
<td>Teacher's Gender</td>
<td>.608</td>
<td>.488</td>
</tr>
<tr>
<td>Total Years Teaching</td>
<td>3.510</td>
<td>1.620</td>
</tr>
</tbody>
</table>

*Note. N of Cases = 2,463.*

Table 69

**Correlation Matrix with Two-Tailed Significance: Organized (Student Raters)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Organized</th>
<th>R. Gender</th>
<th>Grade Rec</th>
<th>Level</th>
<th>Teach. Age</th>
<th>Teach. Gender</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yrs.</td>
<td>.031</td>
<td>.060</td>
<td>.093</td>
<td>.317</td>
<td>.023</td>
<td>.061</td>
<td>.007</td>
</tr>
<tr>
<td>Organized</td>
<td>1.000</td>
<td>.031</td>
<td>.121</td>
<td>.010</td>
<td>.014</td>
<td>.031</td>
<td>-.027</td>
</tr>
<tr>
<td>Respondent Gender</td>
<td>.031</td>
<td>1.000</td>
<td>.093</td>
<td>.317</td>
<td>.242</td>
<td>.065</td>
<td>.089</td>
</tr>
<tr>
<td>Grade Received</td>
<td>.060</td>
<td>.093</td>
<td>1.000</td>
<td>-.007</td>
<td>.127</td>
<td>.001</td>
<td>.357</td>
</tr>
<tr>
<td>Grade Level</td>
<td>.121</td>
<td>.000</td>
<td>.358</td>
<td>.004</td>
<td>.000</td>
<td>.074</td>
<td>.074</td>
</tr>
<tr>
<td>Teacher's Age</td>
<td>.000</td>
<td>.000</td>
<td>.007</td>
<td>1.000</td>
<td>.025</td>
<td>-.076</td>
<td>.033</td>
</tr>
<tr>
<td>Teacher's Gender</td>
<td>.317</td>
<td>.002</td>
<td>.358</td>
<td>.106</td>
<td>.000</td>
<td>.052</td>
<td></td>
</tr>
<tr>
<td>Total Years Teaching</td>
<td>.014</td>
<td>.023</td>
<td>.053</td>
<td>-.025</td>
<td>1.000</td>
<td>-.027</td>
<td>.859</td>
</tr>
<tr>
<td>(Constant)</td>
<td>.242</td>
<td>.127</td>
<td>.004</td>
<td>.106</td>
<td>.090</td>
<td>.000</td>
<td></td>
</tr>
</tbody>
</table>

Table 70

**Stepwise Regression: Organized (Student Raters)**

<table>
<thead>
<tr>
<th>Variable(s) Entered on Step</th>
<th>Grade</th>
<th>Multiple R</th>
<th>R Square</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>.12135</td>
<td>.01473</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>Beta</th>
<th>T</th>
<th>Significant T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade Received</td>
<td>.13143</td>
<td>.022612</td>
<td>.121353</td>
<td>6.065</td>
<td>.0000</td>
</tr>
<tr>
<td>(Constant)</td>
<td>3.544178</td>
<td>.097982</td>
<td>36.172</td>
<td>.0000</td>
<td></td>
</tr>
</tbody>
</table>
Table 71

Analysis of Means: Dependent Variable Presentation (Student Raters)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Present</td>
<td>3.795</td>
<td>1.163</td>
</tr>
<tr>
<td>Respondent Gender</td>
<td>.551</td>
<td>.506</td>
</tr>
<tr>
<td>Grade Received</td>
<td>4.254</td>
<td>.873</td>
</tr>
<tr>
<td>Grade Level</td>
<td>10.376</td>
<td>1.103</td>
</tr>
<tr>
<td>Teacher’s Age</td>
<td>3.251</td>
<td>1.198</td>
</tr>
<tr>
<td>Teacher’s Gender</td>
<td>.609</td>
<td>.488</td>
</tr>
<tr>
<td>Total Years Teaching</td>
<td>3.511</td>
<td>1.620</td>
</tr>
</tbody>
</table>

Note. N of Cases = 2,465.

Table 72

Correlation Matrix with Two-Tailed Significance: Presentation (Student Raters)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Presentation</th>
<th>R. Gender</th>
<th>Grade Rec</th>
<th>Level</th>
<th>Teach. Age</th>
<th>Teach. Gender</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presentation</td>
<td>1.000</td>
<td>.014</td>
<td>.178</td>
<td>-.014</td>
<td>-.059</td>
<td>.032</td>
<td>-.061</td>
</tr>
<tr>
<td>Respondent Gender</td>
<td>.014</td>
<td>1.000</td>
<td>.092</td>
<td>.236</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>Grade Received</td>
<td>.178</td>
<td>.236</td>
<td>1.000</td>
<td>.000</td>
<td>.239</td>
<td>.002</td>
<td>.055</td>
</tr>
<tr>
<td>Grade Level</td>
<td>-.014</td>
<td>.239</td>
<td>-.060</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.079</td>
</tr>
<tr>
<td>Teacher’s Age</td>
<td>-.059</td>
<td>.239</td>
<td>-.023</td>
<td>.002</td>
<td>.370</td>
<td>.004</td>
<td>.000</td>
</tr>
<tr>
<td>Teacher’s Gender</td>
<td>.002</td>
<td>.000</td>
<td>.053</td>
<td>.124</td>
<td>.004</td>
<td>.000</td>
<td>.054</td>
</tr>
<tr>
<td>Total Years Teaching</td>
<td>.002</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
</tbody>
</table>

Table 73

Stepwise Regression: Presentation (Student Raters)

<table>
<thead>
<tr>
<th>Variable(s) Entered on Step Number 1.</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple R</td>
<td>.17763</td>
</tr>
<tr>
<td>R Square</td>
<td>.03155</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable(s) Entered on Step Number 2.</th>
<th>Teacher’s Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple R</td>
<td>.19048</td>
</tr>
<tr>
<td>R Square</td>
<td>.03628</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable(s) Entered on Step Number 3.</th>
<th>Teacher’s Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple R</td>
<td>.19717</td>
</tr>
<tr>
<td>R Square</td>
<td>.03888</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>Beta</th>
<th>T</th>
<th>Significant T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade</td>
<td>.249170</td>
<td>.026537</td>
<td>.186974</td>
<td>9.390</td>
<td>.0000</td>
</tr>
<tr>
<td>Teacher’s Age</td>
<td>-.065812</td>
<td>.019215</td>
<td>-.067796</td>
<td>-3.425</td>
<td>.0006</td>
</tr>
<tr>
<td>Teacher’s Gender</td>
<td>.122143</td>
<td>.047382</td>
<td>.051279</td>
<td>2.578</td>
<td>.0100</td>
</tr>
<tr>
<td>(Constant)</td>
<td>2.876827</td>
<td>.134301</td>
<td>21.421</td>
<td>.0000</td>
<td></td>
</tr>
</tbody>
</table>
### Table 74

**Analysis of Means: Dependent Variable Relevancy (Student Raters)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relevance</td>
<td>3.960</td>
<td>1.149</td>
</tr>
<tr>
<td>Respondent's Gender</td>
<td>.551</td>
<td>.506</td>
</tr>
<tr>
<td>Grade Received</td>
<td>4.244</td>
<td>.873</td>
</tr>
<tr>
<td>Grade Level</td>
<td>10.376</td>
<td>1.103</td>
</tr>
<tr>
<td>Teacher's Age</td>
<td>3.252</td>
<td>1.197</td>
</tr>
<tr>
<td>Teacher's Gender</td>
<td>.608</td>
<td>.488</td>
</tr>
<tr>
<td>Total Years Teaching</td>
<td>3.512</td>
<td>1.619</td>
</tr>
</tbody>
</table>

*Note. N of Cases = 2,464.*

### Table 75

**Correlation Matrix with Two-Tailed Significance: Relevancy (Student Raters)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Total Yrs.</th>
<th>Relevancy</th>
<th>R.Gender</th>
<th>Grade Rec</th>
<th>Level</th>
<th>Teach. Age</th>
<th>Teach. Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relevancy</td>
<td>1.000</td>
<td>.042</td>
<td>.217</td>
<td>-.068</td>
<td>.004</td>
<td>.018</td>
<td>.015</td>
</tr>
<tr>
<td>Respondent Gender</td>
<td>.042</td>
<td>1.000</td>
<td>.091</td>
<td>-.060</td>
<td>.024</td>
<td>.061</td>
<td>.008</td>
</tr>
<tr>
<td>Grade Received</td>
<td>.018</td>
<td>.001</td>
<td>1.000</td>
<td>-.007</td>
<td>.054</td>
<td>-.113</td>
<td>.029</td>
</tr>
<tr>
<td>Grade Level</td>
<td>-.068</td>
<td>-.060</td>
<td>-.007</td>
<td>1.000</td>
<td>-.025</td>
<td>-.076</td>
<td>.033</td>
</tr>
<tr>
<td>Teacher's Age</td>
<td>.000</td>
<td>.001</td>
<td>.366</td>
<td>.107</td>
<td>.000</td>
<td>.052</td>
<td>.859</td>
</tr>
<tr>
<td>Teacher's Gender</td>
<td>.004</td>
<td>.024</td>
<td>.054</td>
<td>-.025</td>
<td>1.000</td>
<td>-.026</td>
<td>.859</td>
</tr>
<tr>
<td>Total Years Teaching</td>
<td>.423</td>
<td>.117</td>
<td>.004</td>
<td>.107</td>
<td>.096</td>
<td>.000</td>
<td>.000</td>
</tr>
</tbody>
</table>

### Table 76

**Stepwise Regression: Relevancy (Student Raters)**

<table>
<thead>
<tr>
<th>Variable(s) Entered on Step Number 1</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple R</td>
<td>.21739</td>
</tr>
<tr>
<td>R Square</td>
<td>.04726</td>
</tr>
<tr>
<td>Variable(s) Entered on Step Number 2</td>
<td>Grade Level</td>
</tr>
<tr>
<td>Multiple R</td>
<td>.22728</td>
</tr>
<tr>
<td>R Square</td>
<td>.05165</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>Beta</th>
<th>T</th>
<th>Significant T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade</td>
<td>.285350</td>
<td>.025841</td>
<td>.216928</td>
<td>11.050</td>
<td>.0000</td>
</tr>
<tr>
<td>Grade Level</td>
<td>-.069045</td>
<td>.020438</td>
<td>-.066319</td>
<td>-3.378</td>
<td>.0007</td>
</tr>
<tr>
<td>(Constant)</td>
<td>3.446779</td>
<td>.240469</td>
<td></td>
<td>14.408</td>
<td>.0000</td>
</tr>
</tbody>
</table>
Table 77

Analysis of Means: Dependent Variable Respect (Student Raters)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respect</td>
<td>4.237</td>
<td>1.036</td>
</tr>
<tr>
<td>Respondent's Gender</td>
<td>.551</td>
<td>.506</td>
</tr>
<tr>
<td>Grade Received</td>
<td>4.244</td>
<td>.873</td>
</tr>
<tr>
<td>Grade Level</td>
<td>10.376</td>
<td>1.103</td>
</tr>
<tr>
<td>Teacher's Age</td>
<td>3.251</td>
<td>1.198</td>
</tr>
<tr>
<td>Teacher's Gender</td>
<td>.609</td>
<td>.488</td>
</tr>
<tr>
<td>Total Years Teaching</td>
<td>3.511</td>
<td>1.620</td>
</tr>
</tbody>
</table>

Note. N of Cases = 2,463.

Table 78 Correlation Matrix with Two-Tailed Significance: Respect (Student Raters)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Respect</th>
<th>R. Gender</th>
<th>Grade Rec</th>
<th>Level</th>
<th>Teach. Age</th>
<th>Teach. Gender</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respect</td>
<td>1.000</td>
<td>.060</td>
<td>.182</td>
<td>-.054</td>
<td>-.020</td>
<td>.049</td>
<td>-.044</td>
</tr>
<tr>
<td>Respondent Gender</td>
<td>.060</td>
<td>1.000</td>
<td>.092</td>
<td>-.061</td>
<td>.022</td>
<td>.062</td>
<td>.007</td>
</tr>
<tr>
<td>Grade Received</td>
<td>.182</td>
<td>.092</td>
<td>1.000</td>
<td>-.007</td>
<td>.053</td>
<td>-.112</td>
<td>.028</td>
</tr>
<tr>
<td>Grade Level</td>
<td>-.054</td>
<td>-.061</td>
<td>-.007</td>
<td>1.000</td>
<td>-.027</td>
<td>-.075</td>
<td>.031</td>
</tr>
<tr>
<td>Teacher's Age</td>
<td>-.020</td>
<td>.022</td>
<td>.053</td>
<td>-.027</td>
<td>1.000</td>
<td>-.026</td>
<td>.859</td>
</tr>
<tr>
<td>Teacher's Gender</td>
<td>.160</td>
<td>.134</td>
<td>.004</td>
<td>.091</td>
<td>.100</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>Total Years Teaching</td>
<td>-.044</td>
<td>.007</td>
<td>.028</td>
<td>.031</td>
<td>.859</td>
<td>-.150</td>
<td>1.000</td>
</tr>
</tbody>
</table>

Table 79

Stepwise Regression: Respect (Student Raters)

<table>
<thead>
<tr>
<th>Variable(s) Entered on Step Number 1</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple R</td>
<td>.18156</td>
</tr>
<tr>
<td>R Square</td>
<td>.03296</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable(s) Entered on Step Number 2</th>
<th>Teacher's Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple R</td>
<td>.19459</td>
</tr>
<tr>
<td>R Square</td>
<td>.03786</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable(s) Entered on Step Number 3</th>
<th>Grade Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple R</td>
<td>.20031</td>
</tr>
<tr>
<td>R Square</td>
<td>.04012</td>
</tr>
</tbody>
</table>

Variables in the Equation

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>Beta</th>
<th>T</th>
<th>Significant T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade Received</td>
<td>.224059</td>
<td>.023608</td>
<td>.188727</td>
<td>9.491</td>
<td>.0000</td>
</tr>
<tr>
<td>Grade Level</td>
<td>-.044769</td>
<td>.018617</td>
<td>-.047652</td>
<td>-.2405</td>
<td>.0163</td>
</tr>
<tr>
<td>Teacher Gender</td>
<td>.141768</td>
<td>.042321</td>
<td>.066800</td>
<td>3.350</td>
<td>.0008</td>
</tr>
<tr>
<td>(Constant)</td>
<td>3.664737</td>
<td>.224432</td>
<td></td>
<td>16.329</td>
<td>.0000</td>
</tr>
</tbody>
</table>
Table 80

Analysis of Means: Dependent Variable Overall (Student Ratings)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>4.103</td>
<td>1.110</td>
</tr>
<tr>
<td>Respondent Gender</td>
<td>5.52</td>
<td>.506</td>
</tr>
<tr>
<td>Grade Received</td>
<td>4.244</td>
<td>.873</td>
</tr>
<tr>
<td>Grade Level</td>
<td>10.375</td>
<td>1.103</td>
</tr>
<tr>
<td>Teacher's Age</td>
<td>3.251</td>
<td>1.198</td>
</tr>
<tr>
<td>Teacher's Gender</td>
<td>.608</td>
<td>.488</td>
</tr>
<tr>
<td>Total Years Teaching</td>
<td>3.511</td>
<td>1.620</td>
</tr>
</tbody>
</table>

Note. N of Cases = 2,464.

Table 81

Correlation Matrix with Two-Tailed Significance: Overall (Student Ratings)

<table>
<thead>
<tr>
<th>Variable Yrs.</th>
<th>Overall</th>
<th>R. Gender</th>
<th>Grade Rec</th>
<th>Level</th>
<th>Teach. Age</th>
<th>Teach. Gender</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>1.000</td>
<td>.049</td>
<td>.194</td>
<td>-.077</td>
<td>-.007</td>
<td>.061</td>
<td>-.057</td>
</tr>
<tr>
<td>Respondent Gender</td>
<td>.049</td>
<td>.008</td>
<td>.000</td>
<td>.000</td>
<td>.371</td>
<td>.001</td>
<td>.002</td>
</tr>
<tr>
<td>Grade Received</td>
<td>.194</td>
<td>.092</td>
<td>1.000</td>
<td>-.007</td>
<td>.053</td>
<td>-.113</td>
<td>.028</td>
</tr>
<tr>
<td>Grade Level</td>
<td>.000</td>
<td>.000</td>
<td>.360</td>
<td>-.026</td>
<td>.004</td>
<td>.000</td>
<td>.080</td>
</tr>
<tr>
<td>Teacher's Age</td>
<td>-.007</td>
<td>.024</td>
<td>.053</td>
<td>-.026</td>
<td>1.000</td>
<td>-.027</td>
<td>.859</td>
</tr>
<tr>
<td>Teacher's Gender</td>
<td>.371</td>
<td>.121</td>
<td>.004</td>
<td>.100</td>
<td>.090</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>Total Years Teaching</td>
<td>.061</td>
<td>.061</td>
<td>-.113</td>
<td>-.077</td>
<td>-.027</td>
<td>1.000</td>
<td>-.151</td>
</tr>
<tr>
<td>Overall</td>
<td>.001</td>
<td>.001</td>
<td>.000</td>
<td>.000</td>
<td>.090</td>
<td>.090</td>
<td>.000</td>
</tr>
<tr>
<td>Respondent Gender</td>
<td>.057</td>
<td>.008</td>
<td>.028</td>
<td>.032</td>
<td>.859</td>
<td>-.151</td>
<td>1.000</td>
</tr>
<tr>
<td>Grade Received</td>
<td>.002</td>
<td>.346</td>
<td>.080</td>
<td>.055</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
</tbody>
</table>
Table 82

Stepwise Regression: Overall (Student Raters)

<table>
<thead>
<tr>
<th>Variable(s) Entered on Step</th>
<th>Number 1</th>
<th>Number 2</th>
<th>Number 3</th>
<th>Number 4</th>
<th>Number 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade</td>
<td>.19423</td>
<td>.21118</td>
<td>.04460</td>
<td>.22218</td>
<td>.22758</td>
</tr>
<tr>
<td>R Square</td>
<td>.03772</td>
<td>.04937</td>
<td>.045179</td>
<td>.05485</td>
<td>.05445</td>
</tr>
</tbody>
</table>

Variables in the Equation

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>Beta</th>
<th>T</th>
<th>Significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade Received</td>
<td>.253116</td>
<td>.025191</td>
<td>.198994</td>
<td>10.048</td>
<td>.0000</td>
</tr>
<tr>
<td>Grade Level</td>
<td>-.063914</td>
<td>.019887</td>
<td>-.063507</td>
<td>-3.214</td>
<td>.0013</td>
</tr>
<tr>
<td>Teacher's Age</td>
<td>.096087</td>
<td>.036552</td>
<td>.03713</td>
<td>2.629</td>
<td>.0086</td>
</tr>
<tr>
<td>Teacher's Gender</td>
<td>.135471</td>
<td>.046492</td>
<td>.059389</td>
<td>2.914</td>
<td>.0036</td>
</tr>
<tr>
<td>Total Years Teaching</td>
<td>-.096361</td>
<td>.027298</td>
<td>-.140643</td>
<td>-3.530</td>
<td>.0004</td>
</tr>
<tr>
<td>(Constant)</td>
<td>3.638909</td>
<td>.246338</td>
<td>14.747</td>
<td></td>
<td>.0000</td>
</tr>
</tbody>
</table>

Variables not in the Equation

<table>
<thead>
<tr>
<th>Variable</th>
<th>Beta In</th>
<th>Partial</th>
<th>Min Toler</th>
<th>T</th>
<th>Significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respondent Gender</td>
<td>.022191</td>
<td>.022628</td>
<td>.242325</td>
<td>1.122</td>
<td>.2620</td>
</tr>
</tbody>
</table>

Table 83

Analysis of Means: Dependent Variable Class Control (Principal Raters)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class Control</td>
<td>4.470</td>
<td>.634</td>
</tr>
<tr>
<td>Like Teacher</td>
<td>4.769</td>
<td>.519</td>
</tr>
<tr>
<td>Student Learning</td>
<td>4.683</td>
<td>.469</td>
</tr>
<tr>
<td>Teacher's Age</td>
<td>3.187</td>
<td>1.196</td>
</tr>
<tr>
<td>Teacher's Gender</td>
<td>.382</td>
<td>.495</td>
</tr>
<tr>
<td>Total Years Teaching</td>
<td>3.343</td>
<td>1.632</td>
</tr>
</tbody>
</table>

Note. N of Cases = 134.
Table 84

Correlation Matrix One-Tailed Significance: Class Control (Principal Raters)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Control</th>
<th>Like Teacher</th>
<th>St. Learning</th>
<th>Teach. Age</th>
<th>Teach. Gender</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>1.000</td>
<td>.219</td>
<td>.442</td>
<td>.092</td>
<td>-.333</td>
<td>.221</td>
</tr>
<tr>
<td>Like Teacher</td>
<td>.219</td>
<td>1.000</td>
<td>-.072</td>
<td>-.027</td>
<td>.060</td>
<td>-.048</td>
</tr>
<tr>
<td>Student Learning</td>
<td>.442</td>
<td>-.072</td>
<td>1.000</td>
<td>-.162</td>
<td>.040</td>
<td>-.068</td>
</tr>
<tr>
<td>Teacher's Age</td>
<td>.092</td>
<td>-.027</td>
<td>-.162</td>
<td>1.000</td>
<td>-.096</td>
<td>.818</td>
</tr>
<tr>
<td>Teacher's Gender</td>
<td>-.232</td>
<td>.060</td>
<td>.040</td>
<td>-.096</td>
<td>1.000</td>
<td>-.258</td>
</tr>
<tr>
<td>Total Years Teaching</td>
<td>.221</td>
<td>-.048</td>
<td>-.068</td>
<td>.818</td>
<td>-.358</td>
<td>1.000</td>
</tr>
<tr>
<td></td>
<td>.005</td>
<td>.293</td>
<td>.218</td>
<td>.000</td>
<td>.001</td>
<td></td>
</tr>
</tbody>
</table>

Table 85

Stepwise Regression: Dependent Variable Class Control (Principal Raters)

<table>
<thead>
<tr>
<th>Variable(s) Entered</th>
<th>R Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step Number 1</td>
<td>.19559</td>
</tr>
<tr>
<td>Step Number 2</td>
<td>.50875</td>
</tr>
<tr>
<td>Step Number 3</td>
<td>.32908</td>
</tr>
<tr>
<td>Step Number 4</td>
<td>.60937</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>Beta</th>
<th>T</th>
<th>Sig T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Like Teacher</td>
<td>.337742</td>
<td>.085664</td>
<td>.276698</td>
<td>3.943</td>
<td>.0001</td>
</tr>
<tr>
<td>Student Learning</td>
<td>.655104</td>
<td>.094798</td>
<td>.485102</td>
<td>6.911</td>
<td>.0000</td>
</tr>
<tr>
<td>Teacher's Gender</td>
<td>-.272696</td>
<td>.092625</td>
<td>-.213096</td>
<td>-2.944</td>
<td>.0038</td>
</tr>
<tr>
<td>Total Years Teaching</td>
<td>.082235</td>
<td>.028124</td>
<td>.211885</td>
<td>2.925</td>
<td>.0041</td>
</tr>
<tr>
<td>(Constant)</td>
<td>-.324435</td>
<td>.642342</td>
<td>-.505</td>
<td>-3.505</td>
<td>.6144</td>
</tr>
</tbody>
</table>

Table 86

Analysis of Means: Dependent Variable Communication (Principal Raters)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication</td>
<td>4.769</td>
<td>.436</td>
</tr>
<tr>
<td>Like Teacher</td>
<td>4.769</td>
<td>.519</td>
</tr>
<tr>
<td>Student Learning</td>
<td>4.683</td>
<td>.469</td>
</tr>
<tr>
<td>Teacher's Age</td>
<td>3.187</td>
<td>1.196</td>
</tr>
<tr>
<td>Teacher's Gender</td>
<td>.582</td>
<td>.495</td>
</tr>
<tr>
<td>Total Years Teaching</td>
<td>3.343</td>
<td>1.632</td>
</tr>
</tbody>
</table>

Note. N of Cases = 134.
### Table 87

**Correlation Matrix One-Tailed Significance: Communication (Principal Raters)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Communication</th>
<th>Like Teacher</th>
<th>St. Learning</th>
<th>Teach. Age</th>
<th>Teach. Gender</th>
<th>Total Yr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication</td>
<td>1.000</td>
<td>-0.072</td>
<td>0.621</td>
<td>-0.082</td>
<td>0.071</td>
<td>0.030</td>
</tr>
<tr>
<td>Like Teacher</td>
<td>-0.072</td>
<td>1.000</td>
<td>-0.072</td>
<td>-0.027</td>
<td>0.060</td>
<td>-0.048</td>
</tr>
<tr>
<td>Student Learning</td>
<td>0.204</td>
<td>0.204</td>
<td>1.000</td>
<td>-0.162</td>
<td>0.040</td>
<td>0.068</td>
</tr>
<tr>
<td>Teacher's Age</td>
<td>-0.082</td>
<td>-0.027</td>
<td>-0.162</td>
<td>1.000</td>
<td>-0.096</td>
<td>0.218</td>
</tr>
<tr>
<td>Teacher's Gender</td>
<td>0.172</td>
<td>0.379</td>
<td>0.031</td>
<td>0.713</td>
<td>1.000</td>
<td>0.000</td>
</tr>
<tr>
<td>Total Years Teaching</td>
<td>-0.030</td>
<td>-0.048</td>
<td>-0.068</td>
<td>0.818</td>
<td>-0.258</td>
<td>1.000</td>
</tr>
</tbody>
</table>

### Table 88

**Stepwise Regression: Dependent Variable Communication (Principal Raters)**

<table>
<thead>
<tr>
<th>Variable(s) Entered on Step Number 1</th>
<th>Student Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple R</td>
<td>0.62134</td>
</tr>
<tr>
<td>R Square</td>
<td>0.38606</td>
</tr>
</tbody>
</table>

### Table 89

**Analysis of Means: Dependent Variable Concern (Principal Raters)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concern</td>
<td>4.694</td>
<td>.498</td>
</tr>
<tr>
<td>Like Teacher</td>
<td>4.769</td>
<td>.519</td>
</tr>
<tr>
<td>Student Learning</td>
<td>4.683</td>
<td>.469</td>
</tr>
<tr>
<td>Teacher's Age</td>
<td>3.187</td>
<td>1.196</td>
</tr>
<tr>
<td>Teacher's Gender</td>
<td>3.582</td>
<td>.495</td>
</tr>
<tr>
<td>Total Years Teaching</td>
<td>3.343</td>
<td>1.632</td>
</tr>
</tbody>
</table>

*Note. N of Cases = 134.*
Table 90

**Correlation Matrix One-Tailed Significance: Concern (Principal Raters)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Concern</th>
<th>Like Teacher</th>
<th>St. Learning</th>
<th>Teach. Age</th>
<th>Teach. Gender</th>
<th>Total Yr.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concern</td>
<td>1.000</td>
<td>.277</td>
<td>.507</td>
<td>-.131</td>
<td>.225</td>
<td>-.184</td>
</tr>
<tr>
<td>Like Teacher</td>
<td>.277</td>
<td>1.000</td>
<td>.000</td>
<td>-.027</td>
<td>.066</td>
<td>.005</td>
</tr>
<tr>
<td>St. Learning</td>
<td>.001</td>
<td>.204</td>
<td>1.000</td>
<td>.379</td>
<td>.346</td>
<td>.293</td>
</tr>
<tr>
<td>Teach. Age</td>
<td>-.131</td>
<td>-.027</td>
<td>-.162</td>
<td>1.000</td>
<td>-.096</td>
<td>.818</td>
</tr>
<tr>
<td>Teach. Gender</td>
<td>.066</td>
<td>.031</td>
<td>.031</td>
<td>.135</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>Total Years Teaching</td>
<td>-.184</td>
<td>-.048</td>
<td>-.068</td>
<td>.818</td>
<td>-.258</td>
<td>1.000</td>
</tr>
</tbody>
</table>

Table 91

**Stepwise Regression: Dependent Variable Concern (Principal Raters)**

<table>
<thead>
<tr>
<th>Variable(s) Entered on Step Number 1.</th>
<th>Student Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple R</td>
<td>.50699</td>
</tr>
<tr>
<td>R Square</td>
<td>.25704</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable(s) Entered on Step Number 2.</th>
<th>Like Teacher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple R</td>
<td>.59647</td>
</tr>
<tr>
<td>R Square</td>
<td>.35578</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable(s) Entered on Step Number 3.</th>
<th>Teacher's Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple R</td>
<td>.62455</td>
</tr>
<tr>
<td>R Square</td>
<td>.39006</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variables in the Equation</th>
<th>B</th>
<th>SE B</th>
<th>Beta</th>
<th>T</th>
<th>Sig T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Like Teacher</td>
<td>.290926</td>
<td>.065995</td>
<td>.303342</td>
<td>4.408</td>
<td>.0000</td>
</tr>
<tr>
<td>Student Learning</td>
<td>.553235</td>
<td>.072942</td>
<td>.521390</td>
<td>7.585</td>
<td>.0000</td>
</tr>
<tr>
<td>Teacher's Gender</td>
<td>.186687</td>
<td>.069065</td>
<td>.185670</td>
<td>2.703</td>
<td>.0078</td>
</tr>
<tr>
<td>(Constant)</td>
<td>.607331</td>
<td>.481360</td>
<td></td>
<td>1.262</td>
<td>.2093</td>
</tr>
</tbody>
</table>

Table 92

**Analysis of Means: Dependent Variable Encouragement (Principal Raters)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Encouragement</td>
<td>4.780</td>
<td></td>
</tr>
<tr>
<td>Like Teacher</td>
<td>4.769</td>
<td></td>
</tr>
<tr>
<td>Student Learning</td>
<td>4.683</td>
<td>.469</td>
</tr>
<tr>
<td>Teacher's Age</td>
<td>3.187</td>
<td>1.196</td>
</tr>
<tr>
<td>Teacher's Gender</td>
<td>3.82</td>
<td>.495</td>
</tr>
<tr>
<td>Total Years Teaching</td>
<td>3.343</td>
<td>1.632</td>
</tr>
</tbody>
</table>

Note. N of Cases = 134.
Table 93

| Correlation Matrix One-Tailed Significance: Encouragement (Principal Raters) |
|-----------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Variable                  | Encouragement      | Like Teacher        | St. Learning        | Teach. Age          | Teach. Gender       |
| Yr.                       | 1.000              | .107                | .563                | -.124              | .129                |
|                           | .110               | 1.000               | -.072               | -.027              | .068                |
|                           | .110               | .204                | .379                | .846               | .293                |
| Student Learning          | .563               | -.072               | 1.000               | -.162              | .040                |
|                           | .000               | .031                | .031                | .000               | .000                |
| Teacher’s Age             | -.124              | -.027               | -.162               | 1.000              | -.096               |
|                           | .077               | .031                | .323                | .135               | .000                |
| Teacher’s Gender          | .129               | .060                | .040                | -.096              | 1.000               |
|                           | .068               | .246                | .323                | .323               | .000                |
| Total Years Teaching      | -.116              | -.048               | -.068               | .818               | -.258               |
|                           | .091               | .393                | .218                | .000               | .001                |

Table 94

<table>
<thead>
<tr>
<th>Stepwise Regression: Encouragement (Principal Raters)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable(s) Entered on Step Number 1.. Student Learning</td>
</tr>
<tr>
<td>Multiple R</td>
</tr>
<tr>
<td>R Square</td>
</tr>
<tr>
<td>Variable(s) Entered on Step Number 2.. Like Teacher</td>
</tr>
<tr>
<td>Multiple R</td>
</tr>
<tr>
<td>R Square</td>
</tr>
</tbody>
</table>

Variables in the Equation

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>Beta</th>
<th>T</th>
<th>Sig T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Like Teacher</td>
<td>.122941</td>
<td>.059233</td>
<td>.147902</td>
<td>2.076</td>
<td>.0399</td>
</tr>
<tr>
<td>Student Learning</td>
<td>.527164</td>
<td>.065533</td>
<td>.573224</td>
<td>8.044</td>
<td>.0000</td>
</tr>
<tr>
<td>(Constant)</td>
<td>1.724966</td>
<td>.432873</td>
<td>.573224</td>
<td>3.985</td>
<td>.0001</td>
</tr>
</tbody>
</table>

Table 95

<table>
<thead>
<tr>
<th>Analysis of Means: Dependent Variable Enthusiasm (Principal Raters)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable</td>
</tr>
<tr>
<td>------------------------</td>
</tr>
<tr>
<td>Enthusiasm</td>
</tr>
<tr>
<td>Like Teacher</td>
</tr>
<tr>
<td>Student Learning</td>
</tr>
<tr>
<td>Teacher’s Age</td>
</tr>
<tr>
<td>Teacher’s Gender</td>
</tr>
<tr>
<td>Total Years Teaching</td>
</tr>
</tbody>
</table>

Note. N of Cases = 134.
### Table 96

**Correlation Matrix One-Tailed Significance: Enthusiasm (Principal Raters)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Enthusiasm</th>
<th>Like Teacher</th>
<th>Student Learning</th>
<th>Teach. Age</th>
<th>Teach. Gender</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enthusiasm</td>
<td>1.000</td>
<td>.166</td>
<td>.659</td>
<td>-.168</td>
<td>.178</td>
<td>-.094</td>
</tr>
<tr>
<td>Like Teacher</td>
<td>.166</td>
<td>1.000</td>
<td>-.072</td>
<td>-.027</td>
<td>.060</td>
<td>-.048</td>
</tr>
<tr>
<td>Student Learning</td>
<td>.659</td>
<td>-.072</td>
<td>1.000</td>
<td>-.162</td>
<td>.040</td>
<td>-.068</td>
</tr>
<tr>
<td>Teacher’s Age</td>
<td>-.168</td>
<td>-.027</td>
<td>-.162</td>
<td>1.000</td>
<td>-.096</td>
<td>.818</td>
</tr>
<tr>
<td>Teacher’s Gender</td>
<td>.178</td>
<td>.060</td>
<td>.040</td>
<td>-.096</td>
<td>1.000</td>
<td>-.258</td>
</tr>
<tr>
<td>Total Years Teaching</td>
<td>-.094</td>
<td>-.048</td>
<td>-.068</td>
<td>.818</td>
<td>-.258</td>
<td>1.000</td>
</tr>
</tbody>
</table>

### Table 97

**Stepwise Regression: Dependent Variable Enthusiasm (Principal Raters)**

<table>
<thead>
<tr>
<th>Variable(s) Entered on Step Number 1.</th>
<th>Student Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple R</td>
<td>.65894</td>
</tr>
<tr>
<td>R Square</td>
<td>.43420</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable(s) Entered on Step Number 2.</th>
<th>Like Teacher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple R</td>
<td>.69297</td>
</tr>
<tr>
<td>R Square</td>
<td>.48021</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable(s) Entered on Step Number 3.</th>
<th>Teacher's Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple R</td>
<td>.70675</td>
</tr>
<tr>
<td>R Square</td>
<td>.49950</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>Beta</th>
<th>T</th>
<th>Sig T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Like Teacher</td>
<td>.202714</td>
<td>.061261</td>
<td>.206262</td>
<td>3.309</td>
<td>.0012</td>
</tr>
<tr>
<td>Student Learning</td>
<td>.726567</td>
<td>.067710</td>
<td>.668210</td>
<td>10.731</td>
<td>.0000</td>
</tr>
<tr>
<td>Teacher’s Gender</td>
<td>.143509</td>
<td>.064111</td>
<td>.139280</td>
<td>2.238</td>
<td>.0269</td>
</tr>
<tr>
<td>(Constant)</td>
<td>.252623</td>
<td>.446833</td>
<td>.565</td>
<td>.565</td>
<td>.5728</td>
</tr>
</tbody>
</table>

### Table 98

**Analysis of Means: Dependent Variable Fairness (Principal Raters)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fairness</td>
<td>4.724</td>
<td>.508</td>
</tr>
<tr>
<td>Like Teacher</td>
<td>4.769</td>
<td>.519</td>
</tr>
<tr>
<td>Student Learning</td>
<td>4.683</td>
<td>.469</td>
</tr>
<tr>
<td>Teacher Age</td>
<td>3.187</td>
<td>1.196</td>
</tr>
<tr>
<td>Teacher’s Gender</td>
<td>.582</td>
<td>.495</td>
</tr>
<tr>
<td>Total Years Teaching</td>
<td>3.343</td>
<td>1.632</td>
</tr>
</tbody>
</table>

*Note: N of Cases = 134.*
Table 99

Correlation Matrix One-Tailed Significance: Fairness (Principal Raters)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Fairness</th>
<th>Like Teacher</th>
<th>St. Learning</th>
<th>Teach. Age</th>
<th>Teach. Gender</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yr.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fairness</td>
<td>1.000</td>
<td>.041</td>
<td>.790</td>
<td>-.187</td>
<td>.091</td>
<td>-.112</td>
</tr>
<tr>
<td>Like Teacher</td>
<td>.041</td>
<td>1.000</td>
<td>-.072</td>
<td>.015</td>
<td>.148</td>
<td>.100</td>
</tr>
<tr>
<td></td>
<td>.319</td>
<td>.000</td>
<td>.204</td>
<td>.379</td>
<td>.346</td>
<td>.293</td>
</tr>
<tr>
<td>Student Learning</td>
<td>.790</td>
<td>-.072</td>
<td>1.000</td>
<td>-.162</td>
<td>.040</td>
<td>-.068</td>
</tr>
<tr>
<td>Teacher’s Age</td>
<td>-.187</td>
<td>-.027</td>
<td>-.162</td>
<td>1.000</td>
<td>-.096</td>
<td>.818</td>
</tr>
<tr>
<td>Teacher’s Gender</td>
<td>.015</td>
<td>.379</td>
<td>.031</td>
<td>.096</td>
<td>.135</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>.091</td>
<td>.060</td>
<td>.040</td>
<td>1.000</td>
<td>-.258</td>
<td>.001</td>
</tr>
<tr>
<td>Total Years Teaching</td>
<td>-.112</td>
<td>-.048</td>
<td>-.068</td>
<td>.818</td>
<td>-.258</td>
<td>1.000</td>
</tr>
</tbody>
</table>

Table 100

Stepwise Regression: Dependent Variable Fairness (Principal Raters)

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>Beta</th>
<th>T</th>
<th>Sig T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Learning</td>
<td>.854612</td>
<td>.057794</td>
<td>.789661</td>
<td>14.787</td>
<td>.0000</td>
</tr>
<tr>
<td>(Constant)</td>
<td>.721875</td>
<td>.271986</td>
<td></td>
<td>2.654</td>
<td>.0089</td>
</tr>
</tbody>
</table>

Table 101

Analysis of Means: Dependent Variable Feedback (Principal Raters)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feedback</td>
<td>4.627</td>
<td>.547</td>
</tr>
<tr>
<td>Like Teacher</td>
<td>4.769</td>
<td>.519</td>
</tr>
<tr>
<td>Student Learning</td>
<td>4.683</td>
<td>.469</td>
</tr>
<tr>
<td>Teacher’s Age</td>
<td>3.187</td>
<td>1.196</td>
</tr>
<tr>
<td>Teacher’s Gender</td>
<td>.582</td>
<td>.495</td>
</tr>
<tr>
<td>Total Years Teaching</td>
<td>3.343</td>
<td>1.632</td>
</tr>
</tbody>
</table>

Note: N of Cases = 134.
Table 102

Correlation Matrix One-Tailed Significance: Feedback (Principal Raters)

<table>
<thead>
<tr>
<th>Variable Yr.</th>
<th>Feedback</th>
<th>Like Teacher</th>
<th>St. Learning</th>
<th>Teach. Age</th>
<th>Teach. Gender</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feedback</td>
<td>1.000</td>
<td>.131</td>
<td>.670</td>
<td>-.197</td>
<td>.017</td>
<td>-.125</td>
</tr>
<tr>
<td>Like Teacher</td>
<td>.041</td>
<td>1.000</td>
<td>-.072</td>
<td>-.027</td>
<td>.060</td>
<td>-.048</td>
</tr>
<tr>
<td></td>
<td>.319</td>
<td>.066</td>
<td>.000</td>
<td>.011</td>
<td>.424</td>
<td>.075</td>
</tr>
<tr>
<td>Student Learning</td>
<td>.790</td>
<td>-.072</td>
<td>1.000</td>
<td>-.162</td>
<td>.040</td>
<td>-.068</td>
</tr>
<tr>
<td>Teacher's Age</td>
<td>-.187</td>
<td>-.027</td>
<td>-.162</td>
<td>1.000</td>
<td>-.096</td>
<td>.818</td>
</tr>
<tr>
<td>Teacher's Gender</td>
<td>.015</td>
<td>.379</td>
<td>.031</td>
<td>.135</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>Total Years Teaching</td>
<td>-.112</td>
<td>-.048</td>
<td>-.068</td>
<td>.818</td>
<td>-.258</td>
<td>1.000</td>
</tr>
</tbody>
</table>

Table 103

Stepwise Regression: Dependent Variable Feedback (Principal Raters)

<table>
<thead>
<tr>
<th>Variable(s) Entered on Step Number 1.</th>
<th>Student Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple R</td>
<td>.67033</td>
</tr>
<tr>
<td>R Square</td>
<td>.44934</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable(s) Entered on Step Number 2.</th>
<th>Like Teacher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple R</td>
<td>.69389</td>
</tr>
<tr>
<td>R Square</td>
<td>.48149</td>
</tr>
</tbody>
</table>

Variables in the Equation

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>Beta</th>
<th>T</th>
<th>Sig T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Like Teacher</td>
<td>.189969</td>
<td>.066518</td>
<td>.179764</td>
<td>2.850</td>
<td>.0051</td>
</tr>
<tr>
<td>Student Learning</td>
<td>.797180</td>
<td>.073593</td>
<td>.683273</td>
<td>10.832</td>
<td>.0000</td>
</tr>
<tr>
<td>(Constant)</td>
<td>-.010186</td>
<td>.486110</td>
<td>-.021</td>
<td>.9833</td>
<td></td>
</tr>
</tbody>
</table>

Table 104

Analysis of Means: Dependent Variable Friendly (Principal Raters)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Friendly</td>
<td>4.623</td>
<td>.563</td>
</tr>
<tr>
<td>Like Teacher</td>
<td>4.769</td>
<td>.519</td>
</tr>
<tr>
<td>Student Learning</td>
<td>4.683</td>
<td>.469</td>
</tr>
<tr>
<td>Teacher's Age</td>
<td>3.187</td>
<td>1.196</td>
</tr>
<tr>
<td>Teacher's Gender</td>
<td>.582</td>
<td>.495</td>
</tr>
<tr>
<td>Total Years Teaching</td>
<td>3.343</td>
<td>1.632</td>
</tr>
</tbody>
</table>

Note. N of Cases = 134.
### Table 105

**Correlation Matrix One-Tailed Significance: Friendly (Principal Raters)**

<table>
<thead>
<tr>
<th>Yr.</th>
<th>Friendly</th>
<th>Like Teacher</th>
<th>St. Learning</th>
<th>Teach. Age</th>
<th>Teach. Gender</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Friendly</td>
<td>1.000</td>
<td>.561</td>
<td>.206</td>
<td>-.157</td>
<td>.145</td>
<td>-.194</td>
</tr>
<tr>
<td>Like Teacher</td>
<td>.041</td>
<td>1.000</td>
<td>-.072</td>
<td>-.027</td>
<td>.060</td>
<td>-.048</td>
</tr>
<tr>
<td>Student Learning</td>
<td>.319</td>
<td>.009</td>
<td>.204</td>
<td>.035</td>
<td>.047</td>
<td>.013</td>
</tr>
<tr>
<td>Teacher's Age</td>
<td>.790</td>
<td>-.072</td>
<td>1.000</td>
<td>-.162</td>
<td>.040</td>
<td>-.068</td>
</tr>
<tr>
<td>Teacher's Gender</td>
<td>.091</td>
<td>.000</td>
<td>.031</td>
<td>.031</td>
<td>.323</td>
<td>.218</td>
</tr>
<tr>
<td>Total Years Teaching</td>
<td>-.112</td>
<td>-.048</td>
<td>-.068</td>
<td>.818</td>
<td>-.258</td>
<td>1.000</td>
</tr>
</tbody>
</table>

### Table 106

**Stepwise Regression: Dependent Variable Friendly (Principal Raters)**

<table>
<thead>
<tr>
<th>Variable(s) Entered on Step Number 1..</th>
<th>Like Teacher</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple R</td>
<td>.56096</td>
</tr>
<tr>
<td>R Square</td>
<td>.31468</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable(s) Entered on Step Number 2..</th>
<th>Student Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple R</td>
<td>.61285</td>
</tr>
<tr>
<td>R Square</td>
<td>.37559</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable(s) Entered on Step Number 3..</th>
<th>Total Years Teaching</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple R</td>
<td>.63088</td>
</tr>
<tr>
<td>R Square</td>
<td>.39801</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>Beta</th>
<th>T</th>
<th>Sig T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Like Teacher</td>
<td>.619677</td>
<td>.074164</td>
<td>.570858</td>
<td>8.356</td>
<td>.0000</td>
</tr>
<tr>
<td>Student Learning</td>
<td>.284237</td>
<td>.082149</td>
<td>.236671</td>
<td>3.460</td>
<td>.0007</td>
</tr>
<tr>
<td>Total Years Teaching</td>
<td>-.051889</td>
<td>.023580</td>
<td>-.150299</td>
<td>-2.201</td>
<td>.0295</td>
</tr>
<tr>
<td>(Constant)</td>
<td>.510553</td>
<td>.555481</td>
<td>.919</td>
<td>.3597</td>
<td></td>
</tr>
</tbody>
</table>

### Table 107

**Analysis of Means: Dependent Variable Organized (Principal Raters)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organized</td>
<td>4.675</td>
<td>.510</td>
</tr>
<tr>
<td>Like Teacher</td>
<td>4.769</td>
<td>.519</td>
</tr>
<tr>
<td>Student Learning</td>
<td>4.683</td>
<td>.469</td>
</tr>
<tr>
<td>Teacher's Age</td>
<td>3.187</td>
<td>1.196</td>
</tr>
<tr>
<td>Teacher's Gender</td>
<td>.582</td>
<td>.495</td>
</tr>
<tr>
<td>Total Years Teaching</td>
<td>3.343</td>
<td>1.632</td>
</tr>
</tbody>
</table>

*Note: N of Cases = 134.*
### Table 108

**Correlation Matrix One-Tailed Significance: Organized (Principal Raters)**

<table>
<thead>
<tr>
<th>Variable Yr.</th>
<th>Organized</th>
<th>Like Teacher</th>
<th>St. Learning</th>
<th>Teach. Age</th>
<th>Teach. Gender</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organized</td>
<td>1.000</td>
<td>.027</td>
<td>.682</td>
<td>-.103</td>
<td>.024</td>
<td>.008</td>
</tr>
<tr>
<td>Like Teacher</td>
<td>.041</td>
<td>1.000</td>
<td>-.072</td>
<td>-.027</td>
<td>.024</td>
<td>.462</td>
</tr>
<tr>
<td>Student Learning</td>
<td>.319</td>
<td>.204</td>
<td>1.000</td>
<td>-.162</td>
<td>.040</td>
<td>.068</td>
</tr>
<tr>
<td>Teacher's Age</td>
<td>-.187</td>
<td>-.027</td>
<td>-.162</td>
<td>1.000</td>
<td>-.096</td>
<td>.818</td>
</tr>
<tr>
<td>Teacher's Gender</td>
<td>.091</td>
<td>.060</td>
<td>.040</td>
<td>-.096</td>
<td>1.000</td>
<td>.258</td>
</tr>
<tr>
<td>Total Years Teaching</td>
<td>-.112</td>
<td>-.048</td>
<td>-.068</td>
<td>.818</td>
<td>-.258</td>
<td>1.000</td>
</tr>
</tbody>
</table>

### Table 109

**Stepwise Regression: Dependent Variable Organized (Principal Raters)**

<table>
<thead>
<tr>
<th>Variable(s) Entered on Step</th>
<th>Number 1: Student Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple R</td>
<td>.68170</td>
</tr>
<tr>
<td>R Square</td>
<td>.46472</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variables in the Equation</th>
<th>B</th>
<th>SE B</th>
<th>Beta</th>
<th>T</th>
<th>Sig T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Learning (Constant)</td>
<td>.741475</td>
<td>.069264</td>
<td>.681700</td>
<td>10.705</td>
<td>.0000</td>
</tr>
</tbody>
</table>

### Table 110

**Analysis of Means: Dependent Variable Presentation (Principal Raters)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Presentation</td>
<td>4.619</td>
<td>.563</td>
</tr>
<tr>
<td>Like Teacher</td>
<td>4.769</td>
<td>.519</td>
</tr>
<tr>
<td>Student Learning</td>
<td>4.683</td>
<td>.469</td>
</tr>
<tr>
<td>Teacher's Age</td>
<td>3.187</td>
<td>1.196</td>
</tr>
<tr>
<td>Teacher's Gender</td>
<td>5.82</td>
<td>.495</td>
</tr>
<tr>
<td>Total Years Teaching</td>
<td>3.343</td>
<td>1.632</td>
</tr>
</tbody>
</table>

**Note.** N of Cases = 134.
### Table 111

**Correlation Matrix One-Tailed Significance: Presentation (Principal Raters)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Presentation</th>
<th>Like Teacher</th>
<th>St. Learning</th>
<th>Teach. Age</th>
<th>Teach. Gender</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yr.</td>
<td>1.000</td>
<td>.044</td>
<td>.672</td>
<td>-.151</td>
<td>.032</td>
<td>-.025</td>
</tr>
<tr>
<td>Like Teacher</td>
<td>.041</td>
<td>1.000</td>
<td>-.072</td>
<td>-.027</td>
<td>.060</td>
<td>-.048</td>
</tr>
<tr>
<td>Student Learning</td>
<td>.319</td>
<td>.204</td>
<td>.379</td>
<td>.246</td>
<td>.293</td>
<td></td>
</tr>
<tr>
<td>Teacher’s Age</td>
<td>.790</td>
<td>-.072</td>
<td>1.000</td>
<td>-.162</td>
<td>.040</td>
<td>-.068</td>
</tr>
<tr>
<td>Teacher’s Gender</td>
<td>.000</td>
<td>.204</td>
<td>.031</td>
<td>.323</td>
<td>.218</td>
<td></td>
</tr>
<tr>
<td>Total Years Teaching</td>
<td>-.187</td>
<td>-.027</td>
<td>-.162</td>
<td>1.000</td>
<td>-.096</td>
<td>.818</td>
</tr>
<tr>
<td></td>
<td>.015</td>
<td>.379</td>
<td>.031</td>
<td>.135</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>.091</td>
<td>.060</td>
<td>.040</td>
<td>1.000</td>
<td>-.258</td>
<td></td>
</tr>
<tr>
<td></td>
<td>.148</td>
<td>.246</td>
<td>.323</td>
<td>.135</td>
<td>.001</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-.112</td>
<td>-.048</td>
<td>-.068</td>
<td>.818</td>
<td>-.258</td>
<td>.001</td>
</tr>
</tbody>
</table>

### Table 112

**Stepwise Regression: Dependent Variable Presentation (Principal Raters)**

- Variable(s) Entered on Step Number 1: Student Learning
- Multiple R: 0.67165
- R Square: 0.45111

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>Beta</th>
<th>T</th>
<th>Sig T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Learning</td>
<td>.805405</td>
<td>.077326</td>
<td>.671649</td>
<td>10.416</td>
<td>.0000</td>
</tr>
<tr>
<td>(Constant)</td>
<td>.847823</td>
<td>.363905</td>
<td></td>
<td>2.330</td>
<td>.0213</td>
</tr>
</tbody>
</table>

### Table 113

**Analysis of Means: Dependent Variable Relevancy (Principal Raters)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relevancy</td>
<td>4.701</td>
<td>.438</td>
</tr>
<tr>
<td>Like Teacher</td>
<td>4.769</td>
<td>.519</td>
</tr>
<tr>
<td>Student Learning</td>
<td>4.683</td>
<td>.469</td>
</tr>
<tr>
<td>Teacher’s Age</td>
<td>3.187</td>
<td>1.196</td>
</tr>
<tr>
<td>Teacher’s Gender</td>
<td>.582</td>
<td>.495</td>
</tr>
<tr>
<td>Total Years Teaching</td>
<td>3.343</td>
<td>1.632</td>
</tr>
</tbody>
</table>

*Note: N of Cases = 134.*
Table 114

<table>
<thead>
<tr>
<th>Variable</th>
<th>Relevancy</th>
<th>Like Teacher</th>
<th>St. Learning</th>
<th>Teach. Age</th>
<th>Teach. Gender</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relevancy</td>
<td>1.000</td>
<td>-.108</td>
<td>.807</td>
<td>-.151</td>
<td>.062</td>
<td>-.019</td>
</tr>
<tr>
<td>Like Teacher</td>
<td>.041</td>
<td>1.000</td>
<td>-.072</td>
<td>-.027</td>
<td>.060</td>
<td>-.048</td>
</tr>
<tr>
<td>Student Learning</td>
<td>.319</td>
<td>.108</td>
<td>.000</td>
<td>.041</td>
<td>.239</td>
<td>.416</td>
</tr>
<tr>
<td>Teacher’s Age</td>
<td>-.187</td>
<td>-.027</td>
<td>.162</td>
<td>1.000</td>
<td>-.096</td>
<td>.818</td>
</tr>
<tr>
<td>Teacher’s Gender</td>
<td>.015</td>
<td>.379</td>
<td>.031</td>
<td>.135</td>
<td>.000</td>
<td>.001</td>
</tr>
<tr>
<td>Total Years Teaching</td>
<td>.100</td>
<td>.293</td>
<td>.218</td>
<td>.000</td>
<td>.001</td>
<td>1.000</td>
</tr>
</tbody>
</table>

Table 115

Stepwise Regression: Dependent Variable Relevancy (Principal Raters)

<table>
<thead>
<tr>
<th>Variable(s) Entered on Step Number</th>
<th>1... Student Learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple R</td>
<td>.80664</td>
</tr>
<tr>
<td>R Square</td>
<td>.65067</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable in the Equation</th>
<th>B</th>
<th>SE B</th>
<th>Beta</th>
<th>T</th>
<th>Sig T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Learning</td>
<td>.753777</td>
<td>.048072</td>
<td>.806640</td>
<td>15.680</td>
<td>.0000</td>
</tr>
<tr>
<td>(Constant)</td>
<td>1.171681</td>
<td>.226233</td>
<td>.519</td>
<td>5.179</td>
<td>.0000</td>
</tr>
</tbody>
</table>

Table 116

Analysis of Means: Dependent Variable Respect (Principal Raters)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respect</td>
<td>4.690</td>
<td>.541</td>
</tr>
<tr>
<td>Like Teacher</td>
<td>4.769</td>
<td>.519</td>
</tr>
<tr>
<td>Student Learning</td>
<td>4.683</td>
<td>.469</td>
</tr>
<tr>
<td>Teacher’s Age</td>
<td>3.187</td>
<td>1.196</td>
</tr>
<tr>
<td>Teacher’s Gender</td>
<td>.582</td>
<td>.495</td>
</tr>
<tr>
<td>Total Years Teaching</td>
<td>3.343</td>
<td>1.632</td>
</tr>
</tbody>
</table>

Note. N of Cases = 134.
Table 117

Correlation Matrix One-Tailed Significance: Respect (Principal Raters)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Respect</th>
<th>Like Teacher</th>
<th>St. Learning</th>
<th>Teach. Age</th>
<th>Teach. Gender</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respect</td>
<td>1.000</td>
<td>.292</td>
<td>.514</td>
<td>-.166</td>
<td>.159</td>
<td>-.160</td>
</tr>
<tr>
<td>Like Teacher</td>
<td>.041</td>
<td>1.000</td>
<td>-.072</td>
<td>-.027</td>
<td>.060</td>
<td>.048</td>
</tr>
<tr>
<td>Student Learning</td>
<td>.319</td>
<td>-.072</td>
<td>1.000</td>
<td>-.162</td>
<td>.040</td>
<td>.068</td>
</tr>
<tr>
<td>Teacher's Age</td>
<td>-.112</td>
<td>-.048</td>
<td>-.068</td>
<td>.818</td>
<td>-.258</td>
<td>1.000</td>
</tr>
<tr>
<td>Teacher's Gender</td>
<td>.148</td>
<td>.246</td>
<td>.323</td>
<td>.135</td>
<td>.001</td>
<td></td>
</tr>
<tr>
<td>Total Years Teaching</td>
<td>.100</td>
<td>.293</td>
<td>.218</td>
<td>.000</td>
<td>.001</td>
<td></td>
</tr>
</tbody>
</table>

Table 118

Stepwise Regression: Dependent Variable Respect (Principal Raters)

Variable(s) Entered on Step Number 1: Student Learning
Multiple R .51383
R Square .26402

Variable(s) Entered on Step Number 2: Like Teacher
Multiple R .61057
R Square .37280

<table>
<thead>
<tr>
<th>Variable</th>
<th>B</th>
<th>SE B</th>
<th>Beta</th>
<th>T</th>
<th>Sig T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Like Teacher</td>
<td>.344549</td>
<td>.072284</td>
<td>.330677</td>
<td>4.767</td>
<td>.0000</td>
</tr>
<tr>
<td>Student Learning</td>
<td>.619777</td>
<td>.079973</td>
<td>.537639</td>
<td>7.750</td>
<td>.0000</td>
</tr>
<tr>
<td>(Constant)</td>
<td>.144946</td>
<td>.28252</td>
<td>.274</td>
<td>.7842</td>
<td></td>
</tr>
</tbody>
</table>

Table 119

Analysis of Means: Dependent Variable Overall (Principal Raters)

<table>
<thead>
<tr>
<th>Variable</th>
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<tr>
<td>Teacher's Age</td>
<td>3.187</td>
<td>1.196</td>
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<tr>
<td>Teacher's Gender</td>
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<td>.495</td>
</tr>
<tr>
<td>Total Years Teaching</td>
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<td>1.632</td>
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Note. N of Cases = 134.

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Table 120

Correlation Matrix One-Tailed Significance: Overall (Principal Raters)

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<th>St. Learning</th>
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<td>.880</td>
<td>-.138</td>
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<td>.052</td>
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<tr>
<td>Overall</td>
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<td>1.000</td>
<td>-.072</td>
<td>-.027</td>
<td>.021</td>
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<td>.000</td>
<td>.056</td>
<td>.403</td>
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<tr>
<td>Student Learning</td>
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<td>.072</td>
<td>1.000</td>
<td>-.162</td>
<td>.040</td>
<td>-.068</td>
</tr>
<tr>
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<td>-.162</td>
<td>1.000</td>
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<tr>
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<td>1.000</td>
<td>-.258</td>
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<tr>
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<td>-.048</td>
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<td>.293</td>
<td>.218</td>
<td>.000</td>
<td>.001</td>
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Table 121

Stepwise Regression: Dependent Variable Overall (Principal Raters)

| Variable(s) Entered on Step Number 1... | Student Learning | Multiple R | .87981 | Square | .77407 |
| Variable(s) Entered on Step Number 2... | Like Teacher   | Multiple R | .88832 | R Square | .78911 |

Variables in the Equation

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<th>SE B</th>
<th>Beta</th>
<th>T</th>
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Variables not in the Equation

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<th>Variable</th>
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<th>Min Toler</th>
<th>T</th>
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<tr>
<td>Teacher's Age</td>
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<td>Total Years Teaching</td>
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<td>.989720</td>
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IOWA TEACHERS' PERCEPTIONS ABOUT INVOLVEMENT IN DECISION-MAKING

A Dissertation Submitted In Partial Fulfillment of the Requirements for the Degree Doctor of Education

Approved:

Dr. Robert Decker (Advisor)

Dr. Susann Doody

Dr. Bruce Rogers

Dr. James Kelly

Dr. Taggart Frost

Michael S. Jurgensen
University of Northern Iowa
December 1997
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ACKNOWLEDGEMENTS

I would like to take this opportunity to express my appreciation to the members of my dissertation committee. Sincere gratitude is reserved for Dr. Robert Decker, chairman of my dissertation committee, who focused my efforts throughout my program and Dr. Bruce Rogers and Dr. Susann Doody for the many hours they devoted in assisting me with this project. I also express my gratitude to the other dissertation committee members, Dr. Taggart Frost and Dr. James Kelly. A special thanks is extended to each of these individuals for their personal encouragement and professional guidance.

This dissertation is dedicated to my family: my mom, Judy Jurgensen; my grandmother, Mary Gift; my grandfather, Robert Gift; and especially to my best friend and wife, Lizzie, who always believed in me!
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IOWA TEACHERS' PERCEPTIONS ABOUT INVOLVEMENT IN DECISION-MAKING

An Abstract of a Dissertation Submitted In Partial Fulfillment of the Requirements for the Degree Doctor of Education

Approved:

Dr. Robert Decker (Advisor)

Dr. John Somervill Dean of the Graduate College

Michael S. Jurgensen
University of Northern Iowa
December 1997
ABSTRACT

The purpose of this study was to look at shared decision-making in the public schools of Iowa. Specifically, attention was given to the desire of teachers to be involved in strategic managerial issues that have been the traditional purview of administration. Fourteen decisional areas were selected for the study including organizational managerial, policy development, and resource allocation/utilization issues.

Four research questions were utilized with a quantitative research approach. A survey instrument was mailed to 600 K-12 public school teachers within Iowa. The final sample included 431 responses that represented a return rate of 72.3%.

Statistical tests were conducted at the .05 level of significance to analyze the data. Respondent’s actual and desired participation means were examined using a 5-point Likert participation scale. A discrepancy level for each respondent was determined. Discriminate analysis was used to measure the extent to which demographic categories of individuals could be distinguished by decisional discrepancy levels.

Teachers reported that they desired higher levels of involvement for all areas of decision-making measured. Large discrepancies between actual and desired teacher participation were found for setting budget priorities, scheduling, teacher assignments, school attendance policy, and school security policy. Medium-sized discrepancies were
found for discipline standards, facility use during the school day, grading policy, and staff development. Student progress reporting procedures, teaching material selection, setting school goals/vision/mission, parent/community relations, and curriculum development had only small discrepancies.

Levels of decisional discrepancy did not vary significantly with regard to the size of school community or teachers' gender, age, or total teaching experience. Elementary teachers were more deprived than secondary teachers in making decisions. Teachers who remained in the same school setting for a long period of time showed lower levels of deprivation than lesser-experienced peers. Teachers with low levels of educational attainment showed greater levels of deprivation than their more educated peers.
CHAPTER I
INTRODUCTION

Traditional bureaucratic structures of the K-12 educational system identify administrators as primary decision makers in the school setting. Recent efforts to improve education have encouraged more participation of faculty in decisions that have traditionally been at the sole discretion of administration. The impact of this movement is unknown in Iowa.

The Research Problem

The problem of this study was to determine the congruence of shared decision-making in Iowa public schools in selected strategic areas of organizational managerial, policy development, and resource allocation/utilization issues through the study of actual versus desired teacher participation.

Definition of Terms

Actual Teacher Participation: "the extent to which teachers have input into the decision-making process of a school system" (Meshanko, 1990, p. 6).

Content Validity: the acceptability of the survey instrument in terms of the intended use. It appears to measure the designated variable.

Decision: a determination that impacts a course of action at the school building or district level.

Decision-Making Process: the process necessary to reach a decision.
**Decisional Discrepancy:** the level of actual teacher participation minus the level of desired teacher participation (Mohrman, Cooke, & Mohrman, 1978).

**Desired Teacher Participation:** the extent to which teachers wish to have input into the decision-making process of a school system.

**Participation:** the mental and emotional involvement of a person in a group situation that encourages the individual to contribute to group goals and share responsibility for them (Owens, 1995, p. 189) at the school building or district level.

**Rural School District:** any school district that does not contain a town over 2500 in population according to the 1990 census (Baum, 1991).

**Shared Decision-Making:** "a process by which the members of an organization participate in decision-making decisions that affect the role and function of the organization" (Meshanko, 1990, p. 6).

**Strategic:** refers to those decisions that effect more than one classroom at a time.

**Urban School District:** any school district that does contain a town over 2500 in population according to the 1990 census (Baum, 1991).

**Assumptions**

An assumption in this study is that the decision-making areas represented in the instrument are relevant to actual strategic administrative decision-making areas traditional to the administration of Iowa public schools. These areas
included setting the school's goals/vision/mission, curriculum development, staff development, parent/community relations, grading policy, student progress reporting procedures, discipline standards, attendance policy, school security policy, facility use during the school day, setting budget priorities, teaching materials selection and use, teacher assignments, and scheduling. These decisional areas may be at the school building or district level. Another assumption is that data can be obtained by the use of a questionnaire. Finally, it is assumed that the survey instrument will be perceived accurately by individuals responding and that information collected from all participants will be collected honestly.

**Limitations**

This study is limited to the perceptions of a randomly selected sample of K-12 teachers in Iowa public schools, not the entire population. Teachers' names were randomly selected by a commonly used selection method determined by the Iowa Department of Education Bureau of Statistics. Since the scope of the study was limited to Iowa, the findings may not be expanded to other states due to differences that exist between educational systems.

Another limitation of self-reporting survey research may have led to the inappropriate interpretation of the questions resulting in unintended responses (Krathwohl, 1993). Survey research is also subject to the Hawthorne Effect. This may distort the research findings because respondents are
aware that research is being done (Ary, Jacobs, & Razaveigh, 1985).

Under ideal conditions, the information sought by this study might have been derived through extensive interviews. Due to limitations in time and the desire to include larger numbers of participants, surveys were used. The use of surveys as opposed to interviews provided for a larger number of participants (Borg & Gall, 1989).

Conceptual Framework

Throughout the literature on teacher empowerment, shared decision-making is portrayed as a powerful means to improve education through the participation of the teachers who work most closely with students. Teachers know the problems associated with education and can be of great importance in finding solutions to those problems (Lang, 1993).

Though shared decision-making appears to enjoy great acceptance among educational scholars (Weiss, 1992), very little is known about actual levels of teacher participation and influence, (Bacharach, Bauer, & Shedd, 1986; Ziobrowski & Newman, 1993), teacher’s desired levels of participation, (Doyle, Tetzloff, & Renze, 1993), and the decisional domains in which teachers desire influence and decision-making authority (Conley, 1989). Few studies provide guidelines for the implementation of shared decision-making (Wallace, Radvak-Shovlin, Piscolish, & LeMahieu, 1990). In summary, “Theorists and practitioners agree on what ‘should be happening’; however, there is very little research on ‘what is’ happening” (Ziobrowski & Newman, 1993, p. 4).
This study is based upon the work of Alutto and Belasco, (1972) which presented a methodology for identifying levels of faculty participation in decision-making. In 12 decisional areas, a continuum was based upon the discrepancy between the raw number of decisions in which an individual desired to participate and the number of decisions in which he/she actually participated. Results were categorized as: decisional deprivation, decisional equilibrium, or decisional saturation. Decisional deprivation was defined as "actual participation in fewer decisions than desired" (p. 118). Decisional equilibrium was defined as "actual participation in as many decisions as desired" (p. 118). Decisional saturation was defined as "actual participation in a greater number of decisions than desired" (p. 118).

Mohrman et al. (1978) classified Alutto and Belasco's (1972) 12 decisional areas into two specific domains. The managerial domain included decisions such as hiring, budget, staff assignments, grievances, facilities, community relations, and salaries. The technical domain included areas like texts, learning problems, teaching methods, instructional policies, and classroom discipline.

Mohrman et al. (1978) further enhanced Alutto and Belasco's (1972) methodology. Alutto and Belasco (1972) measured the absolute discrepancies between participation rates. "Each subject's condition of decisional participation was derived by summing over the number of decisions in which he wished to participate, and then computing the absolute difference between these two figures" (Alutto & Belasco,
1972, p. 119). Mohrman et al. measured each response, both ideal and actual, on a "five-point scale ranging from (1) Never to (5) Always" (p. 18). This modification more accurately measured the desired impact of teachers in relation to their present impact in each decisional area and domain.

Leaders, in the effort to move toward greater organizational effectiveness in the educational system, must continue to search for ways to allow teachers more influence (Conley, 1989). Even teachers that may not want participation are critical to continued improvements (Shedd & Bacharach, 1991). More must be learned about the current state of decision-making to strengthen this effort. "Given the high cost of participation in terms of time and effort, it would be useful to ascertain the differential effects of deprivation or saturation as they vary with the nature of the decisional issue" (Alutto & Belasco, 1972, p. 124). Change can best be made by gaining experience in decisional areas where teachers show the greatest desire to participate. As levels of trust increase, so may the scope of shared decision-making.

**Purpose of the Study**

The purpose of this study was to look at shared decision-making in the State of Iowa. Specifically, attention was given to the desire of teachers to be involved in strategic managerial issues that have been the traditional purview of administration. These are the issues that hold the greatest promise for the improvement of education.
This research provides educational leaders in Iowa with accurate and contemporary information regarding shared decision-making and teachers’ desire for participation. This was accomplished by measuring perceived versus actual teacher participation in various decisional areas. In addition, a methodology to support future shared decision-making efforts has been introduced into the body of literature. It is vital for education to maintain accurate information and effective instrumentation that is crucial and strategic to the continued growth of shared decision-making on both the state and local levels.

Specifically, this research established (a) the degree to which Iowa’s public school teachers actually participate in decision-making, (b) the degree to which Iowa’s teachers desire to be involved in decision-making, (c) levels of teacher decisional discrepancy for the 14 strategic managerial areas of organizational decision-making, and (d) significant levels of decisional discrepancy associated with the demographic variables of gender, age, educational level, community size, total teaching experience and teaching experience in the present teaching position of the teacher.

Research Questions

1. To what degree do Iowa’s teachers participate in decision-making?

2. To what degree do Iowa’s teachers desire to be involved in decision-making?
3. What are the degrees of discrepancy between the actual and desired levels of teacher participation for each of the 14 strategic/managerial decisional areas?

4. What are the relationships, if any, between the levels of discrepancy among the 14 types of decisions and the demographic characteristics?

**Organization of the Study**

Chapter I consists of the research problem and its development. A review of the literature is included in Chapter II. Chapter III presents the methodology used in the study. Chapter IV represents the collection of data and analysis. A summary of the study, conclusions, and recommendations for further research are in Chapter V.
CHAPTER II
BACKGROUND OF THE STUDY

A review of the literature provided a framework for looking at the topic of shared decision-making in public education. The review of literature focused on the historical review of decision-making in American colonial schools, decision-making in Nineteenth Century American schools, decision-making in Twentieth Century American Schools, alterations to the Classical Bureaucratic means of decision-making, a review of contemporary governance structures in education, a review of external governance structures in contemporary education, the impact of the Classical Bureaucracy on decision-making, and contemporary educational problems linked to internal governance structures, and summary.

Decision-Making in American Colonial Schools

American colonial schools were governed directly by the leaders of each community as articulated by the General Court of the Massachusetts Bay Colony in 1654. The committees, predecessors of today's school board and administration, had authority over all aspects of the school including budget and policy (Blumberg, 1986).

As communities and expectations for education grew, so did the responsibilities of the committees. Soon the lay committees were overwhelmed with the activities of running the school. A change in Massachusetts law allowed the committee to legally delegate to the minister of the community the responsibility of certifying a headmaster,
commonly referred to as the schoolmaster or head teacher. "This law merely legalized a practice in vogue for some time" (Gist, 1934, p. 26).

Headmasters were not equivalent to contemporary administrators. They were first and foremost still considered teachers as the committees retained much responsibility for decision-making. Jacobsen elaborates:

The transfer and promotion of pupils from one school to another was cared for by the board of education as was also the prescription of curriculum content, the selection of textbooks, and the purchase of equipment and supplies. The headmaster, who approximated in certain respects the principal of today, was a minor, administrative officer whose chief duty after instruction was the maintenance of order and discipline in the school building and on the grounds. (Jacobsen, 1941, p. 756)

The position of headmaster gradually accumulated more responsibilities for the administration of the school. "The school committees, or lay boards of education, relinquished their 'administrative' responsibilities to the local schools only as it became quite clear they needed more professional assistance" (Wood, Nicholson, & Finley, 1979, p. 2). Headmasters were expected, besides running the school, to visit other teachers' classrooms, observe teachers' performance, and help the other teachers.

The instructional expectations soon exceeded the headmasters' ability to perform. In addition: "As towns grew larger, local school committees found that one- and two-teacher schools were inefficient, so smaller schools were combined. And as the schools became larger, more and more authority was given to the head teachers" (Wood et al., 1979,
p. 2). "Just as the lay committees were unable to maintain their administrative duties over the school, the ability of the head teachers to teach full time and fulfill the administrative role also became difficult" (Wood et al., pp. 1-2).

The school principalship is the "first educational administrative position to evolve in the United States" (Wood et al., 1979, p. 1). Early references to the principalship began as early as 1786 where we find that Eliphalet Pearson, the first head of the Phillips Academy, was officially titled preceptor, but was commonly referred to in school records as Principal Pearson. His replacement in 1786 officially held the title of principal. In 1838, reports in Cincinnati, Ohio regularly used the title principal (Pellicer, 1981, p. 1).

It was also during the 1830s that the first superintendents were hired. "During the period of 1840-1870, school committees in the larger cities felt the need to delegate administrative decision-making responsibility. The first superintendents of schools were appointed in 1837 in Buffalo, New York, and in Louisville, Kentucky" (Wood et al., 1979, p. 2).

Decision-Making in Nineteenth Century American Schools

School populations began to increase rapidly after the 1830s. Educational systems that began small, often in one room schoolhouses, suddenly began to grow housing more students and employing more teachers who were often untrained. decision-making on how to educate the masses increasingly became the domain of school administration.
Superintendents held a considerable portion of the duties in running business within the schools throughout the mid 1800s. As can be seen by the Annual Report of the Superintendent of Common Schools of State of New York in 1845, superintendents were to visit all schools, inquire into curriculum, handle discipline, conduct condition of the school evaluations, have total control over the hiring and firing of teachers, promote education, improve instruction, and advance the interest of the schools (Blumberg, 1986).

The school principal was delegated decision-making responsibility for their schools from superintendents. Most of the duties of the principal were intended to make the school keep up with rising numbers of students, not to make the quality of work increase.

The duties (of the principalship) were general in nature, required no specific training, could be done in extra-school time, and probably could be performed by one teacher as well as another. The administration of pupil personnel was limited chiefly to discipline, and school organization to prevention of conflicts in the class- and playground-schedules of the various pupil groups. (Pierce, 1935, p. 28)

The duties of the principal teachers in Cincinnati in 1839 were:

The principal teacher was (1) to function as the head of the school charged to his care, (2) to regulate the classes and course of instruction of all the pupils, whether they occupied his room or the rooms of other teachers, (3) to discover any defects in the school and apply remedies, (4) to make defects known to the visitor or trustee of ward, or district, if he were unable to remedy conditions, (5) to give necessary instruction to his assistants, (6) to classify pupils, (7) to safeguard school houses and furniture, (8) to keep the school clean, (9) to instruct assistants, (10) to refrain from impairing the standing of assistants, especially in the
eyes of their pupils, and (11) to require the cooperation of his assistants. (Pierce, 1935, p. 12)

Trained teachers were in short supply. The principal was called upon to assist.

As early as 1850 in Cincinnati, the principals had included many if not most of the phases of a modern supervisory program in their work as they conducted teachers' meetings, visited classes, measured the efficiency of instruction, adjusted pupils' difficulties, rated teachers, and gave them instruction in methods of teaching. (Jacobsen, 1941, p. 760)

Decision-Making in Twentieth Century American Schools

Most elements of the current educational system were adopted around the turn of the century. It is most properly called the "professional bureaucracy" (Bolman & Deal, 1991, p. 88) and led toward the adoption of what has been later termed as the "factory" (Cubberly, 1916, pp. 337-338; Shedd & Bacharach, 1991, p. 53) approach to school management. The organizational reforms leading to the implementation of this model have impacted educational decision-making throughout the remainder of the century (Bauman, 1996).

During the late Nineteenth Century, school growth increased in size and scope. The Common Schools Movement led to large numbers of children coming to school out of homes, fields, and even factories so that society could benefit from public education. As a result, organizational needs and school facilities, especially in the cities, became larger as the curricular offerings became more complex.

The industrial revolution also played a significant role. Decisions in business and industry in the days previous to the turn of the Twentieth Century were mostly made by rule
of thumb, but scientific method was enlisted in efforts for greater efficiency (George, 1972). The same desire for efficiency in business soon led to calls for similar efficiency in education. School board members, often leaders in business and industry, still meddled in school affairs (Corwin, 1988).

Contemporary pressures on schools to keep pace with the industrial revolution encouraged the act of schooling to also become more scientific. Industry leaders, who were well respected for their advances in using techniques of organizational efficiency, chastised educational leaders for lacking management skills and scientific knowledge of their assigned duties (Kowalski & Reitzug, 1993). "Those who championed the movement of school administrators made invidious comparisons and concluded that the same knowledge and techniques used in public education would produce more functional schools, lower cost schools, and improved public perceptions" (Kowalski & Reitzug, 1993, p. 9).

William H. Payne, a professor of Science and Art of Teaching at the University of Michigan, published a book on the hierarchy of command and the division of labor in schools. His interest, after serving as a superintendent in a small school system, led him to the following understanding:

It is thus seen that the work of instruction follows the law which prevails in all other industries--differentiation, classification, system... in an extended system of instruction there should be a responsible head, able to devise plans in general and in detail, and vested with sufficient authority to keep all...
subordinates in their proper places, and at their assigned tasks. (Blumberg, 1986, p. 10)

Superintendents adopted big business philosophies, scientific management, an emphasis on efficiency and measurement, and became more managerial with a need for budgeting and data management skills (New York State School Boards Association, 1989). Principals began to investigate, in a scientific rather than a participative manner, the best methods to solve instructional problems. "Principals... were able to base procedures on factual data to an extent not previously possible, and their supervision for the first time assumed the characteristics of a science" (Pierce, 1935, p. 81).

Raymond Callahan took the position in his study entitled Education and the Cult of Efficiency, that school administration sold out to business in the early 1900s. He was disappointed to learn in the preparation of his report that a high occurrence of decisions were being made without considering educational concerns first. "Vulnerable to attack from the public and especially from their employers—the local school boards—superintendents adopted the lingo and practices of those with high status in the society—businessmen—and betrayed their earlier tradition of educational administrators as scholar-statesmen" (Tyack & Cummings, 1977, pp. 48-49).

The decision-making roles of both teachers and their administrators were shaped. Teachers became the equivalent of the assembly line worker in factories with little
organizational decision-making authority. Theoretically, they could be replaced by another who can perform the job with equal skill because teaching is a science and therefore prescribable. The teacher, however, was simultaneously considered the individual with expertise on matters in the classroom. Key decisions in classrooms would continue to be made by the teacher in the effort to fill in the "gaps in services" to the students (Shedd & Bacharach, 1991, p. 4).

It became the administrator's role to make decisions routinizing teachers' work. Schedules for the school day, teacher assignment to classrooms, developing policies and procedures, hiring, firing, allocation of resources, student discipline, and general supervision are the responsibilities of administrative management alone. In general, issues of efficiency became the primary focus of management. This included anything that assured the smooth flow of students through the system with as little waste as possible. Issues of effectiveness were ignored or shouldered by teachers.

Loose coupling (Corwin, 1988) exists in the classical hierarchical bureaucratic educational system. The act of teaching was kept slightly detached from the formal hierarchy of the school. When the administrators developed generalized policy for the entire system, it was up to the individual teacher to interpret and apply it in their classroom. Organizationally, administrators shied away from matters internal to the classrooms. An unspoken truce has kept management and teachers apart. If managers did not interfere
in classroom affairs, teachers would not violate the domain of the administrator.

**Alterations to the Classical Bureaucratic Means of Decision-Making**

Structurally, schools continued to become more bureaucratized into the 1960s (Bauman, 1996). Efforts to make schools more efficient through modern management techniques, teacher specialization, and expanded class offerings in the curriculum were the result of continued societal beliefs in modernized public bureaucracies (Bauman, 1996).

Two differing schools of thought have since impacted the classical hierarchical system of decision-making. The Social System human relations movement led to the reemergence of the importance of the individual and the Open Systems movement destroyed educational isolation within society. Though both the Social System Theory and the Open System Theory retained the classical focus on organizational decision-making efficiency, they approached that end through differing strategies, beliefs and values. “The models have contradictory basic assumptions about what draws and holds people together and how people work collaboratively to achieve a set of goals” (Hanson, 1996, p. 4).

The Social Systems Theory came into favor after the great societal concerns of the depression in the 1930s and looked upon the worker as an extension of the bureaucracy (Hanson, 1996). This was a more participative view of the organization and took into account how people in the
organization ultimately controlled how efficiently it functioned.

Administrators attempted to reduce conflict within the schools by keeping lines of communication open, becoming more considerate, and using democratic-political procedures to reduce conflict. As a result, teachers gained limited ability to influence decisions. Human relations were employed in the effort to satisfy and ultimately motivate workers (Hanson, 1996). This model contributed to the understanding of organizations through the recognition of formal and informal power that internal groups may assume in constantly shifting coalitions. The human relations approach faded after the 1950s due mostly to mistrust of the motivational intentions of managers (Hanson, 1996). Through the Human Relations movement, the classical bureaucracy was to achieve efficiency entirely through science, policy, and control.

The Classical and Social Systems Theories continued to support organizational decision-making in isolation of their surroundings. They were considered to be closed (Katz & Kahn, 1966). The Open System Theory of the 1960s acknowledged the interrelation between an organization and community.

The Open System Theory conceives of an organization as a set of interrelated parts that interact with the environment almost as a living creature does. The organization trades with its environment. It receives inputs such as human and material resources, values, community expectations, and societal demands; transforms them through a production process (e.g., classroom activities); and exports the product (e.g., graduates, new knowledge, revised value sets) into the environment (e.g., business, military, home, college) with value added. The organization receives a return (e.g.,
community financial support) for its efforts so that it can survive (and hopefully prosper). The cycle then begins all again. (Hanson, 1996, p. 7)

Information is vitally important to decision-making in the open system organization so that it can maintain efficiency through the anticipation of changes in the environment. Management of conflict in the more open system became very complex because of the impact of pressures and changes on the overall system as well as its subsystems (Hanson, 1996). The Open Systems Theory removed the veil of organizational decision-making isolation instituted by the classical bureaucracy. Schools were no longer protected from outside pressures for civil equity and participation (Bauman, 1996).

As decision-making influence by the local school board and district administration have decreased since the 1950s, the amount of influence over decisions from the outside increased through the 1980s (Bauman, 1996). The federal government carved out a pattern of influence by developing national school goals, state governments have set standards and implemented reforms, courts carved influence into the schools, and private business discovered it could successfully pressure the educational system.

Simultaneously, influence from groups internal to the school organization have also increased their influence over decisions. The collective bargaining process with teachers places limits upon the decisions that can be arbitrarily made by schools. Community-based interest groups have also grown in their ability to impact local school decisions. The
increasing openness and influence has also come at a time of more verbal dissatisfaction with the educational system.

As a result of this increasing dissatisfaction, there have been two recent efforts for educational reform. The "First Wave" educational reform movement of the 1980s called for tighter central controls upon education (Cistone, 1989). The authors of this movement lacked general "... confidence in teachers' abilities and intentions" (Johnson, 1990, p. 346). This resulted in the strengthening of the classical hierarchical organizational decision-making structures within schools while allowing for greater external pressure upon the system.

Teacher empowerment has been the focus of the more recent "Second Wave" of educational reform during the 1990s (Cistone, 1989). This wave constituted a shift from organizational efficiency (Lange, 1993) to a focus of educational effectiveness (Cistone, 1989) and quality (Shedd & Bacharach, 1991). It was also facilitated by changes in the environment external to education, (Shedd & Bacharach, 1991) and attacks the exasperated flaws in the hierarchical bureaucratic system (Short, 1992). The thrust of the movement is to have teachers' instructional values prevail over bureaucratic values (Johnson, 1990).

**Internal Governance of Education**

In the typical hierarchical organization, authority and power is institutionalized into levels of organization through policy and rules (Anderson, 1968). The
characteristics of a bureaucracy typically consist of the following:

• division of labor: tasks are distributed in a fixed way as official duties.
• hierarchy of authority: each position is controlled and supervised by a higher one.
• rules and regulations: each position's rights and duties are covered by a system of rules.
• impersonal orientation: decisions are made based on facts not feelings to insure equality of treatment.
• career orientation: promotion is based on seniority, achievement, or both, and dependent on the judgment of superiors. (Hausdorff, 1992, pp. 30-31)

W. Patrick Dolan describes this type of classical organization as follows: "a top down, strongly authoritarian, tight control of information, deeply layered pyramid, gridded into vertical and horizontal silos" (1994, p. 17).

Information flows in only one direction, from top to bottom.

It is only at the top of the pyramid structure where strategic thinking occurs (Dolan, 1994). With guidance from the superintendent and other central office staff, the school board serves as the local legislative unit for setting policy that controls this structure.

The superintendent and central office administration serve as the executive branch that implements strategy and executes board policy. Administrators serving this function are located in professional "silos" (Dolan, 1994, p. 14) at the middle level of the pyramid. Each silo represents areas of expertise with organizational boundaries and policy separating duties.

Finally, at the bottom of the traditional pyramid, are the principals, teachers, and students functioning within their own structure in the individual school. In the
traditional sense, there is little or no need for strategic decision-making at this level. As a result, those at this level of implementation have scant necessity to receive more information than is needed to carry out their daily tasks (Dolan, 1994).

Most work in schools is still done within the silo structures which divide tasks and responsibilities into departments (March, 1958). Within these silos are divisions, commonly called departments, who work independently of one another in "quasi-autonomous units" (Bolman & Deal, 1991, p. 89). They rarely coordinate or work together.

Decisions are made at various loosely connected levels where "... different participants establish the agenda and control the outcomes" (Johnson, 1990, p. 347). These are the classroom, teacher team, school, and district levels.

At the classroom level, teachers control decision-making. "Through the course of the day, they make countless decisions about curriculum, instructional technique, classroom management, and standards of discipline" (Johnson, 1990, p. 347). This is the unspoken truce between teachers and administrators described by the concept of loose coupling. When teams of teachers work together, they can be confident that they are able to exert a great level of influence over issues that extend into more than one classroom. Though this strategy can be effective, the occurrences are limited and isolated (Johnson, 1990).
Teachers are generally pessimistic about their ability to influence strategic issues in the school building or district (Johnson, 1990). Johnson, (1990) describes:

Over the years, they have watched principals' advisory committees become symbolic forums of participation, repeatedly addressing minor or marginal issues such as plans for Education Week, bus duty, student behavior on the playground, or dismissal procedures. Monthly meetings of the full faculty are principal-centered, discussions are perfunctory, and votes are almost never taken. Many teachers see such meetings as time-consuming, ceremonial assemblies that serve only to dramatize their powerlessness in school governance. Just as teachers retain personal control over classroom policy, most principals hold the final say over school site policy. Sometimes they solicit advice from teachers before making decisions, but they do so at will rather than in response to formal obligation. The final decisions remain theirs. (p. 348)

Teachers have traditionally had little impact upon decisions at the district level because teachers are primarily unfamiliar with the work of the bureaucracy (Johnson, 1990). Advisory committees and collective bargaining are two typical structures that commonly produce influence but under tightly controlled conditions that often do not address the instructional concerns that are of importance to the instructional staff (Johnson, 1990).

The result of this loose system of bureaucratic governance is the loss of teacher impact on issues that influence the total organization. "The rigid and segmented character of most school districts-their hierarchal structure, binding rules, standardized processes, blocked schedules, line-item budgets, and isolated classrooms-constrain all who would improve public education" (Johnson, 1990, p. 352).
External Governance of Education

Education is also impacted by various levels of governmental politics and authority that serve to limit the choices of the local district governance structure. Federal and state limits on local education are realized through the division of power between the executive, legislative, and judicial branches of government (Bauman, 1996).

State level government is responsible for making decisions that impact education.

In legislatures, courts, and state departments of education, many rules are drafted that regulate schooling. Increasingly, teachers are troubled by the unintended consequences of legislated curricula, categorical programs, administrative rulings, and judicial remedies designed to improve public education. (Johnson, 1990, p. 350)

Government, however, is only one of four sectors that regularly impact educational governance. Private sector institutions, organizations, and individuals control the creation of teaching materials and services that directly impact the school setting and often play a role in influencing internal school decisions. Nonprofit and special interest groups often create pressure on issues of their choice. Educational issues are often resolved or grid locked by bargaining in a political fashion. Media broker information to the public in the effort to inform or persuade (Bauman, 1996).

The Impact of the Classical Bureaucracy on Decision-Making

Three assumptions were made about education during the adoption of the classical hierarchical bureaucratic model of
school management. Shedd and Bacharach (1991) list them as follows:

- The purpose of a public school system is to provide students with training in a common, basic set of academic skills.
- Teaching is a relatively straightforward process. The situations that teachers face can be anticipated, and appropriate behaviors for handling those situations can be specified in advance.
- Except for age differences, students are a relatively homogeneous group. Differences in their needs and abilities within age groups are minimal and irrelevant. (p. 52)

Leaders perpetuated these assumptions through their interaction in the educational system. Today, we have specialized teaching into specific areas of expertise that are given license, teaching is not generally considered a hard and fast science, but rather a diversified collection of skills and techniques to be applied as needed. In contrast, educators now acknowledge that students come to school varying in ability and experiences throughout their educational careers. Even the ultimate purpose of education, which was assumed to be the acquisition of a basic set of skills, has become more specialized.

Contemporary Educational Problems Linked to Internal Governance Structures

Inherent problems resulting from the classical hierarchical still persist. The educational system has grown considerably over the century and criticisms that it is out of control and too costly are common. This is partly due to one of the assumptions of the classical hierarchical bureaucratic model of education.
Students are not a relatively homogeneous group as the assumption states. The overall educational system, in order to deal with this diversity of ability, has not been altered. Instead, mini educational systems were added to handle those students that fell outside the "normal" student body. Today, we have complete subsystems for special education students, students with reading and math deficiencies, programs to prepare students for technical fields of work, alternative high schools, and even a system for talented and gifted students. Rather than changing how the total educational system addressed the needs of these students within, new systems were added often at tremendous overlap and costs as well as compounding the complexity of the organization.

Second, coordination problems persist. The result is a lack of control between individual classrooms. This makes it difficult to align curriculums and methods of instruction. Issues of effectiveness become blurred and difficult to address. The divisions of labor into subunits and disciplines have created mini-kingdoms where subject and program specialists control their divisions of the system. Issues of turf (Ferrarra & Repa, 1993) often lead to competition for status, students, and limited resources (Short, 1992). The educational system often finds that it is at war with itself, because changes in one part always affect the others.

A third impact of the classical hierarchical bureaucratic model is that there are organizational problems in dealing with new situations and the making of decisions.
The assumption that teaching is a prescribable process and can be standardized through centralized policy has allowed many problems to be left unaddressed and unsolved. There is a contradiction to the second assumption of the classical hierarchical bureaucratic model system which states that teaching is fixed and prescribable. Problems that arise in the teaching process are "conditional... not fixed in advance" (March, 1958, p. 27). It is impossible to standardize the teaching process. As a result, teaching performance has been hindered (Bolman & Deal, 1991; Koehler, 1990).

A fourth impact of the classical hierarchical bureaucratic model concerns the maturity and motivational concerns for the people that work in the educational system. Many people are treated immaturely in their work environments (Hersey & Blanchard, 1993). As stated, "bureaucratic or pyramidal values lead to poor, shallow, and mistrustful relationships" (Hersey & Blanchard, 1993, p. 64). In combination with the isolation of teachers in their classrooms with young children of adolescence for most of the school day, it is no surprise that teachers may have trouble building mature and trustful relationships. Distrust is not uncommon between administrators and teachers and even effects professional relationships between teachers.

Motivationally, the classical hierarchical bureaucratic model which is traditionally dependent upon extrinsic motivational factors, has done little to reach teachers. Efforts to implement merit pay have repeatedly failed. The
basic assumption behind merit pay is that teachers can be motivated to improve their performance and instructional quality through payment or recognition. Problems with payment resulted because of the general lack of funding for their primary salaries, let alone for merit bonuses (Gorton & Schneider, 1991).

The future of public education may rest upon the ability of teacher empowerment through shared decision-making to literally transform the educational system. The assumption held during the adoption of the classical hierarchical bureaucratic model school that the purpose of a public school system is to provide students with training in a common, basic set of academic skills is not true today. “Schools can no-longer be considered cookie-cutter replica’s of each other” (Duke, Showers, & Imber, 1980, p. 101). Likewise, teaching is not prescribable and students are different from each other. Similar to the way factories specialize their products to survive, education has also responded by appealing to its varied clients.

The more specialized, varied, changeable the products an organization produces and the fewer of each product it produces, the more likely it is that the tasks necessary to produce the products will constantly change. As that happens, it becomes less feasible to assign each employee a discrete set of duties that will remain constant for an extended period of time. That, in turn, means that it will become increasingly difficult for staff experts at higher organizational levels to anticipate and decide what all those tasks and duties should be. (Shedd & Bacharach, 1991, p. 145)

In structural terms, the pressures on school systems to provide a high-quality education for large numbers of students, while remaining flexible enough to adjust to the needs and abilities of individual students, are
remarkably similar to the pressure on American manufacturers to meet the specialized needs of large numbers of customers while improving quality across the board. (Shedd & Bacharach, 1991, p. 146)

For the same reasons business and industry have had to turn to shared decision-making, so must public education. The abandonment of this belief requires that schools turn to those with first-hand knowledge of the students, teachers.

Shared decision-making addresses many of the inherent problems associated with the classical hierarchical bureaucratic model of education. Teacher participation reduces teacher isolation, competition, feelings of inadequately, acceptance of lack of personal power, and insecurity while it encourages the sharing of information, coordination, questioning assumptions, proactivity, commitment, energy, and the institutionalization of change (Short, 1992).

Leaders are responsible for changing their traditional management views in order to embrace the empowerment of teachers. In order to dissolve the loosely coupled truce put into effect separating the domains between administrators and teachers, both must allow themselves to be influenced to gain influence upon the other.

Without administrators gaining influence into each classroom, issues of coordination remain difficult if not impossible to solve. Without teachers gaining influence in the educational system, the entire organization may suffer for lack of new and better solutions for students. These
needs are at the crux of the argument for shared decision-making.

Summary

The necessity of reducing the impact of the classical bureaucracy has emerged as a need and has been elevated into a primary concern of those who seek to improve education through reform. Terms such as restructuring, teacher empowerment, and teacher professionalism all share as one of their basic elements, the introduction and increase of teacher participation in decision-making outside the constraints of their own classrooms.

The introduction of shared decision-making into the school organization is clearly the responsibility of educational leaders to initiate in a manner that both increases the likelihood of immediate success, but also for long-term organizational advantages.

Ultimately, the fate of shared decision-making may commonly fall prey to administrations' inability to apply shared decision-making to issues of both teachers' desire as well as decisional worthiness (Kirby, 1992). Both must be present to sustain and expand the scope of shared decision-making. This lack of clarity may be a major factor on the hit-and-miss patterns of success that are evident in shared decision-making literature.

Sharon Conley addressed the topic of shared decision-making in her article in the Review of Research in Education. She makes the following points with regard to researching shared decision-making:
It is critical to examine the nature and extent of decision-making desired by teachers. In addition, one must examine two issues: (a) the nature of decision-making in the school organization and (b) the specific decision areas in which professional teachers may become involved. Literature examining the first issue focuses on uncovering possible discrepancies between teachers' expectations for decision-making and the decisional opportunities afforded them. Recognizing that schools are complex professional bureaucracies, literature examining the second issue focuses on the various sets of decisions characterizing these work organizations. (1991, p. 231)

An additional task in this section is to identify points where research remains unclear, for example, the specific nature and content of decision domains in the organization (1991, p. 231). Only a handful of studies (four cited) have empirically dealt with the content specificity of decision domains since Mohrman et al.'s writing in 1978. (1991, p. 234)

Only by examining specific decisions in the school organization can we begin to identify the decision areas in which teachers may increase their involvement. (1991, p. 233)

Research has not generally examined the issue of multiple domains separately for elementary and secondary school organizations. (1991, p. 235)

A lack of consensus exists regarding the exact typology of decision-making domains. More field-based exploratory approaches will probably be useful in accomplishing greater clarification in this area. (1991, p. 235)

In the context of educational policy, examination of teachers' current and desired levels of participation-in relation to specific decision areas-emphasizes increasing participation in those areas in which teachers' desires for participation are not being met. (1991, p. 233)

The issue of what decisions administrators should share remained ambiguous. Decisions that have been the traditional responsibility of educational administrators were not isolated and assessed. Knowledge about teachers' desire to
participate in those decisions was unknown in the State of Iowa.
CHAPTER III
METHODOLOGY AND PROCEDURES

Overview of the Study

It was the purpose of this study to investigate shared decision-making in the public schools of Iowa. Specifically, this research established (a) the degree to which Iowa's public school teachers actually participate in decision-making, (b) the degree to which Iowa's teachers desire to be involved in decision-making, (c) levels of teacher decisional discrepancy for the 14 strategic managerial areas of organizational decision-making, and (d) significant levels of decisional discrepancy associated with the demographic variables of gender, age, educational level, community size, total teaching experience and teaching experience in the present teaching position of the teacher.

Population and Sample

The population for this study was all K-12 public school teachers in the State of Iowa. This group consisted of 31,193 full-time teachers for the 1995-1996 school year (Iowa Department of Education, 1996).

The Iowa Department of Education Bureau of Statistics utilized a commonly used randomization method to determine the 600 participants of this study. First, the names of all Iowa K-12 teachers were sorted according to their categories of teaching assignment, elementary or secondary, and the size of their school community, rural or urban. Secondly, 150 names were randomly selected to represent elementary rural teachers, 150 names were randomly selected to represent
elementary urban teachers, 150 names were randomly selected to represent secondary rural teachers, and 150 names were randomly selected to represent secondary urban teachers. Each teacher was asked to individually respond to the "Shared Decision-Making Survey."

Instrumentation

The survey instrument was self developed specifically for the purposes of the study. The questions in Section II of the survey established gender, age, educational level, total teaching experience and teaching experience in the present teaching position of the teacher.

The questions in Section I of the survey established the extent of actual teacher participation in shared decision-making as well as the desired level of shared decision-making for each of the 14 decisional areas. The coding format for responding ranged from (1) Almost Never Involved, (2) Rarely Involved, (3) Sometimes Involved, (4) Often Involved, and (5) Almost Always Involved.

The questions in Section I included 14 decisional situations. They were selected for this study because they are representative of the kinds of decisions commonly found in the shared decision-making literature and are consistent, but not exhaustive of the traditional functions and roles of educational administration. These decisions include:

1. To implement the policies and other decisions of the legislative body (usually the board of education or state legislature).
2. To clarify and pursue the predetermined objectives, directions, and priorities of the enterprise.
3. To assemble and insure the prudent use of resources.
4. To help increase the productivity of all employed personnel.
5. To unify and coordinate human efforts and material resource use.
6. To monitor progress toward the realization of objectives.
7. To create a desirable organizational climate and professional working relationships within the organization.
8. To appraise the quality and effectiveness of strategies selected and personnel employed to pursue various objectives.
9. To help project the image of the institution and its personnel as effective, productive, and dynamic entities.
10. To report to the legislative body and to the people on the stewardship of authority and responsibilities. (Knezevich, 1984, p. 6)

The following strategic decisional areas were addressed in this study:

Organizational Managerial
- setting the school’s goals/vision/mission
- curriculum development
- staff development
- parent/community relations

Policy Development
- grading policy
- student progress reporting procedures
- discipline standards
- attendance policy
- school security policy

Resource Allocation/Utilization
- facilities use during the school day
- setting budget priorities
- teaching materials selection and use
- teacher assignments
- scheduling

Organizational managerial decisions have traditionally been an administrative function. The involvement of teachers in setting the school’s goals/vision/mission was limited to following administrators’ lead while they implemented predetermined policies and pursued predetermined objectives,
directions, and priorities. Today, in addition to meeting objectives, teachers may be asked to participate in setting directions for the school organization.

Curriculum development and staff development are two areas that administration traditionally clarified and pursued while working to increase the productivity of all employed personnel. Today, teachers may be involved in identifying goals and objectives with regard to curriculum and taking a formal role in personal and staff development programming.

Parent and community relations were administration's responsibility by depicting personnel as effective, productive, and dynamic entities. Contemporary educators, both teachers and administration, more commonly work at varying levels with community in ways that impact the school organization.

Administrators have traditionally been called upon to implement policy, to monitor progress toward the realization of objectives, to create a desirable organizational climate and working conditions, and to evaluate the quality and effectiveness of selected strategies. Today, teachers may be involved in various policy decisions including: grading of students, student progress reporting procedures, discipline standards, attendance policy, and school security.

Resource allocations and their use is an area that administrators have traditionally had direct authority to manage. Issues of facilities planning/utilization impact the resource of physical space. The setting of budget priorities allocates financial resources. The selection of teaching
materials and how they are used addresses instructional resources. Human resources are impacted by teacher assignments and scheduling. Each are types of decisions that contemporary teachers may be called upon to help decide.

Section III of the survey provided instructions as to how to return the survey and the accompanying postcard. The survey letter and instrument is located in Appendix A.

In order to establish an acceptable measure of validity, a panel of three experts in school administration and leadership were identified. The researcher received feedback from these experts in order to evaluate the questionnaire and make suggestions for improvements. The panel of experts consisted of: Dr. Robert Decker, Dr. James Kelly, and Dr. Susann Doody.

In order to establish an acceptable measure of reliability, the instrument was tested in an educational administration class on the campus of the University of Northern Iowa. This field test identified any ambiguous or misleading questions, and allowed the respondents to make suggestions about the clarity, format, or any other points that improved the instrument.

Data Collection

Surveys are useful for the purpose of gaining quantitative information in an easier, quicker, less expensive, and more accurate way than by other means (Alreck & Settle, 1995). The benefits of utilizing a survey for this study include: the ability to sample from a wide geographical area, the responses are short, anonymity is
preserved, and it is less costly than other possible data collection methods (Krathwohl, 1993).

Ideally, the information generated by this study might have been derived through extensive interviews. Due to limitations in time and the desire to include larger numbers of participants, the survey format was selected. The use of surveys as opposed to interviews provides for a larger number of participants (Borg & Gall, 1989).

The survey instrument was mailed directly to selected K-12 teachers in Iowa in early September of 1996. The instrument was enclosed in an envelope in the form of a tri-fold sheet of 17 x 11 inch white rag paper stock. The reverse side contained the return mailing address and an introductory letter. The respondent was not required to apply postage since the NO POSTAGE NECESSARY format was used to reduce the overall costs for postage on surveys not returned. The survey instrument was printed on differing colors of paper to represent teachers from rural elementary schools, urban elementary schools, rural secondary schools, and urban secondary schools.

To ensure anonymity, a separate postcard was enclosed with the survey instrument. This card was also of the NO POSTAGE NECESSARY format and included the return mailing address. The respondent's name and address appeared plainly.

When the survey was completed, the respondent returned both the anonymous survey instrument as well as the postcard. Upon receipt, the survey was recorded anonymously according to rural elementary schools, urban elementary schools, rural
secondary schools, and urban secondary school categories and the postcard was marked as having been received on a master list of teachers. Two weeks after the initial mailing a follow-up postcard was mailed to remind those that had not yet returned the postcard and survey to please do so by a specific date. Another follow-up postcard was used to generate a final response to the survey instrument.

Data Analysis

The design included an examination of both actual and desired levels of participation in school decision-making. In addition, a discrepancy level was determined by subtracting the desired score from the actual score. Demographic variables were used to determine the overall characteristics of the respondents. The proportion of each category of respondent was identified.

The data were analyzed using the Statistical Package for the Social Science (SPSS) and statistical tests were conducted at the .05 level of significance. The survey instrument requested respondents to describe their actual and desired participation on a five point scale, ranging from Almost Never involved (1) to Almost Always involved (5) in 14 decisional areas. Research questions one through three were computed and analyzed using descriptive statistics such as frequencies, means, and standard deviations.

The discrepancies between the actual and desired means were compared by determining the effect size for each decisional area. The discrepancies were rank ordered from largest to smallest and grouped according to large, medium,
and small effect sizes. Each individual decisional area was then addressed with regard to respondents' actual participation, desired participation, and satisfaction with their current levels of participation.

Research question four, utilized discriminate analysis to determine which, if any, demographic variables were significant in relation to the discrepancies for each of the 14 decisional areas. A significance factor of .05 was used. Demographic relationships that were significant identified decisional areas upon which the relationship was based.

To determine which, if any, of the identified decisions held statistically significant differences between actual and desired demographic group responses, means were compared using t-tests and one-way ANOVAs. Significant differences, when determined, were analyzed to identify patterns of actual, desired, and discrepancy responses.
CHAPTER IV
RESULTS AND INTERPRETATION

The purpose of this study was to examine shared decision-making in the State of Iowa. Specifically, the purpose was to determine the impact of the respondents' participation upon strategic managerial issues that have been the traditional purview of administration. The study compared actual versus desired levels of respondent participation in 14 decisional areas. Also, this study investigated if there was a relationship between respondent impact and each of the demographic characteristics of the respondents including gender, age, educational attainment, community size, total teaching experience, teaching level, and experience in the present teaching position of the respondent.

Fourteen areas of decision-making were selected from the literature base and placed on the survey for respondents to individually consider. They were asked to indicate their actual level of participation in the decisional areas and their desired level of participation in the decisional areas. A Likert-type scale was used to measure the range of responses from Almost Never Involved to Almost Always Involved.

A cover letter describing the confidential nature of the research was mailed along with the survey instrument and a postcard. Examples of each are found in Appendix A. The survey was returned anonymously to the Department of Educational Leadership, Counseling, and Postsecondary Education.
Education at the University of Northern Iowa, and the postcard was sent directly to the researcher's home address. The second mailing was generated by identifying respondents who did not return the postcard.

The design of the study computed discrepancy scores for each of the decisional areas to indicate levels of decisional deprivation, decisional equilibrium, or decisional saturation. Discriminate analysis was used to determine the extent to which individuals could be discriminated between demographic categories on the basis of decisional discrepancy levels. All computational procedures were conducted using subprograms of the Statistical Package for the Social Sciences (SPSS). Statistics utilized included descriptive statistics such as mean, standard deviation, and correlations.

The first section of this chapter includes a description of the teacher sample. In the second section, a review of the results for each of the 14 decisional areas is presented. Third, the impact of respondent demographics upon responses is presented.

**Sample**

The 600 respondents selected randomly for the study represented a sample of teachers from elementary and secondary as well as rural and urban schools across the State of Iowa. It contained 150 rural elementary school teachers, 150 rural secondary school teachers, 150 urban elementary teachers, and 150 urban secondary teachers. The survey was initially mailed in October 1996. The first mailing produced
approximately 300 responses. A second mailing in early November raised the total to 431 responses. The final return rate was 72.3%.

The four respondent categories were Rural Elementary, Rural Secondary, Urban Elementary, and Urban Secondary. Table 1 summarizes the number of responses by sample category.

Table 1
Respondents by Category

<table>
<thead>
<tr>
<th>School Size</th>
<th>Elementary</th>
<th>Secondary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural</td>
<td>104</td>
<td>116</td>
</tr>
<tr>
<td>Urban</td>
<td>111</td>
<td>103</td>
</tr>
</tbody>
</table>

Note. 150 teachers in each category were mailed the survey.

Respondents' demographic data was generated from survey Questions 15 through 19. Frequencies and responses for the categories of sex, age, educational attainment, years of teaching experience in the present position, and years of experience are presented in Appendix B.

Respondents to the survey, as seen in Table 46 of Appendix B, comprised of over twice as many females as males. Females consisted of 68.9% of the survey respondents. Males
consisted of only 30.4% of the survey respondents. Similar proportions of Iowa public teachers were reported to be male and female (Iowa Department of Education, 1996).

Table 47 in Appendix B examines the age of the sample respondents. The most common age group responding to the survey represented ages 40-49. In total, 168 respondents, almost 40%, indicated this category. The second most common age group, ages 50-59, was comprised of 113 respondents representing 26% of the sample.

The educational attainment of the sample respondents can be seen in Table 48 of Appendix B. A total of 214 responses representing almost one-half of the sample came from the BA+15 category. Over 30% of the respondents indicated that they had achieved a MA, MA+15, or MA+30+.

Respondents' experience in their current teaching position is shown in Table 49 of Appendix B. A total of 135 respondents have been in their present teaching position 20 or more years. This group represented 31.1% of the sample. The second largest group has been in their current position for 5 years or less representing 22.6% of the sample.

Table 50 in Appendix B addresses the total years of teaching experience of the respondents in the sample. The most frequent category representing total years of teaching experience was the 20+ category. Respondents that had taught 20 or more years comprised 45.6% of the sample. No other category of experience exceeded 17% of the sample.
Results

Respondents Involvement in Decision-Making

Three research questions addressed teacher involvement in decision-making in Iowa schools. Research questions one and two asked respondents to indicate their actual and desired level of participation in 14 decisional areas. Research question three required the computation of a discrepancy. This discrepancy was derived by subtracting the desired from the actual response for each respondent on each of the 14 decisional areas.

Respondents Actual Participation in Decision-Making

This study determined the extent to which the survey respondents participated in decision-making in their schools. Respondents reported that they currently have a very high level of participation in only one decisional area. The mean response indicated that respondents were Often to Almost Always Involved in the selection of teaching materials.

Decisions that respondents reported high but slightly less involvement in were curriculum development, student progress reporting procedures, setting school goals/vision/mission, grading policy, parent/community relations, staff development, and discipline standards. The mean responses indicated that respondents were Sometimes to Often Involved in these decisional areas.

Decisional areas where respondents indicated being Rarely to Sometimes Involved include scheduling, facility use during the school day, teacher assignments, and school attendance policy. Decisional areas that revealed the lowest
levels of respondents' involvement include school security policy and setting budget priorities. The mean responses for these decisional areas were very low and qualified for the Almost Never to Rarely Involved categories. Respondents actual participation data has been provided in an easy to read format in Table 2.

Table 2

<table>
<thead>
<tr>
<th>Decisional Areas</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Often to Almost Always Involved</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teaching Materials Selection</td>
<td>4.09</td>
<td>1.10</td>
</tr>
<tr>
<td><strong>Sometimes to Often Involved</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Curriculum Development</td>
<td>3.97</td>
<td>1.08</td>
</tr>
<tr>
<td>Student Progress Reporting Procedures</td>
<td>3.72</td>
<td>1.23</td>
</tr>
<tr>
<td>Setting School Goals/Vision/Mission</td>
<td>3.54</td>
<td>1.19</td>
</tr>
<tr>
<td>Grading Policy</td>
<td>3.49</td>
<td>1.40</td>
</tr>
<tr>
<td>Parent/Community Relations</td>
<td>3.44</td>
<td>1.08</td>
</tr>
<tr>
<td>Staff Development</td>
<td>3.31</td>
<td>1.14</td>
</tr>
<tr>
<td>Discipline Standards</td>
<td>3.28</td>
<td>1.23</td>
</tr>
<tr>
<td><strong>Rarely to Sometimes Involved</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scheduling</td>
<td>2.54</td>
<td>1.41</td>
</tr>
<tr>
<td>Facility Use During the School Day</td>
<td>2.27</td>
<td>1.32</td>
</tr>
<tr>
<td>Teacher Assignments</td>
<td>2.39</td>
<td>1.34</td>
</tr>
<tr>
<td>School Attendance Policy</td>
<td>2.21</td>
<td>1.23</td>
</tr>
<tr>
<td><strong>Almost Never to Rarely Be Involved</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School Security Policy</td>
<td>1.94</td>
<td>1.12</td>
</tr>
<tr>
<td>Setting Budget Priorities</td>
<td>1.79</td>
<td>1.10</td>
</tr>
</tbody>
</table>
Respondents appeared to be most involved in decisions that directly impact the act of teaching. Decisional areas such as teaching materials selection, curriculum development, student progress reporting procedures, grading policy, and discipline standards each received a mean sufficient to indicate that respondents were Sometimes to Almost Always Involved in these decisions. Only three decisional areas that are managerial in nature and impact the entire school received a similar response. They were setting school goals/vision/mission, parent/community relations, and staff development.

The respondents reported having less involvement in decisions which directly impact the entire school setting. Scheduling, facility use during the school day, teacher assignments, school attendance policy, school security policy, and setting budget priorities aptly fit this description. Respondents reported that they were Rarely to Sometimes Involved in scheduling, facility use during the school day, teacher assignments, and school attendance policy. Respondents were Almost Never to Rarely Involved in decisions about school security policy and setting budget priorities.

**Desired Participation in Decision-Making**

This study also determined the extent to which the respondents desired to participate in the 14 decisional areas. Each mean for the desired response was greater than the mean representing actual levels of participation. The
respondents desired more involvement than they already had in each of the 14 decisional areas.

The selection of teaching materials again received the greatest mean response of the 14 decisional areas. Respondents desired to be Often to Almost Always Involved in this decisional area. The desired mean of 4.56 indicates that respondents strongly desired to be even more involved in the selection of teaching materials.

Five other decisional areas were desired to be in the Often to Almost Always Involved category. The means for student progress reporting procedures, curriculum development, grading policy, and discipline standards increased sufficiently so that they moved up one category of involvement. Scheduling received special emphasis by moving up two categories of involvement.

Decisions in which respondents desired to be Sometimes to Often Involved include setting the school goals/vision/mission, parent/community relations, staff development, teacher assignments, setting budget priorities, school attendance policy, and facility use during the school day. The three decisional areas of setting the school goals/vision/mission, parent/community relations, and staff development received slightly higher desired responses when compared to actual respondent involvement, but did not change categories of involvement.

Teacher assignments, school attendance policy, and facility use during the school day received more emphasis by moving up one category of involvement from Rarely to
Sometimes Involved to the Sometimes to Often Involved category. Setting budget priorities moved up two categories from the Almost Never to Rarely Involved and stabilized in the Sometimes to Often Involved category.

Respondents desired for school security policy decisions to remain at a low level of involvement by only moving up one category. Respondents reported that they were Almost Never to Rarely Involved in school security policy decisions and desired only to be Rarely to Sometimes Involved. Though desired involvement was greater than actual involvement, it was not a decisional area where respondents desired high levels of participation.

Survey respondents desired to be involved in decisions that appear most closely linked to instruction and their classroom learning environments. The selection of teaching materials remained the decisional area where respondents reported the highest actual level of involvement and the highest desired levels of involvement. Student progress reporting procedures, curriculum development, grading policy, and discipline standards were identified as decisional areas in which respondents also desired to be Often to Almost Always Involved.

Scheduling appears to be an exception. This decisional area more directly impacts the entire school rather than just the classroom setting. Respondents desired to increase their involvement in scheduling. This can be seen by the elevation of the decisional area from the actual participation level of
Rarely to Sometimes Involved to the desired level of
Sometimes to Often Involved.

Other decisions that more likely impact the entire
school such as setting the school goals/vision/mission,
parent/community relations, staff development, teacher
assignments, setting budget priorities, school attendance
policy, facility use during the school day, and school
security policy received less respondent desire than did
decisions that appear more closely related to the classroom.
Each decisional area fell into the Sometimes to Often or
Rarely to Sometimes Involved categories. The data were
arranged to assist the reader in Table 3.

**Decisional Discrepancies in Decision-Making**

The design of the study included an examination of both
actual and desired levels of participation in school
decision-making. A discrepancy level for each individual was
determined by subtracting the desired participation response
from the actual response. The results of using this formula
revealed discrepancies with negative means indicating levels
of decisional deprivation for each of the 14 decisional
areas. Decisional deprivation occurred when desired
participation was greater than actual participation and
respondents desired more participation than they had.

The actual and desired mean responses were compared
using t-tests for each of the 14 decisional areas.
Discrepancy differences were all significant at the $p = .01$
level. The differences between actual and desired
participation of the respondents for each of the 14
Table 3

**Desired Participation of Survey Respondents in Decision-Making**

<table>
<thead>
<tr>
<th>Decisional Areas</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Often to Almost Always Involved</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teaching Materials Selection</td>
<td>4.56</td>
<td>.74</td>
</tr>
<tr>
<td>Student Progress Reporting Procedures</td>
<td>4.26</td>
<td>.88</td>
</tr>
<tr>
<td>Curriculum Development</td>
<td>4.24</td>
<td>.88</td>
</tr>
<tr>
<td>Grading Policy</td>
<td>4.17</td>
<td>.95</td>
</tr>
<tr>
<td>Discipline Standards</td>
<td>4.15</td>
<td>.89</td>
</tr>
<tr>
<td>Scheduling</td>
<td>4.03</td>
<td>.98</td>
</tr>
<tr>
<td><strong>Sometimes to Often Involved</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Setting School Goals/Vision/Mission</td>
<td>3.91</td>
<td>.91</td>
</tr>
<tr>
<td>Parent/Community Relations</td>
<td>3.86</td>
<td>.91</td>
</tr>
<tr>
<td>Staff Development</td>
<td>3.85</td>
<td>.92</td>
</tr>
<tr>
<td>Teacher Assignments</td>
<td>3.72</td>
<td>1.21</td>
</tr>
<tr>
<td>Setting Budget Priorities</td>
<td>3.49</td>
<td>1.13</td>
</tr>
<tr>
<td>School Attendance Policy</td>
<td>3.32</td>
<td>1.19</td>
</tr>
<tr>
<td>Facility Use During the School Day</td>
<td>3.09</td>
<td>1.29</td>
</tr>
<tr>
<td><strong>Rarely to Sometimes be Involved</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School Security Policy</td>
<td>2.95</td>
<td>1.20</td>
</tr>
</tbody>
</table>

decisional areas was significant. Respondents desired significantly more participation in all areas of decision-making. For the convenience of the reader, Table 4 contains the same information about actual and desired participation rearranged from Tables 2 and 3. In addition, the discrepancy
Table 4
Mean Decisional Discrepancy

<table>
<thead>
<tr>
<th>Deprivational Responses</th>
<th>Actual M(SD)</th>
<th>Desired M(SD)</th>
<th>Discrepancy M(SD)</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Setting Budget Priorities</td>
<td>1.79 (1.10)</td>
<td>3.49 (1.13)</td>
<td>-1.71* (1.37)</td>
<td>1.55</td>
</tr>
<tr>
<td>Scheduling</td>
<td>2.54 (1.41)</td>
<td>4.03 (0.98)</td>
<td>-1.50* (1.44)</td>
<td>1.06</td>
</tr>
<tr>
<td>Teacher Assignments</td>
<td>2.39 (1.34)</td>
<td>3.72 (1.21)</td>
<td>-1.33 (1.36)</td>
<td>0.99</td>
</tr>
<tr>
<td>School Attendance Policy</td>
<td>2.21 (1.23)</td>
<td>3.32 (1.19)</td>
<td>-1.11 (1.27)</td>
<td>0.90</td>
</tr>
<tr>
<td>School Security Policy</td>
<td>1.94 (1.12)</td>
<td>2.95 (1.20)</td>
<td>-1.01 (1.20)</td>
<td>0.90</td>
</tr>
<tr>
<td>Discipline Standards</td>
<td>3.28 (1.23)</td>
<td>4.15 (0.89)</td>
<td>-0.88* (1.20)</td>
<td>0.72</td>
</tr>
<tr>
<td>Facility Use During the School Day</td>
<td>2.27 (1.32)</td>
<td>3.09 (1.29)</td>
<td>-0.83* (1.13)</td>
<td>0.63</td>
</tr>
<tr>
<td>Grading Policy</td>
<td>3.49 (1.40)</td>
<td>4.17 (0.95)</td>
<td>-0.69* (1.17)</td>
<td>0.50</td>
</tr>
<tr>
<td>Staff Development</td>
<td>3.31 (1.14)</td>
<td>3.85 (0.92)</td>
<td>-0.56* (1.07)</td>
<td>0.50</td>
</tr>
<tr>
<td>Student Progress</td>
<td>3.72 (1.23)</td>
<td>4.26 (0.88)</td>
<td>-0.54 (1.01)</td>
<td>0.44</td>
</tr>
<tr>
<td>Teaching Materials</td>
<td>4.09 (1.10)</td>
<td>4.56 (0.74)</td>
<td>-0.47 (0.95)</td>
<td>0.43</td>
</tr>
<tr>
<td>Setting School Goals/Vision/Mission</td>
<td>3.54 (1.19)</td>
<td>3.91 (0.91)</td>
<td>-0.38* (0.94)</td>
<td>0.41</td>
</tr>
<tr>
<td>Parent/Community Relations</td>
<td>3.44 (1.08)</td>
<td>3.86 (0.91)</td>
<td>-0.42 (0.86)</td>
<td>0.39</td>
</tr>
<tr>
<td>Curriculum Development</td>
<td>3.97 (1.08)</td>
<td>4.24 (0.88)</td>
<td>-0.28* (0.91)</td>
<td>0.25</td>
</tr>
</tbody>
</table>

Note: *Rounding error.

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between actual and desired participation for each of the 14 decisional areas has been arranged in descending order.

To further understand the significance of the discrepancies, effect size (Coehn, 1977) was computed and reported in Table 4. The effect size was computed using the formula in Figure 1.

\[
\text{ES} = \frac{M_{\text{desired}} - M_{\text{actual}}}{\text{SD}_{\text{actual}}}
\]

**Figure 1.** Effect size formula.

Subtracting the actual means from the desired means for each decisional area put the emphasis on respondents' desire for future impact and are shown in positive numerals representing the size of the negative discrepancies.

Decisional areas with a large effect size, defined to be greater than .8, were those with the greatest decisional deprivation. Setting budget priorities, scheduling, teacher assignments, school attendance policy, and school security policy each fell into this category. The difference between actual and desired responses was such that respondents strongly desired more involvement in these decisional areas.

Four decisional areas received a medium effect size. A medium effect size was numerically defined between .5 to .8. Discipline standards, facility use during the school day, grading policy, and staff development can be described as having differences between the actual and desired mean responses that vary enough as to be seriously considered and
noticed. These decisional areas should be kept in relation to decisional areas with strong and small effect sizes.

Decisional areas with small effect sizes, between .2 and .5, consist of student progress reporting procedures, teaching materials selection, parent/community relations, setting school goals/vision/mission, and curriculum development. Small effect sizes should not be discounted but conceived as only small differences between the actual and desired levels of respondent participation.

Decisional Areas With A Large Amount of Deprivation

Effect sizes above .8 represent decisional areas where respondents showed a large amount of decisional deprivation. The decisional areas of setting budget priorities, scheduling, teacher assignments, school attendance policy, and school security policy will be addressed individually in this section. Actual participation, desired participation, and respondent satisfaction in terms of decisional deprivation, equilibrium, and saturation will be discussed.

Setting Budget Priorities

The respondents' actual and desired participation means in setting budget priorities showed a large discrepancy (ES = 1.55). Individuals responding to the questionnaire reported the greatest amount of dissatisfaction in setting budget priorities among the 14 decisional areas. In Table 5, 75.3% of the responses resulted in negative decisional discrepancies. This percentage represents the sum of all percentages of respondents with negative decisional discrepancies.
Table 5
Discrepancy Pertaining to Setting Budget Priorities

<table>
<thead>
<tr>
<th>Discrepancy</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.00</td>
<td>1</td>
<td>.2</td>
</tr>
<tr>
<td>2.00</td>
<td>1</td>
<td>.2</td>
</tr>
<tr>
<td>1.00</td>
<td>7</td>
<td>1.6</td>
</tr>
<tr>
<td>0.00</td>
<td>98</td>
<td>22.6</td>
</tr>
<tr>
<td>-1.00</td>
<td>70</td>
<td>16.1</td>
</tr>
<tr>
<td>-2.00</td>
<td>123</td>
<td>28.3</td>
</tr>
<tr>
<td>-3.00</td>
<td>82</td>
<td>18.9</td>
</tr>
<tr>
<td>-4.00</td>
<td>45</td>
<td>10.4</td>
</tr>
<tr>
<td>Missing</td>
<td>7</td>
<td>1.6</td>
</tr>
</tbody>
</table>

Note. M = -1.71, SD = 1.37, ES = 1.55, N = 427.

Among the 14 decisional areas, the lowest percentage of respondents, 22.6, were at decisional equilibrium in regard to setting budget priorities. The second lowest percentage of respondents experienced decisional saturation. Only 2% of the responses, those with positive decisional discrepancies, desired less participation than they already had.

A high percentage, 56%, of the respondents reported to be Almost Never Involved in setting budget priorities. Note Table 6. Approximately 78% indicated that they were Rarely or Almost Never Involved. The percentages of respondents decreased dramatically for each category of participation representing greater levels of participation. Only 10.1% of
Table 6

Responses Pertaining to Setting Budget Priorities (N = 434)

<table>
<thead>
<tr>
<th>Category Area</th>
<th>Almost Never Involved</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Almost Always Involved</th>
<th>Missing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actual (%)</td>
<td>245 (56.5)</td>
<td>91</td>
<td>53</td>
<td>31</td>
<td>13 (3.0)</td>
<td>1 (0.2)</td>
</tr>
<tr>
<td>Desired (%)</td>
<td>36 (8.3)</td>
<td>28</td>
<td>138</td>
<td>140</td>
<td>85 (19.6)</td>
<td>7 (1.6)</td>
</tr>
</tbody>
</table>

The respondents indicated current levels of Often or Almost Always Involved.

Respondents generally desired to be at least Sometimes Involved in setting budget priorities. Setting budget priorities was one of only two decisional areas with a large effect size where the desired mean of participation increased the equivalent of two categories from actual levels of participation. Actual participation was at the Almost Never to Rarely Involved level of participation and desired participation was in the Sometimes to Often Involved category of participation. Most respondents felt very strongly about their need to participate in the decisional area of setting budget priorities and desired to be more involved in those decisions.

Scheduling

Survey responses showed that the decisional area of scheduling had a large discrepancy between actual and desired
participation (ES = 1.06). Scheduling received the second greatest level of respondent deprivation among the 14 decisional areas. Over 66% of the respondents desired more involvement in scheduling than they already had. This percentage represents the sum of all percentages of respondents with negative decisional discrepancies. Scheduling received the second lowest percentage, 29%, among the 14 decisional areas of respondents at decisional equilibrium. Only 3.2% of the respondents, those with positive decisional discrepancies, were saturated and desired less involvement. See Table 7.

Table 7
Discrepancy Pertaining to Scheduling

<table>
<thead>
<tr>
<th>Discrepancy</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.00</td>
<td>1</td>
<td>.2</td>
</tr>
<tr>
<td>2.00</td>
<td>2</td>
<td>.5</td>
</tr>
<tr>
<td>1.00</td>
<td>11</td>
<td>2.5</td>
</tr>
<tr>
<td>.00</td>
<td>126</td>
<td>29.0</td>
</tr>
<tr>
<td>-1.00</td>
<td>75</td>
<td>17.3</td>
</tr>
<tr>
<td>-2.00</td>
<td>105</td>
<td>24.2</td>
</tr>
<tr>
<td>-3.00</td>
<td>58</td>
<td>13.4</td>
</tr>
<tr>
<td>-4.00</td>
<td>50</td>
<td>11.5</td>
</tr>
<tr>
<td>Missing</td>
<td>6</td>
<td>1.4</td>
</tr>
</tbody>
</table>

Note. M = -1.50, SD = 1.44, ES = 1.06, N = 428.
Most respondents showed low levels of actual participation in scheduling while few reported high levels of participation. Actual involvement by 52.6% of the respondents was reported to occur at the Rarely or Almost Never Involved levels. Few, 6%, of respondents desired participation at those levels. Only 28.4% of the respondents indicated that they were Often or Almost Always Involved.

Most respondents desired to be highly involved in scheduling. Many respondents, 37.3%, desired to be Almost Always Involved. Almost 75% desired to be Often or Almost Always Involved. See Table 8.

<table>
<thead>
<tr>
<th>Category</th>
<th>Almost Never Involved</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Almost Always Involved</th>
<th>Missing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actual (%)</td>
<td>147</td>
<td>81</td>
<td>83</td>
<td>71</td>
<td>52</td>
<td>0</td>
</tr>
<tr>
<td>Desired (%)</td>
<td>12</td>
<td>14</td>
<td>84</td>
<td>156</td>
<td>162</td>
<td>6</td>
</tr>
</tbody>
</table>

Table 8
Responses Pertaining to Scheduling (N = 434)

Teacher Assignments

Actual and desired participation of those who answered the survey varied to a large extent (ES = .99) with regard to teacher assignments. The decisional deprivation level was
the third greatest among all 14 of the decisional areas. As
could be seen by finding the sum of all percentages of
respondents with negative decisional discrepancies, 61% of
the respondents were found to be in decisional deprivation.
See Table 9. Only 34.6% of the respondents indicated that
they already had the level of participation that they desired
and were in decisional equilibrium. This was the third
lowest percentage of respondents reporting decisional
equilibrium among the 14 decisional areas. Teacher
assignments received the lowest percentage, 1.9%, of
respondents reporting decisional saturation among the 14
decisional areas. This percentage represents the sum of all
percentages of respondents with positive decisional
discrepancies.

Table 9
Discrepancy Pertaining to Teacher Assignments

<table>
<thead>
<tr>
<th>Discrepancy</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.00</td>
<td>3</td>
<td>.7</td>
</tr>
<tr>
<td>1.00</td>
<td>5</td>
<td>1.2</td>
</tr>
<tr>
<td>.00</td>
<td>150</td>
<td>34.6</td>
</tr>
<tr>
<td>-1.00</td>
<td>82</td>
<td>18.9</td>
</tr>
<tr>
<td>-2.00</td>
<td>94</td>
<td>21.7</td>
</tr>
<tr>
<td>-3.00</td>
<td>54</td>
<td>12.4</td>
</tr>
<tr>
<td>-4.00</td>
<td>35</td>
<td>8.1</td>
</tr>
<tr>
<td>Missing</td>
<td>11</td>
<td>2.5</td>
</tr>
</tbody>
</table>

Note.  $M = -1.33$, $SD = 1.36$, $ES = .99$, $N = 423$.  

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Only 23.1% of the respondents indicated that they Often or Almost Always participated in decisions about teacher assignments. As the level of participation decreased, the frequency of respondents increased for each category of participation. Over half, 56.4%, of the respondents indicated that they were Rarely or Almost Never Involved in making decisions about teacher assignments.

Approximately 62% of the individuals surveyed indicated their desire to be Often or Almost Always Involved in teacher assignment decisions. See Table 10. Respondents felt they were generally not involved in decisions regarding teacher assignments.

Table 10
Responses Pertaining to Teacher Assignments (N = 434)

<table>
<thead>
<tr>
<th>Category Area</th>
<th>Almost Never Involved</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Almost Always Involved</th>
<th>Missing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actual (%)</td>
<td>158 (36.4)</td>
<td>87 (20.0)</td>
<td>85 (19.6)</td>
<td>61 (14.1)</td>
<td>39 (9.0)</td>
<td>4 (0.9)</td>
</tr>
<tr>
<td>Desired (%)</td>
<td>38 (8.8)</td>
<td>21 (4.8)</td>
<td>97 (22.4)</td>
<td>136 (31.3)</td>
<td>133 (30.6)</td>
<td>9 (2.1)</td>
</tr>
</tbody>
</table>

School Attendance Policy

The respondents' actual and desired participation means in decisions about school attendance policy showed a large
discrepancy (ES = .90). Responses indicated that the level of decisional deprivation for school attendance policy decisions was the fourth greatest among the 14 decisional areas. See Table 4. Over one-half, 58.3%, of the respondents showed levels of decisional deprivation. This percentage represents the sum of all percentages of respondents with negative decisional discrepancies. Only 35.5% of the respondents reported satisfaction with their current level of participation and were at decisional equilibrium. See Table 11. This was the fourth lowest percentage of respondents reporting decisional equilibrium among the 14 decisional areas.

Table 11
Discrepancy Pertaining to School Attendance Policy

<table>
<thead>
<tr>
<th>Discrepancy</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.00</td>
<td>4</td>
<td>.9</td>
</tr>
<tr>
<td>1.00</td>
<td>16</td>
<td>3.7</td>
</tr>
<tr>
<td>.00</td>
<td>154</td>
<td>35.5</td>
</tr>
<tr>
<td>-1.00</td>
<td>89</td>
<td>20.5</td>
</tr>
<tr>
<td>-2.00</td>
<td>101</td>
<td>23.3</td>
</tr>
<tr>
<td>-3.00</td>
<td>45</td>
<td>10.4</td>
</tr>
<tr>
<td>-4.00</td>
<td>18</td>
<td>4.1</td>
</tr>
<tr>
<td>Missing</td>
<td>7</td>
<td>1.6</td>
</tr>
</tbody>
</table>

*Note.* $M = -1.11$, $SD = 1.27$, $ES = .90$, $N = 427$. 

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Sixty-two percent of the individuals surveyed reported that they were Rarely to Almost Never Involved in decisions regarding school attendance policy. A majority, 84.1%, reported Sometimes, Rarely, or Almost Never Involved, and only 15.9% reported being Often or Almost Always Involved. See Table 12.

Table 12
Responses Pertaining to School Attendance Policy (N = 434)

<table>
<thead>
<tr>
<th>Category Area</th>
<th>Almost Never Involved</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Almost Always Involved</th>
<th>Missing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actual (%)</td>
<td>170</td>
<td>99</td>
<td>96</td>
<td>43</td>
<td>26</td>
<td>0</td>
</tr>
<tr>
<td>Desired (%)</td>
<td>43</td>
<td>48</td>
<td>143</td>
<td>116</td>
<td>77</td>
<td>7</td>
</tr>
</tbody>
</table>

Over three-quarters, 77.3%, of the respondents desired to be Sometimes, Often, or Almost Always Involved in decisions regarding student attendance policy. The modal response was to be Sometimes Involved with progressively fewer individuals desiring each of the two higher levels of involvement. The majority of those who responded to the survey were decisionally deprived and strongly desired more participation at a higher level.
School Security Policy

A large discrepancy (ES = .90) was observed between actual and desired participation of individuals who responded to the decisional area of school security policy. In a normally distributed manner, most respondents, 57.3%, conveyed that they Sometimes or Often participated in school security policy decisions. Individuals' desired to participate in school security policy decisions in an almost normal distribution. The modal and mean responses indicated that respondents were Sometimes Involved. An unusually large percentage of those who answered the survey, 16.6%, desired to be Almost Never Involved in decisions regarding school security. See Table 13.

Table 13
Responses Pertaining to School Security Policy (N = 434)

<table>
<thead>
<tr>
<th>Category Area</th>
<th>Almost Never Involved</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Almost Always Involved</th>
<th>Missing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actual (%)</td>
<td>211 (11.1)</td>
<td>91 (13.1)</td>
<td>87 (30.6)</td>
<td>26 (26.7)</td>
<td>15 (18.4)</td>
<td>4 (0.0)</td>
</tr>
<tr>
<td>Desired (%)</td>
<td>72 (16.6)</td>
<td>57 (13.1)</td>
<td>160 (36.9)</td>
<td>90 (20.7)</td>
<td>44 (10.1)</td>
<td>11 (2.5)</td>
</tr>
</tbody>
</table>
Over half of the individuals, 53.7%, responded in a way that characterized them as being decisionally deprived in the area of school security policy. This percentage represents the sum of respondents with negative decisional discrepancies. See Table 14. Less than 4% had more involvement than they desired as seen by positive decisional discrepancies and were decisionally saturated. Respondents who were at decisional equilibrium with their current level of involvement consisted of 39.9% of the sample. Some individuals strongly wanted more involvement while others did not agree on the ideal level of involvement.

Table 14
Discrepancy Pertaining to School Security Policy

<table>
<thead>
<tr>
<th>Discrepancy</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.00</td>
<td>3</td>
<td>.7</td>
</tr>
<tr>
<td>1.00</td>
<td>14</td>
<td>3.2</td>
</tr>
<tr>
<td>.00</td>
<td>173</td>
<td>39.9</td>
</tr>
<tr>
<td>-1.00</td>
<td>81</td>
<td>18.7</td>
</tr>
<tr>
<td>-2.00</td>
<td>100</td>
<td>23.0</td>
</tr>
<tr>
<td>-3.00</td>
<td>43</td>
<td>9.9</td>
</tr>
<tr>
<td>-4.00</td>
<td>9</td>
<td>2.1</td>
</tr>
<tr>
<td>Missing</td>
<td>11</td>
<td>2.5</td>
</tr>
</tbody>
</table>

Note.  $M = -1.01$, $SD = 1.20$, $ES = .90$, $N = 423$. 
Decisional Areas With A Medium Amount of Deprivation

Decisional areas with medium effect sizes, those between .5 and .8, represent a level of decisional deprivation that was less than strong but substantial. The decisional areas of discipline standards, facility use during the school day, grading policy, and staff development will be addressed individually in this section. Actual participation, desired participation, and respondent satisfaction as seen by levels of decisional deprivation, equilibrium, and saturation will be addressed.

Discipline Standards

Results of the survey showed that the decisional area of discipline standards had a medium-sized discrepancy between actual and desired participation (ES = .72). The actual participation mean and the desired participation mean varied noticeably toward decisional deprivation. Discipline standards decisions were at the sixth highest level of deprivation among the 14 decisional areas. See Table 4. Deprivation occurred for 50.5% of the respondents. As can be seen in Table 15, 50.5% represents the total percentage of respondents with negative decisional discrepancies. Those individuals desired more participation than they already had in decisions regarding discipline standards. Few respondents, 4.0%, showed positive decisional discrepancies. Those individuals desired less involvement and were decisionally saturated.

Many respondents, 45.1%, indicated that they were Often or Almost Always Involved with decisions pertaining to
Table 15
Discrepancy Pertaining to Discipline Standards

<table>
<thead>
<tr>
<th>Discrepancy</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.00</td>
<td>2</td>
<td>.5</td>
</tr>
<tr>
<td>1.00</td>
<td>15</td>
<td>3.5</td>
</tr>
<tr>
<td>.00</td>
<td>189</td>
<td>43.5</td>
</tr>
<tr>
<td>-1.00</td>
<td>110</td>
<td>25.3</td>
</tr>
<tr>
<td>-2.00</td>
<td>62</td>
<td>14.3</td>
</tr>
<tr>
<td>-3.00</td>
<td>28</td>
<td>6.5</td>
</tr>
<tr>
<td>-4.00</td>
<td>19</td>
<td>4.4</td>
</tr>
<tr>
<td>Missing</td>
<td>9</td>
<td>2.1</td>
</tr>
</tbody>
</table>

Note. M = -.88, SD = 1.20, ES = .72, N = 425.

discipline standards. The modal and mean responses were to be Sometimes Involved with a relatively normal distribution. An even greater proportion of respondents, 75.6%, desired to be Often or Almost Always Involved in setting standards of discipline. Only 3.3% desired to be Rarely or Almost Never Involved. See Table 16.

Facility Use During the School Day

Decisions regarding the use of the school facility during the school day derived a medium-sized discrepancy (ES = .63) between actual and desired participation means. The variation toward decisional deprivation was notable. Summing the percentages of respondents with negative decisional discrepancies reveals that 46.2% of the respondents were decisionally deprived and desired more
Table 16

Responses Pertaining to Discipline Standards (N = 434)

<table>
<thead>
<tr>
<th>Category Area</th>
<th>Almost Never Involved</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Almost Always Involved</th>
<th>Missing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actual (%)</td>
<td>48 (11.1)</td>
<td>57 (13.1)</td>
<td>133 (30.6)</td>
<td>116 (26.7)</td>
<td>80 (18.4)</td>
<td>0 (0.0)</td>
</tr>
<tr>
<td>Desired (%)</td>
<td>5 (1.2)</td>
<td>9 (2.1)</td>
<td>83 (19.1)</td>
<td>148 (34.1)</td>
<td>180 (41.5)</td>
<td>9 (2.1)</td>
</tr>
</tbody>
</table>

participation. See Table 17. The fourth lowest percentage of saturation among the 14 decisional areas was also observed. Only 3.2% of the respondents desired less participation, as seen by positive decisional discrepancies, than they already had and were decisionally saturated.

Almost one-third, 31.8%, of individuals responded in a relatively normal distribution that they Sometimes desired to be involved in decisions regarding use of the school facility during the school day. Only 18.9% indicated current levels of participation of Sometimes, Often, or Almost Always Involved and most, 40.6%, indicated that they were Almost Never Involved in such decisions. Respondents who were not currently satisfied with involvement in facility use decisions desired more occasional participation. Note Table 18.
Table 17
Discrepancy Pertaining to Facility Use During the School Day

<table>
<thead>
<tr>
<th>Discrepancy</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.00</td>
<td>14</td>
<td>3.2</td>
</tr>
<tr>
<td>.00</td>
<td>208</td>
<td>47.9</td>
</tr>
<tr>
<td>-1.00</td>
<td>84</td>
<td>19.4</td>
</tr>
<tr>
<td>-2.00</td>
<td>81</td>
<td>18.7</td>
</tr>
<tr>
<td>-3.00</td>
<td>22</td>
<td>5.1</td>
</tr>
<tr>
<td>-4.00</td>
<td>13</td>
<td>3.0</td>
</tr>
<tr>
<td>Missing</td>
<td>12</td>
<td>2.8</td>
</tr>
</tbody>
</table>

Note.  $M = - .83$, $SD = 1.13$, $ES = .63$, $N = 422$.

Table 18
Responses Pertaining to Facility Use During the School Day
(N = 434)

<table>
<thead>
<tr>
<th>Category</th>
<th>Almost Always/Almost</th>
<th>Frequently/Sometimes</th>
<th>Rarely/Rarely</th>
<th>Never/Involved</th>
<th>Missing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actual</td>
<td>(%37) (37) (8.5) (0.7)</td>
<td>90 (20.7) (16.4) (2.8)</td>
<td>54 (12.4) (2.8)</td>
<td>69 (15.9) (2.8)</td>
<td>80 (18.4) (2.8)</td>
</tr>
<tr>
<td>Desired</td>
<td>(%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Grading Policy
Grading policy was a decisional area in which 53.9% of the respondents surveyed desired to be Often to Almost Always
Involved. See Table 3. A medium effect size between actual and desired participation means (ES = .50) indicated that the means between actual and desired participation varied to a moderate degree. The discrepancy mean of -.69 indicated respondent deprivation, see Table 19, even though 55.1% of the respondents indicated they were at decisional equilibrium with their current level of participation.

Table 19
Discrepancy Pertaining to Grading Policy

<table>
<thead>
<tr>
<th>Discrepancy</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.00</td>
<td>4</td>
<td>.9</td>
</tr>
<tr>
<td>1.00</td>
<td>14</td>
<td>3.2</td>
</tr>
<tr>
<td>.00</td>
<td>239</td>
<td>55.1</td>
</tr>
<tr>
<td>-1.00</td>
<td>68</td>
<td>15.7</td>
</tr>
<tr>
<td>-2.00</td>
<td>57</td>
<td>13.1</td>
</tr>
<tr>
<td>-3.00</td>
<td>24</td>
<td>5.5</td>
</tr>
<tr>
<td>-4.00</td>
<td>15</td>
<td>3.5</td>
</tr>
<tr>
<td>Missing</td>
<td>13</td>
<td>3.0</td>
</tr>
</tbody>
</table>

Note. M = -.69, SD = 1.17, ES = .50, N = 421.

Involvement by survey respondents, both actual and desired, was reported most frequently in the categories representing the highest levels of participation. A majority 75.1% of those surveyed indicated desire to be Often or Almost Always Involved in grading policy decisions. See
Table 20. Though many respondents were satisfied with their current high levels of involvement, others who were not satisfied desired more involvement.

Table 20
Responses Pertaining to Grading Policy (N = 434)

<table>
<thead>
<tr>
<th>Category Area</th>
<th>Almost Never Involved</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Almost Always Involved</th>
<th>Missing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actual (%)</td>
<td>56 (12.9)</td>
<td>55 (12.7)</td>
<td>85 (19.6)</td>
<td>91 (21.0)</td>
<td>143 (32.9)</td>
<td>4 (0.9)</td>
</tr>
<tr>
<td>Desired (%)</td>
<td>10 (2.3)</td>
<td>8 (1.8)</td>
<td>77 (17.7)</td>
<td>131 (30.2)</td>
<td>195 (44.9)</td>
<td>13 (3.0)</td>
</tr>
</tbody>
</table>

Staff Development
A medium sized difference (ES = .50) between actual and desired participation means was observed for the decisional area of staff development. As can be seen in Table 21, by summing the percentages of positive and negative discrepancies, more respondents were at decisional equilibrium than at decisional deprivation. A high percentage of the respondents, 8.9%, were saturated with more participation than they desired in the decisional area of staff development. This was the highest level of participant saturation among the 14 decisional areas.
Table 21
Discrepancy Pertaining to Staff Development

<table>
<thead>
<tr>
<th>Discrepancy</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.00</td>
<td>1</td>
<td>.2</td>
</tr>
<tr>
<td>2.00</td>
<td>8</td>
<td>1.8</td>
</tr>
<tr>
<td>1.00</td>
<td>30</td>
<td>6.9</td>
</tr>
<tr>
<td>.00</td>
<td>198</td>
<td>45.6</td>
</tr>
<tr>
<td>-1.00</td>
<td>99</td>
<td>22.8</td>
</tr>
<tr>
<td>-2.00</td>
<td>69</td>
<td>15.9</td>
</tr>
<tr>
<td>-3.00</td>
<td>14</td>
<td>3.2</td>
</tr>
<tr>
<td>-4.00</td>
<td>2</td>
<td>.5</td>
</tr>
<tr>
<td>Missing</td>
<td>13</td>
<td>3.0</td>
</tr>
</tbody>
</table>

Note.  \( M = -.56, \ SD = 1.07, \ ES = .50, \ N = 421. \)

The majority of respondents, 76.5%, said that they were Sometimes, Often, or Almost Always Involved in staff development decisions. The desired modal response was to be Often Involved. Many respondents, 65.2%, desired to be Sometimes or Often Involved in this decisional area, and 91.2% desired to be Sometimes, Often, or Almost Always Involved. Few individuals in the survey desired categories of low involvement. Only 5.8% desired to be Almost Never or Rarely Involved. See Table 22. Of the respondents not satisfied with their current level of involvement, most indicated decisional deprivation and desired slightly more participation than they already had.
Table 22

Responses Pertaining to Staff Development (N = 434)

<table>
<thead>
<tr>
<th>Category Area</th>
<th>Almost Never Involved</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Almost Always Involved</th>
<th>Missing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actual (%)</td>
<td>28 (6.5)</td>
<td>70 (16.1)</td>
<td>152 (35.0)</td>
<td>101 (23.3)</td>
<td>79 (18.2)</td>
<td>4 (0.2)</td>
</tr>
<tr>
<td>Desired (%)</td>
<td>6 (1.4)</td>
<td>19 (4.4)</td>
<td>122 (28.1)</td>
<td>161 (37.1)</td>
<td>113 (26.0)</td>
<td>13 (3.0)</td>
</tr>
</tbody>
</table>

Decisional Areas With A Small Amount of Deprivation

Decisional areas with small effect sizes, defined as falling between the .2 and .5 levels, will now be discussed. These decisional areas showed a weak, but noticeable level of decisional deprivation. Actual participation, desired participation, and respondent satisfaction with their current levels of participation will be discussed for the decisional areas of student progress reporting procedures, teaching materials selection, setting school goals/vision/mission, parent/community relations, and curriculum development.

Student Progress Reporting Procedures

The decisional area of student progress reporting procedures was a decisional area in which respondents desired and mostly enjoyed a high level of involvement. Note Table 23. Most of the respondents, 61.1%, reported being Often or Almost Always Involved while 79.1% desired such a level of involvement. Few, only 16.6% of respondents, indicated that
Table 23

Responses Pertaining to Student Progress Reporting Procedures (N = 434)

<table>
<thead>
<tr>
<th>Category Area</th>
<th>Almost Never Involved</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Almost Always Involved</th>
<th>Missing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actual (%)</td>
<td>30 (6.9)</td>
<td>42 (9.7)</td>
<td>95 (21.9)</td>
<td>115 (26.5)</td>
<td>150 (34.6)</td>
<td>2 (0.5)</td>
</tr>
<tr>
<td>Desired (%)</td>
<td>6 (1.4)</td>
<td>6 (1.4)</td>
<td>67 (15.4)</td>
<td>137 (31.6)</td>
<td>206 (47.5)</td>
<td>12 (2.8)</td>
</tr>
</tbody>
</table>

they were Rarely or Almost Never Involved in such decisions. Only 2.8% desired to be Rarely or Almost Never Involved.

A majority of the respondents, 59.2%, were found to be satisfied with their current level of participation. This can be seen in Table 24 by the category of .00 decisional discrepancy. Student progress reporting procedures received the third highest percentage of respondents reporting decisional equilibrium among the 14 decisional areas. Though still firmly in decisional deprivation, the discrepancy between the actual and desired means - .54 was small (ES = .44). It can be said of the respondents not currently satisfied with their current level of involvement that the majority desired greater participation. Note Table 24.

Teaching Materials Selection

The respondents' actual and desired participation means in decisions about teaching materials selection showed a small discrepancy (ES = .43). It was the decisional area

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Table 24
Discrepancy Pertaining to Student Progress Reporting

<table>
<thead>
<tr>
<th>Discrepancy</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.00</td>
<td>5</td>
<td>1.2</td>
</tr>
<tr>
<td>1.00</td>
<td>12</td>
<td>2.8</td>
</tr>
<tr>
<td>.00</td>
<td>257</td>
<td>59.2</td>
</tr>
<tr>
<td>-1.00</td>
<td>73</td>
<td>16.8</td>
</tr>
<tr>
<td>-2.00</td>
<td>52</td>
<td>12.0</td>
</tr>
<tr>
<td>-3.00</td>
<td>17</td>
<td>3.9</td>
</tr>
<tr>
<td>-4.00</td>
<td>5</td>
<td>1.2</td>
</tr>
<tr>
<td>Missing</td>
<td>13</td>
<td>3.0</td>
</tr>
</tbody>
</table>

Note. M = -.54, SD = 1.01, ES = .44, N = 421.

with the greatest actual respondent participation and the greatest desire for participation. See Tables 2 and 3. This decisional area had the highest percentage of respondents, 66.1%, with a .00 decisional discrepancy level representing decisional equilibrium among all 14 decisional areas in the study. A sum of 2.7% of the respondents had positive decisional discrepancies, and a sum of only 29.6% of the respondents had negative decisional discrepancies. See Table 25. This was the third lowest level of decisional saturation and the second lowest level of decisional deprivation among all 14 decisional areas.

Actual involvement by respondents in the area of teaching materials selection was the highest of all 14 decisional areas when considering responses in the Often to
Table 25

Discrepancy Pertaining to Teaching Materials Selection

<table>
<thead>
<tr>
<th>Discrepancy</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.00</td>
<td>1</td>
<td>.2</td>
</tr>
<tr>
<td>1.00</td>
<td>11</td>
<td>2.5</td>
</tr>
<tr>
<td>.00</td>
<td>287</td>
<td>66.1</td>
</tr>
<tr>
<td>-1.00</td>
<td>65</td>
<td>15.0</td>
</tr>
<tr>
<td>-2.00</td>
<td>45</td>
<td>10.4</td>
</tr>
<tr>
<td>-3.00</td>
<td>12</td>
<td>2.8</td>
</tr>
<tr>
<td>-4.00</td>
<td>6</td>
<td>1.4</td>
</tr>
<tr>
<td>Missing</td>
<td>7</td>
<td>1.6</td>
</tr>
</tbody>
</table>

Note.  M = -0.47,  SD = 0.95,  ES = 0.43,  N = 427.

Almost Always Involved categories. Approximately 74% of the respondents indicated this level of involvement. The percentage increased to 91.3% for respondents who desired to be Often or Almost Always Involved. See Table 26. Those who were surveyed placed a high value on their ability to make decisions regarding the selection of teaching materials. Of those not satisfied with their current level of participation, the remainder desired even more involvement. Under 3% of those who responded were decisionally saturated and desired less.

Setting School Goals/Vision/Mission

The respondents' actual and desired participation means in setting school goals/vision/mission showed a small discrepancy (ES = .41). In addition, the level of decisional
Table 26
Responses Pertaining to Teaching Materials Selection (N = 434)

<table>
<thead>
<tr>
<th>Category Area</th>
<th>Almost Never Involved</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Almost Always Involved</th>
<th>Missing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actual (%)</td>
<td>20 (4.6)</td>
<td>17 (3.9)</td>
<td>73 (16.8)</td>
<td>117 (27.0)</td>
<td>207 (47.4)</td>
<td>0 (0.0)</td>
</tr>
<tr>
<td>Desired (%)</td>
<td>5 (1.2)</td>
<td>4 (0.9)</td>
<td>22 (5.1)</td>
<td>114 (26.3)</td>
<td>282 (65.0)</td>
<td>7 (1.6)</td>
</tr>
</tbody>
</table>

depression, as seen by comparing actual and desired means, was the 13th smallest out of the 14 studied. As seen by the .00 decisional discrepancy level, 58.5% of the respondents were satisfied with their current level of participation. As seen by totaling the sum percentage of respondents reporting positive decisional discrepancies, 8.9% of the respondents were decisionally saturated and desired less participation in this decisional area. See Table 27. This was the second highest percentage of saturation among the 14 decisional areas.

The most common response representing actual respondent involvement occurred at the Sometimes, Often, or Almost Always Involved levels. These categories represented 82.7% of the responses. At 39.4%, the most frequently desired response was to be Often Involved. A majority, 92.8% of the respondents desired to be Sometimes, Often, or Almost Always Involved while less than 5% desired Rare or Almost Never
Involved in setting school goals/vision/mission. See Table 28.

Table 27
Discrepancy Pertaining to Setting School Goals/Vision/Mission

<table>
<thead>
<tr>
<th>Discrepancy</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.00</td>
<td>4</td>
<td>.9</td>
</tr>
<tr>
<td>1.00</td>
<td>34</td>
<td>7.8</td>
</tr>
<tr>
<td>.00</td>
<td>254</td>
<td>58.5</td>
</tr>
<tr>
<td>-1.00</td>
<td>77</td>
<td>17.7</td>
</tr>
<tr>
<td>-2.00</td>
<td>42</td>
<td>9.7</td>
</tr>
<tr>
<td>-3.00</td>
<td>10</td>
<td>2.3</td>
</tr>
<tr>
<td>-4.00</td>
<td>3</td>
<td>.7</td>
</tr>
<tr>
<td>Missing</td>
<td>10</td>
<td>2.3</td>
</tr>
</tbody>
</table>

Note. $M = -0.38$, $SD = .94$, $ES = .41$, $N = 424$.

Table 28
Responses Pertaining to Setting School Goals/Vision/Mission
(N = 434)

<table>
<thead>
<tr>
<th>Category Area</th>
<th>Almost Never Involved</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Almost Always Involved</th>
<th>Missing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actual (%)</td>
<td>35 (8.1)</td>
<td>39 (9.0)</td>
<td>122 (28.1)</td>
<td>131 (30.2)</td>
<td>106 (24.4)</td>
<td>1 (0.2)</td>
</tr>
<tr>
<td>Desired (%)</td>
<td>8 (1.8)</td>
<td>13 (3.0)</td>
<td>110 (25.3)</td>
<td>171 (39.4)</td>
<td>122 (28.1)</td>
<td>10 (2.3)</td>
</tr>
</tbody>
</table>

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Parent and Community Relations

Survey responses showed that the decisional area of parent and community relations had a small discrepancy between actual and desired participation (ES = .39). Though the discrepancy mean indicated decisional deprivation, 56.7% of the respondents had a decisional discrepancy level of .00 and were satisfied with their current level of participation. See Table 29. Parent and community relations received the fourth highest percentage of respondents who were decisionally saturated among the 14 decisional areas.

Totaling the percentage of respondents with positive decisional discrepancies revealed that the desired level of participation exceeded the actual level of participation for 6.1% of the respondents.

Table 29
Discrepancy Pertaining to Parent/Community Relations

<table>
<thead>
<tr>
<th>Discrepancy</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.00</td>
<td>1</td>
<td>.2</td>
</tr>
<tr>
<td>2.00</td>
<td>5</td>
<td>1.2</td>
</tr>
<tr>
<td>1.00</td>
<td>18</td>
<td>4.1</td>
</tr>
<tr>
<td>0.00</td>
<td>246</td>
<td>56.7</td>
</tr>
<tr>
<td>-1.00</td>
<td>99</td>
<td>22.8</td>
</tr>
<tr>
<td>-2.00</td>
<td>44</td>
<td>10.1</td>
</tr>
<tr>
<td>-3.00</td>
<td>7</td>
<td>1.6</td>
</tr>
<tr>
<td>Missing</td>
<td>14</td>
<td>3.2</td>
</tr>
</tbody>
</table>

Note. M = -.42, SD = .86, ES = .39, N = 420.
Most respondents, 82.5%, indicated that they were already Sometimes, Often, or Almost Always Involved in parent and community relations decisions, while 93% desired to be Sometimes, Often, or Almost Always Involved. The preferred response was to be Often Involved. Very few respondents, 3.9%, desired to be Rarely or Almost Never Involved. See Table 30. Of those who were not satisfied with their current involvement, the majority desired to be Often Involved.

Table 30
Responses Pertaining to Parent and Community Relations
(N = 434)

<table>
<thead>
<tr>
<th>Category Area</th>
<th>Almost Never Involved (%</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Almost Always Involved</th>
<th>Missing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actual (%)</td>
<td>18 (4.1)</td>
<td>54 (12.4)</td>
<td>164 (37.8)</td>
<td>107 (24.7)</td>
<td>87 (20.0)</td>
<td>4 (0.9)</td>
</tr>
<tr>
<td>Desired (%)</td>
<td>7 (1.6)</td>
<td>10 (2.3)</td>
<td>133 (30.6)</td>
<td>155 (35.7)</td>
<td>116 (26.7)</td>
<td>13 (3.0)</td>
</tr>
</tbody>
</table>

Curriculum Development

The smallest discrepancy between actual and desired levels of respondent participation (ES = .25) was computed for the decisional area of curriculum development. Most respondents, 66.1%, replied that they were satisfied with their current level of participation. This was the highest percentage of respondents reporting decisional equilibrium.
among the 14 decisional areas. Note the percentage of individuals with a .00 decisional discrepancy in Table 31. The 24.7% of respondents reporting levels of decisional deprivation ranked the lowest, 14 out of 14, among the decisional areas. This percentage represents the sum of all percentages of respondents with negative decisional discrepancies. The level of respondent decisional saturation, as seen by the sum of all percentages of respondents with positive decisional discrepancies, was the third largest among the decisional areas at 6.7% of the respondents.

Table 31
Discrepancy Pertaining to Curriculum Development

<table>
<thead>
<tr>
<th>Discrepancy</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.00</td>
<td>2</td>
<td>.5</td>
</tr>
<tr>
<td>3.00</td>
<td>1</td>
<td>.2</td>
</tr>
<tr>
<td>2.00</td>
<td>7</td>
<td>1.6</td>
</tr>
<tr>
<td>1.00</td>
<td>19</td>
<td>4.4</td>
</tr>
<tr>
<td>.00</td>
<td>287</td>
<td>66.1</td>
</tr>
<tr>
<td>-1.00</td>
<td>65</td>
<td>15.0</td>
</tr>
<tr>
<td>-2.00</td>
<td>32</td>
<td>7.4</td>
</tr>
<tr>
<td>-3.00</td>
<td>8</td>
<td>1.8</td>
</tr>
<tr>
<td>-4.00</td>
<td>2</td>
<td>.5</td>
</tr>
<tr>
<td>Missing</td>
<td>11</td>
<td>2.5</td>
</tr>
</tbody>
</table>

Note. $M = -.28$, $SD = .91$, $ES = .25$, $N = 423$. 

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Actual and desired levels of participation were both high for the decisional area of curriculum development. See Table 32. A majority 70.2% of the respondents said they were Often or Almost Always Involved in curriculum decisions. This was the second highest response of the 14 decisional areas using this measure. Almost 80% of the respondents desired such a high level of participation. Less than 10% of the respondents indicated actual levels of participation at the Almost Never or Rarely Involved decisional categories. The desired levels of participation at the Almost Never Involved and the Rarely Involved categories were less than 3% of the respondents.

Table 32
Responses Pertaining to Curriculum Development (N = 434)

<table>
<thead>
<tr>
<th>Category Area</th>
<th>Almost Never Involved</th>
<th>Rarely Involved</th>
<th>Sometimes Involved</th>
<th>Often Involved</th>
<th>Missing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actual (%)</td>
<td>17 (3.9)</td>
<td>24 (5.5)</td>
<td>87 (20.0)</td>
<td>133 (30.6)</td>
<td>172 (39.6)</td>
</tr>
<tr>
<td>Desired (%)</td>
<td>8 (1.8)</td>
<td>3 (0.7)</td>
<td>68 (15.7)</td>
<td>145 (33.4)</td>
<td>199 (45.9)</td>
</tr>
</tbody>
</table>

Identified Relationships

Research question four asked about the demographic makeup of the respondents in the sample. The question asked:
What are the relationships, if any, between the levels of discrepancy among the 14 types of decisions and the demographic characteristics?

Seven independent discriminant analysis were used to indicate relationships, if any, that existed between each of the seven demographic categories and the discrepancies between the actual and desired responses for the 14 decisional areas in the study. The dependent variables in the analysis were the demographic categories and the independent variables consisted of the decisional discrepancies. For this research, an alpha value of .05 was used to determine significance.

The size of community $p = .20$, and respondents' gender $p = .14$, age $p = .60$, and total teaching experience $p = .33$ did not prove to be significant factors by which individual discrepancy responses could be identified. Significant factors by which discrepancy scores could be identified were the grade span of the school in which the respondent taught (elementary or secondary) $p = .01$, the educational attainment of the respondent $p = .03$, and respondents' experience in their present position $p = .01$.

**Elementary and Secondary**

Elementary and secondary school respondents replied to the 14 decisional areas in a way that discriminated them from one another at the $p = .05$ level. The results of the stepwise procedure produced a Wilks' Lambda of .88 ($df = 14$) significant at the .001 level.
The discriminant function, revealed four variables that were significant. The variables were the discrepancies from questions about teaching materials selection, setting budget priorities, discipline standards, and student progress reporting procedures. Table 33 shows the variables ordered by size of correlation with the function. Elementary and secondary responses varied significantly based upon the correlations for these decisional areas.

Table 33

<table>
<thead>
<tr>
<th>Decisional Areas</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching Materials Selection</td>
<td>.67</td>
</tr>
<tr>
<td>Setting Budget Priorities</td>
<td>.62</td>
</tr>
<tr>
<td>Discipline Standards</td>
<td>-.55</td>
</tr>
<tr>
<td>Student Progress Reporting Procedures</td>
<td>.50</td>
</tr>
</tbody>
</table>

The group means for elementary and secondary respondents were assessed using nine independent t-tests on the actual, desired, and the discrepancy between the actual and desired responses based upon student progress reporting, setting budget priorities, and discipline standards. No significant
differences were detected when tested in this way. Elementary and secondary responses for these decisional areas could not be discriminated for these individual decisions.

Teaching materials selection. The difference between the elementary and secondary discrepancy means for teaching materials selection was significantly different ($t(425) = 37.72, p < .01$). Responses from individuals in secondary schools indicated significantly less decisional deprivation than elementary responses. Note Table 34. The difference between elementary mean and secondary mean responses was a significant $-.36$. This was a medium ($ES = .77$) difference. No significant differences were detected between elementary and secondary actual or desired mean responses when using t-tests.

Table 34
Discrepancy Means Table for Decisions Regarding Teaching Materials Selection for the Categories of Gradespan of School, Elementary or Secondary

<table>
<thead>
<tr>
<th>Gradespan</th>
<th>M</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary</td>
<td>-.65</td>
<td>1.09</td>
<td>210</td>
</tr>
<tr>
<td>Secondary</td>
<td>-.29</td>
<td>.74</td>
<td>217</td>
</tr>
<tr>
<td>Total</td>
<td>-.47</td>
<td>.95</td>
<td>427</td>
</tr>
</tbody>
</table>
Educational Attainment

Individuals who have reached varying degrees of educational attainment responded to the 14 decisional areas in a way that also discriminated them from one another. The results of the stepwise procedure produced a Wilks' Lambda of .82 (df = 56) significant at the .05 level.

The discriminant function revealed five decisional variables that were significant. The variables were the discrepancies from questions about school security policy, setting school goals/vision/mission, grading policy, attendance policy, and facility use. Table 35 shows the variables ordered by size of correlation with the function. Respondents replied significantly different to the survey based upon the correlations for these decisional areas.

Table 35
Canonical Discriminant Correlation Variables for Respondent Educational Attainment and the Discrepancy Between the 14 Decisional Areas

<table>
<thead>
<tr>
<th>Decisional Areas</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>School Security Policy</td>
<td>-.75</td>
</tr>
<tr>
<td>Attendance Policy</td>
<td>.58</td>
</tr>
<tr>
<td>Setting School Goals/Vision/Mission</td>
<td>.50</td>
</tr>
<tr>
<td>Grading Policy</td>
<td>.46</td>
</tr>
<tr>
<td>Facility Use During the School Day</td>
<td>.46</td>
</tr>
</tbody>
</table>
To determine if the actual levels of participation, desired levels of participation, or the discrepancy between actual and desired levels of participation in decisions regarding school security policy, attendance policy, grading policy, and facility use during the school day varied significantly, 12 independent one-way ANOVAs were conducted based upon individuals' educational attainment. No significant differences were detected when tested in this way. Responses to these decisional areas could not be independently discriminated based upon the educational level of the respondent.

**School goals/vision/mission.** The decisional area of setting school goals/vision/mission produced significant results \( F(4,416) = 3.98, p < .01 \) utilizing a one-way ANOVA on the discrepancy means. Respondents with varying levels of educational attainment significantly varied with regard to decisions about the setting of their school goals/vision/mission. Individuals who responded with higher educational attainment tended to experience less deprivation than did individuals with less education. Those with a BA had the greatest level of deprivation with a mean of -.76. The highest and lowest means varied by a medium sized discrepancy \( ES = .64 \) of -.6. The lowest level of deprivation was shown by the MA+30+ category. This group's mean was -.16. Data can be seen on Table 36.

To determine if there were significant differences between educational attainment categories for actual levels of participation and desired levels of participation for
Table 36

Discrepancy Means Table for Decisions Regarding Setting School Goals/Vision/Mission for the Categories of Educational Attainment

<table>
<thead>
<tr>
<th>Educational Attainment</th>
<th>M</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>BA</td>
<td>-.76</td>
<td>1.17</td>
<td>70</td>
</tr>
<tr>
<td>BA+15</td>
<td>-.35</td>
<td>.90</td>
<td>206</td>
</tr>
<tr>
<td>MA</td>
<td>-.22</td>
<td>.72</td>
<td>59</td>
</tr>
<tr>
<td>MA+15</td>
<td>-.40</td>
<td>.89</td>
<td>48</td>
</tr>
<tr>
<td>MA+30+</td>
<td>-.16</td>
<td>.92</td>
<td>38</td>
</tr>
<tr>
<td>Total</td>
<td>-.38</td>
<td>.94</td>
<td>421</td>
</tr>
</tbody>
</table>

setting school goals/mission/vision, one-way ANOVA's were again conducted. Respondents among the five educational attainment categories varied significantly ($F(4,425) = 2.65, p < .05$) in the amount of actual participation in setting school goals/mission/vision. Respondents with a BA had the greatest level of decisional deprivation at -.76 while those with a MA30+ were at the smallest level of deprivation at -.16. This was a medium sized difference between the decisional discrepancy means ($ES = .50$). Individuals with higher educational attainment report greater actual involvement in decisions regarding setting the school goals/vision/mission than did individuals with a minimum BA. See Table 37. Respondents among the five educational
Table 37

Means Table for Actual Levels of Participation in Decisions Regarding Setting School Goals/Vision/Mission for the Categories of Educational Attainment

<table>
<thead>
<tr>
<th>Educational Attainment</th>
<th>M</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>BA</td>
<td>3.20</td>
<td>1.34</td>
<td>71</td>
</tr>
<tr>
<td>BA+15</td>
<td>3.57</td>
<td>1.13</td>
<td>214</td>
</tr>
<tr>
<td>MA</td>
<td>3.78</td>
<td>1.13</td>
<td>59</td>
</tr>
<tr>
<td>MA+15</td>
<td>3.44</td>
<td>1.24</td>
<td>48</td>
</tr>
<tr>
<td>MA+30+</td>
<td>3.79</td>
<td>1.12</td>
<td>38</td>
</tr>
<tr>
<td>Total</td>
<td>3.54</td>
<td>1.19</td>
<td>430</td>
</tr>
</tbody>
</table>

attainment categories did not vary significantly in the amount of desired participation for the same decisional area.

Experience in Present Position

Respondents with varying years of experience in their present position replied to the 14 decisional areas in a way that discriminated them from one another at the \( p = .01 \) level. The results of the stepwise procedure produced a Wilks' Lambda of .80 (df = 56).

The discriminant function revealed five significant variables. The variables were the discrepancies from questions about discipline standards, setting attendance policy, setting school goals/vision/mission, grading policy, and teaching materials selection. Table 38 shows the
variables ordered by size of correlation with the function. Respondents replied significantly different to the survey based upon the correlations for these decisional areas.

To determine if the actual participation means, desired participation means, and the discrepancy means among the five categories of experience in respondents’ present position significantly varied with regard to discipline standards and attendance policy, six one-way ANOVAs were independently conducted. No significant differences were detected when assessed in this way. Responses to these decisional areas could not be independently discriminated based upon years of teaching experience in the same position.

School goals/vision/mission. Significant differences ($F(4,416) = 2.40, p < .05$) in discrepancy means based upon
decisions regarding setting school goals/vision/mission detected among the five categories of experience in present teaching position are shown in Table 39. Groups of respondents representing 10 years or less of teaching experience indicated higher levels of deprivation than respondents with more teaching experience. Individuals with 20 or more years tenure in their present position experienced notably less deprivation than any of their lesser experienced peers with a mean discrepancy of .23. This was a small difference (ES = .33) between discrepancy means representing the differing levels of experience in respondents present teaching positions.

Table 39
Discrepancy Means Table for Decisions Regarding Setting School Goals/Vision/Mission for the Categories of Experience in Present Teaching Position

<table>
<thead>
<tr>
<th>Years of Experience in Present Position</th>
<th>M</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 or less</td>
<td>-.54</td>
<td>1.06</td>
<td>97</td>
</tr>
<tr>
<td>6-10</td>
<td>-.55</td>
<td>1.07</td>
<td>86</td>
</tr>
<tr>
<td>11-15</td>
<td>-.28</td>
<td>.90</td>
<td>61</td>
</tr>
<tr>
<td>16-19</td>
<td>-.31</td>
<td>.73</td>
<td>45</td>
</tr>
<tr>
<td>20 or more</td>
<td>-.23</td>
<td>.81</td>
<td>132</td>
</tr>
<tr>
<td>Total</td>
<td>-.38</td>
<td>.94</td>
<td>421</td>
</tr>
</tbody>
</table>

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One-way ANOVAs were conducted to determine if respondents actually showed and/or desired differing levels of participation in the decisional area of setting of school goals/vision/mission. No significant differences between respondents’ actual levels of participation or desired levels were detected.

**Teaching materials selection.** As the respondents gained experience in their present position, they perceived significantly greater ($F(4,419) = 2.68, p < .05$) levels of influence over decisions regarding the selection of teaching materials. See Table 40. The data on the table indicate the means for each category of experience. The data was not linear, however, respondents with 11-15 years in their present position had the highest level of deprivation with a mean of -.72. The lowest level of deprivation was shown by the most experienced respondents with 20 or more years in their present position. This mean was -.29.

A one-way ANOVA determined that significant differences in actual respondent participation exist for decisions about teaching materials selection ($F(4,426) = 5.18, p < .001$). As respondents gained experience in their present position, see Table 41, they indicate slightly greater levels of participation in a fashion that was not linear. The highest levels of participation were seen in the categories representing 16 or more years of experience in the present teaching position.

To determine if the desired participation among the five categories of experience in respondents present position
### Table 40
Discrepancy Means Table for Decisions Regarding Teaching Materials Selection for the Categories of Experience in Present Teaching Position

<table>
<thead>
<tr>
<th>Years of Experience in Present Position</th>
<th>M</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 or less</td>
<td>-.57</td>
<td>1.06</td>
<td>98</td>
</tr>
<tr>
<td>6-10</td>
<td>-.49</td>
<td>1.10</td>
<td>87</td>
</tr>
<tr>
<td>11-15</td>
<td>-.72</td>
<td>1.10</td>
<td>61</td>
</tr>
<tr>
<td>16-19</td>
<td>-.42</td>
<td>.78</td>
<td>45</td>
</tr>
<tr>
<td>20 or more</td>
<td>-.29</td>
<td>.68</td>
<td>133</td>
</tr>
<tr>
<td>Total</td>
<td>-.47</td>
<td>.95</td>
<td>424</td>
</tr>
</tbody>
</table>

### Table 41
Actual Participation Means Table for Decisions Regarding Teaching Materials Selection for the Categories of Experience in Present Teaching Position

<table>
<thead>
<tr>
<th>Years of Experience in Present Position</th>
<th>M</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 or less</td>
<td>3.71</td>
<td>1.20</td>
<td>98</td>
</tr>
<tr>
<td>6-10</td>
<td>4.17</td>
<td>1.14</td>
<td>89</td>
</tr>
<tr>
<td>11-15</td>
<td>3.95</td>
<td>1.20</td>
<td>64</td>
</tr>
<tr>
<td>16-19</td>
<td>4.24</td>
<td>.96</td>
<td>45</td>
</tr>
<tr>
<td>20 or more</td>
<td>4.33</td>
<td>.91</td>
<td>135</td>
</tr>
<tr>
<td>Total</td>
<td>4.09</td>
<td>1.10</td>
<td>431</td>
</tr>
</tbody>
</table>

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varied significantly for decisions about teaching materials selection, a one-way ANOVA was conducted. Results were significant \( F(4,419) = 4.52, \ p < .001 \). As respondents gained tenure beyond five years, they tended to increase and remain relatively stable in their levels of desired participation in selection of materials. See Table 42.

Table 42

<table>
<thead>
<tr>
<th>Years of Experience in Present Position</th>
<th>M</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 or less</td>
<td>4.29</td>
<td>.86</td>
<td>98</td>
</tr>
<tr>
<td>6-10</td>
<td>4.66</td>
<td>.73</td>
<td>87</td>
</tr>
<tr>
<td>11-15</td>
<td>4.66</td>
<td>.68</td>
<td>61</td>
</tr>
<tr>
<td>16-19</td>
<td>4.67</td>
<td>.67</td>
<td>45</td>
</tr>
<tr>
<td>20 or more</td>
<td>4.61</td>
<td>.65</td>
<td>133</td>
</tr>
<tr>
<td>Total</td>
<td>4.56</td>
<td>.74</td>
<td>424</td>
</tr>
</tbody>
</table>

Grading policy. Respondents who attained experience beyond 10 years in their present teaching position tended to perceive significantly less \( F(4,413) = 2.92, \ p < .05 \) deprivation with grading policy decisions. The data in
Table 43 indicate the greatest level of deprivation for respondents with 6-10 years of experience in their present position.

Table 43
Discrepancy Means Table for Decisions Regarding Grading Policy for the Categories of Experience in Present Teaching Position

<table>
<thead>
<tr>
<th>Years of Experience in Present Position</th>
<th>M</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 or less</td>
<td>-.74</td>
<td>1.18</td>
<td>98</td>
</tr>
<tr>
<td>6-10</td>
<td>-1.00</td>
<td>1.33</td>
<td>87</td>
</tr>
<tr>
<td>11-15</td>
<td>-.52</td>
<td>1.98</td>
<td>58</td>
</tr>
<tr>
<td>16-19</td>
<td>-.80</td>
<td>.28</td>
<td>45</td>
</tr>
<tr>
<td>20 or more</td>
<td>-.50</td>
<td>.04</td>
<td>130</td>
</tr>
<tr>
<td>Total</td>
<td>-.70</td>
<td>.17</td>
<td>418</td>
</tr>
</tbody>
</table>

A one-way ANOVA determined that significant differences in actual respondent participation existed for decisions about grading policy \( (F(4,422) = 5.42, p < .001) \). As respondents gained experience in their present teaching position, see Table 44, they indicated greater levels of participation. The lowest levels of involvement were observed for the first two categories representing 10 or less years in the same teaching position. The highest levels of
involvement were seen in the last three categories representing 11 or more years in the same teaching position.

Table 44

<table>
<thead>
<tr>
<th>Years of Experience in Present Position</th>
<th>M</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 or less</td>
<td>3.11</td>
<td>1.42</td>
<td>98</td>
</tr>
<tr>
<td>6-10</td>
<td>3.22</td>
<td>1.49</td>
<td>89</td>
</tr>
<tr>
<td>11-15</td>
<td>3.87</td>
<td>1.26</td>
<td>62</td>
</tr>
<tr>
<td>16-19</td>
<td>3.42</td>
<td>1.42</td>
<td>45</td>
</tr>
<tr>
<td>20 or more</td>
<td>3.78</td>
<td>1.28</td>
<td>133</td>
</tr>
<tr>
<td>Total</td>
<td>3.49</td>
<td>1.40</td>
<td>427</td>
</tr>
</tbody>
</table>

To determine if respondents desired significantly differing levels of participation among the five categories of experience in their present position, a one-way ANOVA was conducted. Differences in group means were found to be significant ($F(4,413) = 3.77$, $p < .05$). The lowest level of desired involvement was seen by the respondents who were in their first five years of teaching. Higher levels of desired
involvement occurred for the remainder of the categories of experience. See Table 45.

Table 45

Desired Participation Means Table for Decisions Regarding Grading Policy for the Categories of Experience in Present Teaching Position

<table>
<thead>
<tr>
<th>Years of Experience in Present Position</th>
<th>M</th>
<th>SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 or less</td>
<td>3.86</td>
<td>.96</td>
<td>98</td>
</tr>
<tr>
<td>6-10</td>
<td>4.24</td>
<td>1.02</td>
<td>87</td>
</tr>
<tr>
<td>11-15</td>
<td>4.36</td>
<td>.89</td>
<td>58</td>
</tr>
<tr>
<td>16-19</td>
<td>4.22</td>
<td>.93</td>
<td>45</td>
</tr>
<tr>
<td>20 or more</td>
<td>4.26</td>
<td>.89</td>
<td>130</td>
</tr>
<tr>
<td>Total</td>
<td>4.17</td>
<td>.95</td>
<td>418</td>
</tr>
</tbody>
</table>

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CHAPTER V

SUMMARY, DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

The purpose of this study was to look at shared decision-making in the State of Iowa. Specifically, attention was given to the desire of teachers to be involved in strategic managerial issues that have been the traditional purview of administration. These are the issues that hold the greatest promise for the improvement of education. The four research questions which sought to answer the research problem were:

1. To what degree do Iowa’s teachers participate in decision-making?
2. To what degree do Iowa’s teachers desire to be involved in decision-making?
3. What are the degrees of discrepancy between the actual and desired levels of teacher participation for each of the 14 strategic/managerial decisional areas?
4. What are the relationships, if any, between the levels of discrepancy among the 14 types of decisions and the demographic characteristics?

The study used a random sample of 600 public school teachers from across Iowa. All teachers were asked to respond to the survey instrument which was self developed by the author. The returned responses totaled 72.3%.

The data analysis for this study was conducted using statistical tests evaluated at an alpha value no greater than the $p = .05$ level of significance. Actual, desired, and discrepancy levels of participation were analyzed on a per
respondent basis. Descriptive statistics were generated from the three types of information that provided frequency, mean, percent, and standard deviation data. Relationships between the discrepancies and the demographic data were tested using discriminant analysis. When such relationships were detected, t and F tests means were analyzed.

**Summary**

Teacher responses to their actual and desired levels of participation in the 14 decisional areas all indicated unique levels of involvement. For each decisional area, the actual mean response was lower than the desired mean response. Because teachers desire more participation than they already had, a state of decisional deprivation existed for each.

**Question 1. To what degree do Iowa's teachers participate in decision-making?**

Teacher participation in school decision-making in Iowa was reported to be greatest for decisional areas which more closely center around their daily responsibility in the classroom. Such decisional areas included: selection of teaching materials, curriculum development, student progress reporting procedures, grading policy, and discipline standards.

The selection of teaching materials, curriculum development, and student progress reporting procedures were the top three responses for actual teacher involvement of the 14 decisional areas measured. Teachers reported the maximum level of involvement, Often to Almost Always Involved, in the selection of teaching materials. Teachers reported to be
Sometimes to Often Involved in decisions regarding curriculum development, student progress reporting procedures, grading policy, and discipline standards.

Decisions that generally impact the whole of the school organization were identified as having less teacher involvement. Teachers were Almost Never to Rarely Involved in setting budget priorities and in school security policy. Teachers were Rarely to Sometimes Involved in decisions about school attendance policy, teacher assignments, facility use during the school day, and scheduling.

Only three decisional areas that tend to impact the entire organization appeared in the Sometimes to Often Involved category of participation. Setting school goals/vision/mission, parent/community relations, and staff development ranked fourth, sixth, and seventh respectively among the 14 decisional areas.

Teachers were generally less involved in decisions that are more deeply organizational in nature and impact the entire organization. High levels of teacher involvement can be seen in decisional areas that more closely center around the classroom needs in which they teach. Organizational decisions that teachers reported the least involvement in mostly center around the use of limited resources and the setting of school policy.

**Question 2. To what degree do Iowa’s teachers desire to participate in decision-making?**

Teachers desire to participate in all but one of the 14 decisional areas at a level beyond being Sometimes Involved.
Though their desire to be involved in school security policy decisions were at the Rarely to Sometimes level, all of the other decisional areas were reported to be at the Sometimes to Often Involved or the Often to Almost Always Involved levels. The teachers of Iowa plainly desired to help lead their schools.

The highest level of desired involvement was observed in decisional areas that most directly impact the daily act of teaching in the classroom. The selection of teaching materials, student progress reporting procedures, curriculum development, grading policy, and discipline standards comprise the top five of the 14 total decisional responses. Only scheduling, which attracted a similar level of teacher desire to impact, more clearly influences the entire organization in a global way.

The decisional areas that clearly impact the entire organization attracted slightly less teacher desire. Setting school goals/vision/mission, parent/community relations, staff development, teacher assignments, setting budget priorities, school attendance policy, and facility use during the school day appeared in the Sometimes to Often involvement category.

Question 3. What are the degrees of discrepancy between the actual and desired levels of teacher participation for each of the 14 strategic/managerial decisional areas?

Discrepancy scores were computed for each of the decisional areas to indicate levels of decisional deprivation, decisional equilibrium, or decisional saturation for each. Decisional deprivation is defined as having less
involvement in decisions than desired, decisional equilibrium is defined as having the same amount of involvement in decisions as desired, and decisional saturation is defined as having more involvement in decisions than is desired.

Three decisional areas, each regarding the use of limited resources, reflected the greatest levels of teacher decisional deprivation. The effect sizes were large signifying the strength of the deprivation reported. Setting budget priorities, the scheduling of teacher and student time, and teacher assignments showed the three highest levels of teacher deprivation.

Teachers desire to be Sometimes to Often Involved in budgetary decisions and in the assignments of teachers. Currently, teachers report Almost Never to Rarely being involved in budgetary decisions and only Rarely to Sometimes Involved in teacher assignment decisions. Teachers, who reported being Rarely to Sometimes Involved in scheduling, strongly desire to be Often to Almost Always Involved.

Two school policy decisions with large effect sizes experienced rankings of four and five with regard to the greatest levels of teacher decisional deprivation. Teachers reported a large amount of deprivation in the setting of school attendance and school security policies. Teachers reported that they were Rarely to Sometimes Involved in attendance policy decisions but strongly desired to be Sometimes to Often Involved. Teachers felt a need to increase their participation in decisions about school
security policy from being Almost Never Involved to the Rarely to Sometimes level of involvement.

Teachers reported greater overall satisfaction with their level of involvement in classroom issues than they did with school issues of limited resources or policy. Issues most closely related to the classroom had lower levels of teacher decisional deprivation and small or medium effect sizes defining the discrepancy. These decisional areas were curriculum development, the selection of teaching materials, student progress reporting procedures, grading, and discipline.

Iowa teacher involvement in three decisional areas that impact the entire organization appeared to contradict the differentiation between school and classroom needs. Staff development, setting the school goals/vision/mission, and parent/community relations each had decisional discrepancies lower than other issues that impact the entire school organization.

Decisions in which teachers desired to be involved that greatly exceed their actual level of participation are decisional areas that more closely impact the entire organization. These decisions include: budget, scheduling, teacher assignments, attendance policy, school security policy, and facility use during the school day.

**Question 4. What are the relationships, if any, between the levels of discrepancy among the 14 types of decisions and the demographic characteristics?**

Demographics describing the size of community and respondents' gender, age, and total teaching experience did
not prove to be significant factors by which decisional discrepancy responses could be identified. Demographic factors by which discrepancies could be identified were the grade span of the school in which the teacher taught (elementary or secondary), the educational attainment of the teacher, and teachers' experience in their present position.

Elementary and secondary teacher levels of decisional discrepancy differed significantly based upon the combination of responses from four decisions. The decisions that helped to separate the groups were teaching materials selection, discipline standards, setting budget priorities, and student progress reporting procedures. Elementary teachers were more likely to exhibit higher levels of deprivation than secondary teachers with regard to the decisional areas of teaching materials selection, setting budget priorities, and student progress reporting procedures. Simultaneously, secondary teachers were more likely than elementary teachers to be deprived in decisions about student discipline standards.

Significant differences between elementary and secondary teachers' levels of deprivation were observed in the decisional area of teaching materials selection. Although elementary and secondary teachers had and desired similar levels of involvement in teaching materials selection, elementary teachers remained significantly more deprived.

Teachers reporting different levels of educational attainment significantly varied with regard to their levels of decisional discrepancy. The differences were detected when considering responses about school security policy,
attendance policy, setting school goals/vision/mission, grading policy, and facility use during the school day. Teachers with lower levels of education experienced more decisional deprivation with regard to decisions about attendance policy, setting school goals/vision/mission, grading policy, and facility use during the school day. In the only exception to this trend, teachers with a higher level of education were more likely to be deprived in the area of school security policy decisions.

Significantly different levels of decisional discrepancy were found among the categories of teacher educational attainment for responses based upon setting schools goals/mission/vision. Teachers, regardless of their educational attainment, desired similar levels of involvement in decisions about school goals/mission/vision. Teachers with greater educational attainment were more likely to report significantly higher levels of actual involvement. Therefore, teachers who advanced their education were more likely to be satisfied with their involvement in leading their school.

The category of teacher experience in their present position was also a significant demographic factor. The levels of decisional discrepancy regarding teacher participation in decisions about discipline standards, grading policy, teaching materials selection, setting school goals/mission/vision, and attendance policy served to distinguish between the groups. Teachers with fewer years of experience in the same position appeared to have more
deprivation in the decisional areas of grading policy, teaching materials selection, setting school goals/vision/mission, and attendance policy. As teachers mature in their teaching position, they tend to move toward more satisfaction with their level of involvement. Teacher involvement in decisions about discipline standards was the only exception to this pattern. Teachers with more years of experience in the same position were more likely to have reported greater decisional deprivation in the area of discipline standards than teachers with fewer years of experience.

Teacher responses with regard to these decisional areas showed trends of relative stability or growth in their desire for involvement beyond the first five years of teaching. The more experienced categories of teachers showed significantly higher levels of desired involvement in the decisional areas of grading policy and teaching materials selection. There was no evidence that teachers with six or more years of experience lost desire to be involved in decision-making. Actual teacher participation remained essentially the same or increased for teachers with greater experience. As a result of serving in the same teaching position over an extended period of time, teachers tend to gain more influence, desire, and satisfaction with involvement in many decisions.

**Summary Linkages**

This study was in agreement with previous studies in that teachers most often reported levels of deprivation rather than equilibrium or saturation. Bacharach et al.,
reported from their national survey that teachers
desired to be "considerably" more involved in decision-
making. From a later study, Bacharach, Bamberger, Conley,
and Bauer (1990) found that teachers reported deprivation in
all areas of school decision-making. Meshanko (1990), in a
study of Pennsylvania teachers, showed similar results. The
present study found the teachers of Iowa to be
decisionally deprived for each of the 14 decisional areas
studied.

Teachers in Iowa showed the greatest deprivalional
discrepancy between actual and desired levels of influence in
five areas of decision-making. The areas were: setting
budget priorities, scheduling, teacher assignments, school
attendance policy, and school security policy.

This research also supports the findings of a study by
Mohrman et al. (1978). Decisional areas including budget,
facility use, and personnel were found to have high levels of
depression, but low levels of desire. These types of
decisions fall within Alutto and Belasco's (1972) and Mohrman
et al. managerial domain. This domain was named for its
focus apart from the technical aspects of teaching. In their
study, the managerial domain was found to be less desired by
teachers than was the technical domain. Elements of the
technical domain, such as decisions for discipline and the
selection of teaching materials, were desired by Iowa
teachers, but with relatively low levels of decisional
depression. This study indicates that Iowa teachers
continue to have and desire influence over issues primary to the act of teaching.

Bacharach et al. (1990) found elementary and secondary teachers desiring influence in decisions about student discipline and budgetary issues. Though the setting of budget priorities received strong levels of deprivation in the present study, student discipline received only moderate deprivation. Student progress reporting procedures received high levels of deprivation from elementary teachers, and facilities planning received high levels of deprivation from secondary teachers in the national study. Both areas received only moderate levels of deprivation as reported by contemporary Iowa teachers.

Meshanko (1990) found the decisional areas of faculty schedules, evaluation procedures, and faculty assignments to indicate high levels of deprivation among teachers in Pennsylvania. The present study corroborated high levels of deprivation in scheduling and teacher assignments. The Pennsylvania study indicated the selection of textbooks and discipline policy generated the least difference between actual and desired participation. In the present study, discipline policy received only moderate deprivation and selection of teaching materials only slight deprivation.

Alutto and Belasco (1972) described individuals most likely to be deprived as young and male and the group most saturated as older females. This present study substantiated neither conclusion. No differences between gender or age categories were detected. Alutto and Belasco also found that
the longer a teacher had been in a school district the more
they tended to move toward saturation. The present study
supports this conclusion.

Discussion

Recent efforts to improve schools by opening the closed
classical bureaucracy to the influences of communities and
government have resulted in the adoption of shared decision-
making strategies. Though the implementation of this
strategy has been uneven from school to school, themes of
teacher involvement have resulted from these efforts. Three
decisional areas have most likely been positively impacted in
Iowa: setting of school goals/vision/mission,
parent/community relations, and staff development.

Iowa state government has legislated the use of planning
in a strategic manner for the improvement of schools. State
laws 280.12 and 280.18 require involvement of teaching
faculty, parents, and members of the community in school
improvement. As a result, school isolation has been
lessened. The ability of teachers to influence
organizational direction and goal setting has been enhanced
through this effort. The level of teacher participation in
setting school goals/vision/mission appears to be unusually
high as compared to other managerial based areas of decision-
making.

Teacher involvement in parent/community relations has
also been impacted by school improvement efforts. Involving
teachers alongside parents and community members has forced
teachers more directly into the role of parent and community
relations. Teachers have begun to consider the needs of parents and community members in addition to the needs of their individual classrooms.

Statewide efforts to improve the quality of teacher preparation and ability in the classroom can be most clearly seen in the Phase III program. Designed to improve both schools and teacher compensation, Phase III has been heavily directed at training teachers to improve student achievement. Since inception of the program in 1987, Phase III plans are cooperatively designed, maintained, and evaluated by both administration and teachers. Without agreement, no Phase III funds can be received by a district or its teachers.

Teacher involvement in the area of staff development was reported in this study to be relatively high across Iowa as compared to other decisional areas. State government has purchased teacher involvement at the local level. Few schools fail to reach agreement on the use of Phase III and, therefore, few lose funding.

The low levels of teacher involvement in decisions that impact the entire organization is a clear indication that more needs to be done to structure and encourage teacher involvement. Better solutions to other organizational needs such as those that impact limited resources of budget, teacher assignments, facility use, and the use of time in the school schedule cannot be forgotten. Decisions of policy such as planning school security, encouraging the attendance of students, and discipline require the involvement of all who are impacted to tailor the local school to local
characteristics and needs. Each decisional area that improves the entire organization holds the promise of creating better school organizations that function to more effectively and efficiently increase student achievement.

Conclusions

The results of this study support the following conclusions.

1. Teacher involvement in decision-making was greatest for decisional areas that most directly impact the classroom. With the exception of setting school goals/vision/mission, parent/community relations, and staff development, decisional areas that more directly impact the entire organization experience lower levels of teacher involvement.

2. Teachers desire to be involved in all decisions at levels that exceed their actual levels of involvement. With the exception of setting school security policy, Iowa teachers desired high levels of involvement in setting their school's goals/vision/mission, curriculum development, staff development, parent/community relations, grading policy, student progress reporting procedures, discipline standards, attendance policy, facilities use during the school day, setting budget priorities, teaching materials selection and use, teacher assignments, and scheduling.

3. Efforts to involve teachers in decision-making have not succeeded in producing equilibrium or saturation in the State of Iowa. Most teachers in Iowa remain deprived from their desired levels of involvement in making decisions about setting the school’s goals/vision/mission, curriculum
development, staff development, parent/community relations, grading policy, student progress reporting procedures, discipline standards, attendance policy, school security policy, facilities use during the school day, setting budget priorities, teaching materials' selection and use, teacher assignments, and scheduling.

4. Levels of decisional discrepancy were not significantly related to the size of community, teachers' gender, age, or total teaching experience. Regardless of community size, similar opportunities, or lack of opportunities, exist for teacher decision-making in Iowa schools. Personal attributes were also not a factor in teachers' opportunities to make decisions in their schools.

5. Teachers' levels of decisional discrepancy were related to the grade span of the teachers' school (elementary or secondary), their educational attainment, and their experience in their present position. These demographics impact efforts to increase teacher involvement in decisions.

Elementary teachers expressed more deprivation than secondary teachers in making decisions. There is slightly more opportunity at the elementary level when working to increase teacher involvement. Setting discipline standards was an exception where that secondary teachers were more likely deprived than elementary teachers. Secondary schools may require encouragement and a different structure in working to increase teacher participation in decisions about discipline standards.
With the exception of setting discipline standards, teachers who stayed in the same school setting for a longer period of time were more likely to experience less decisional deprivation than their peers. More tenured teachers are more likely to help lead their schools. With this in mind, teachers should be encouraged to remain in their positions and encourage lesser experienced teachers to become more involved.

Teachers with low levels of educational attainment tended to show greater levels of deprivation than their peers with higher levels of educational attainment. School security policy was an unusual type of decision that was more likely to become more deprived as teachers matured in their positions.

6. Those districts attempting to more closely involve teachers in decision-making outside of the issues that daily impact the act of teaching should consider decisional areas with greatest deprivation and high levels of teacher interest. When increasing teacher participation, close attention to the actual levels of participation and the desired levels of participation is useful.

This researcher suggests working to increase teacher participation in decisions regarding the use of scarce resources such as budget, teacher time in the daily schedule, and teaching assignments. Meaningfully increasing teacher participation in one or more of these areas will improve the function of the educational system, create a foundation of greater trust, and improve teachers' perceptions about
involvement in making decisions. Increasing teacher involvement is best considered an incremental process.

7. State level interventions may have increased teacher participation in decisional areas that more directly impact the entire school organization. State law 280.12 and 280.18 require involvement of teaching faculty, parents, and members of the community in school improvement. As a result, teachers have been placed into key positions to plan for the future of their schools. Parents and community members participating directly with teachers have placed teachers directly into the realm of parent/community relations. The statewide Phase III program has brought teachers directly into the role of planning for staff development. Teacher involvement in these decisional areas has occurred due to state level system interventions. Encouragement for teacher participation in other areas of decision-making may require future system-wide interventions at the state level.

Recommendations

The following recommendations for future research are based on the results of this study.

1. Replication studies are appropriate to include perceptions of administrators, central office staff, school board members, parents, and members of the community as well as teachers.

2. Improving student achievement should be included as a decisional area.
3. Demographic data with regard to teacher age, tenure, and experience should be collected in a way that better discriminates the maturity of teachers in Iowa.

4. Increasing teacher participation remains a worthwhile goal. Information regarding demographic variables and decisional areas that resulted in greater decisional deprivation should be studied in greater detail. Two decisional areas best fit this description: student discipline standards and school security policy. Both types of decisions and the demographic variables they were associated with were exceptions to increased teacher involvement.

Greater years of teacher experience in the same position led toward greater deprivation in the decisional area of setting discipline standards. This trend could be considered disturbing when considering the importance of maintaining a productive classroom and school. Schools need the involvement of the most experienced faculty in this decisional area.

Increased educational attainment resulted in a trend toward more deprivation in the decisional area of setting school security policy. A study to determine the significance and details of this trend might help in the efforts to increase teacher participation and improve school safety. Maintaining a safe school environment is an important and contemporary issue.

5. Future studies should also assess teacher perceptions about their involvement in shared decision-making
with regard to how productive their involvement has appeared to be, what improvements have resulted in their educational system due to shared decision-making, the amount of organizational time teacher involvement required, and the overall worthiness of shared decision-making in the effort to improve education at the school and district level.

6. The relationships between state level interventions and levels of teacher decision-making should be identified with regard to State law 280.12 and 280.18 and the Phase III program.

7. Data regarding facilitative structures for decision-making should be identified and assessed.

8. Leadership traits of administrators should be assessed with regard to their capacity to use shared decision-making as a tool for school improvement.
References


Appendix A

Letter of Transmittal, Survey, and Postcard
October 12, 1996

Dear Iowa teacher,

We are undertaking a study of K-12 teachers in Iowa. You have been randomly selected by the Iowa Department of Education to be part of this study, and we are requesting your help. The focus of this study is shared decision making.

This research study has been endorsed by the University of Northern Iowa.

Please complete the attached instrument and return it to us as soon as possible. The instrument is concise, and should require no more than 5 minutes of concentrated thought. As you will notice, some questions have two responses, one being your actual impact and the other your desired impact upon decisions made in your building and/or district.

When you have completed the questionnaire, please fold and return the survey in the premarked NO POSTAGE NECESSARY envelope. Simultaneously, please return the postcard which also includes postage.

Survey responses will be recorded and reported only in the aggregate. No individual or school will be identified by name. Your survey is color coded for elementary, secondary, rural, or urban school. No other markings or coding is present on the survey. Your answer will remain anonymous. After responses are tabulated, all questionnaires will be destroyed to further protect confidentiality. The postcard with your name and address will only be used to indicate that you have completed and returned a survey.

If you would like a copy of the results of the study, please contact either of the research associates identified below. If there are additional questions, please call Michael Jurgensen at (515) 752-5726.

Your participation in this investigation is deeply appreciated and vital to the success of the study. Thank you for your valuable time and effort.

Sincerely,

Michael Jurgensen
Research Associate

Robert H. Decker
Associate Professor
Dear Respondent,

Your anonymous participation will help examine the shared decision-making process that exists in the public schools of Iowa. Please follow instructions in Sections I to III. This short survey should take only a few minutes of your time.

**Shared Decision-Making** - a process by which the members of an organization participate in decision-making that affects the role and function of the organization.

### Section I

Please indicate the extent that you **actually** participate and your **desire** to participate in the following types of decisions. **Circle one response in each column** using the following code.

|--------------------------|--------------------------|-----------|-------------|---------|--------------------------|

#### YOUR DECISIONAL AREAS

**AT THE SCHOOL BUILDING AND/OR DISTRICT LEVEL:**

<table>
<thead>
<tr>
<th>YOUR DECISIONAL AREAS</th>
<th>YOUR ACTUAL LEVEL OF PARTICIPATION</th>
<th>YOUR DESIRED LEVEL OF PARTICIPATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Setting School Goals/Vision/Mission</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>2. Curriculum Development</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>3. Staff Development</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>4. Parent/Community Relations</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>5. Grading Policy</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>6. Student Progress Reporting Procedures</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>7. Discipline Standards</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>8. School Attendance Policy</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>9. School Security Policy</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>10. Facility Use During the School Day</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>11. Setting Budget Priorities</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
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<tr>
<td>12. Teaching Materials Selection</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>13. Teacher Assignments</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>14. Scheduling</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>
Section II

To complete this portion of the survey, please circle the appropriate letter from the range of choices.

15. Designate your gender
   A. Male
   B. Female

16. Designate your Age Group
   A. 20 - 29
   B. 30 - 39
   C. 40 - 49
   D. 50 - 59
   E. 60 or above

17. Designate your current educational level
   A. BA
   B. BA + 15
   C. MA
   D. MA + 15
   E. Other specify

18. Designate years experience in your present position
   A. 5 or less
   B. 6 - 10
   C. 11 - 15
   D. 16 - 19
   E. 20 or more

19. Designate your total years of teaching experience
   A. 5 or less
   B. 6 - 10
   C. 11 - 15
   D. 16 - 19
   E. 20 or more

Section III

Fold and place the survey into the NO POSTAGE NECESSARY return envelope. Return both the anonymous survey and the postcard in the mail. The postcard indicates that you have completed the survey. Do not affix postage to either the envelope or the postcard as the survey is at no cost to you.

With Sincere Appreciation,

Michael Jurgensen
TO: 
Michael Jurgensen 
1906 S. 5th Ave 
Marshalltown, IA 50158

Please mail this postcard at the same time as you return the survey. They are being sent to different addresses to protect your anonymity.

Sincerely,

Michael Jurgensen
Appendix B

Demographic Information
Table 46
Respondents by Gender

<table>
<thead>
<tr>
<th>Category</th>
<th>Frequency</th>
<th>Percent</th>
<th>Percent in Iowa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>132</td>
<td>30.4</td>
<td>31.9</td>
</tr>
<tr>
<td>Female</td>
<td>299</td>
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<td>68.1</td>
</tr>
<tr>
<td>Missing</td>
<td>3</td>
<td>.7</td>
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</table>

Table 47
Frequencies and Percentages of Respondents by Age

<table>
<thead>
<tr>
<th>Category</th>
<th>Frequency</th>
<th>Percent</th>
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<tr>
<td>30-39</td>
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<td>19.8</td>
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<tr>
<td>40-49</td>
<td>168</td>
<td>38.7</td>
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<tr>
<td>50-59</td>
<td>113</td>
<td>26.0</td>
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<tr>
<td>60 or above</td>
<td>11</td>
<td>2.5</td>
</tr>
<tr>
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<td>3</td>
<td>.7</td>
</tr>
</tbody>
</table>
Table 48

**Frequencies and Percentages of Respondents by Educational Attainment**

<table>
<thead>
<tr>
<th>Category</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
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<td>BA</td>
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<td>16.4</td>
</tr>
<tr>
<td>BA+15</td>
<td>214</td>
<td>49.3</td>
</tr>
<tr>
<td>MA</td>
<td>60</td>
<td>13.8</td>
</tr>
<tr>
<td>MA+15</td>
<td>48</td>
<td>11.1</td>
</tr>
<tr>
<td>MA+30+</td>
<td>38</td>
<td>8.8</td>
</tr>
<tr>
<td>Missing</td>
<td>3</td>
<td>.7</td>
</tr>
</tbody>
</table>

Table 49

**Frequencies and Percentages of Respondents by Experience in Present Position**

<table>
<thead>
<tr>
<th>Category</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 or less</td>
<td>98</td>
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<tr>
<td>6-10</td>
<td>89</td>
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<tr>
<td>11-15</td>
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<td>135</td>
<td>31.1</td>
</tr>
<tr>
<td>Missing</td>
<td>3</td>
<td>.7</td>
</tr>
</tbody>
</table>
Table 50

**Frequencies and Percentages of Respondents by Total Years of Teaching Experience**

<table>
<thead>
<tr>
<th>Category</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 or less</td>
<td>44</td>
<td>10.1</td>
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<td>6-10</td>
<td>63</td>
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