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Identifying discriminating items for the student evaluation of teachers

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Identifying discriminating items for the student evaluation of teachers

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Identifying discriminating items

for the student evaluation of teachers

by

Marvin Judkins

A Dissertation Submitted to the

Graduate Faculty in Partial Fulfillment of the

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CHAPTER I. INTRODUCTION

In the past few years, triggered by national education reports such as "A Nation at Risk: The Imperative for Educational Reform" (53) and reflected in reports such as "Time for Results, The Governors' 1991 Report on Education" (55), the nation has been re-examining its attitude towards public education and reassessing the quality of America's schools (36, 52). Many in the nation perceive a need to improve the quality of America's schools. Regardless of an individual's position on the major education reform proposals, most can agree that there is always the possibility for improvement in the quality of education.

The national reports usually included recommendations for attracting and holding able people in the teacher ranks and for improving the preservice and inservice training of teachers (36). As National Education Association President Willard H. McGuire told the 1983 national representative assembly, "Excellence must be achieved in the classroom or it will not be achieved at all" (54). Improving the quality of education involves improving the quality of teacher performance. Accurately identifying teachers' strengths and weaknesses is a critical step in improving teacher performance. The more information available on teacher performance, the more accurately teachers' strengths and weaknesses can be identified. In recent years, the validity and reliability of teacher evaluation criteria and teacher evaluation instruments have been improved through the application of a growing body of scientific information on effective teaching strategies.

Albert Shanker, President of the American Federation of Teachers, has urged adopting a peer review program. He urged that outstanding teachers be trained to assist probationary teachers in an internship program and be involved in making decisions about which probationary teachers be granted tenure (16). Both of the rival teacher organizations, the American Federation of Teachers (A.F.T.) and the National Education Association (N.E.A.), maintain that they have long urged improved teacher evaluation. N.E.A. President McGuire maintained that teachers

> must join and lead the debate on educational excellence. For 126 years we have cried out for more and better teacher preservice training...for ongoing evaluation and assistance, on-site trained and competent evaluators, following agreed upon procedures and honoring due process... (54).

While debate continues over who should do the evaluation, efforts at the elementary and secondary levels of education have centered on evaluation of teachers by supervisors, peers, and self. All seem to want to aid in improving teacher performance. The more that is known about a teacher's performance, the better goals for needed improvements can be identified.

One valuable source of information on teacher performance, students, is rarely used at the secondary and elementary level, although the advantages and disadvantages of student ratings have been thoroughly researched at the college level. Few instruments exist for student evaluation of teachers which were designed specifically for secondary school student rating of teachers. Almost none exist for use by elementary level students. Many that exist were developed prior to recent improvements in the validity, reliability, and discrimination power of

teacher performance evaluation criteria. Notable exceptions include efforts such as those by Maurice J. Eash and Hersholt C. Waxman's "Our Class and Its Work" (22).

A review of the literature reveals that current research and current knowledge on teacher performance evaluation has resulted in a list of valid and reliable teacher behaviors that make a difference in student achievement (6, 7, 9, 10, 25, 26, 35, 39, 42,45, 58, 60, 63, 64, 70). A comparison of the performance criteria reveals that most are found on more than one list of teacher evaluation criteria (45).

The need remains for discriminating teacher performance rating items to be developed for use by elementary and secondary school students that are based upon current research and current knowledge.

Statement of the Problem

Teacher performance evaluation is important because of the crucial role teacher performance plays in student achievement. Improving teacher performance is a key to improving student achievement. Improving teacher performance would be facilitated with a broad-based assessment of teachers' strengths and weaknesses. Current evaluation focuses on supervisor evaluation of teachers (44, 51). Student evaluation of teachers is seldom utilized below the college level, although students have more contact with the classroom performance of the teacher than any other group. Aristotle is credited with stating that you get a better notion of the merits of the dinner from the dinner guests than you do from the cook (56). That idea can be translated into much of the justification

for student ratings of teacher performance. Student ratings reveal information that is unavailable from any other source.

The problem for this study will be to develop and test a pool of teacher evaluation items that reflect current research on effective teaching behaviors which make a difference in student performance and that are suitable for completion by secondary and elementary school students. This study will result in identifying a pool of items that are valid, reliable and discriminating in identifying differences in teacher performance. Four pools of items will be identified for different grade groups based upon the readability level of those items.

First, a list of teacher competencies will be developed based on a review of the literature and the findings of the School Improvement Model (45). Next four pools of items will be developed, one for completion by elementary students in grades kindergarten through second grade, one for students in grades three through six, one for students in junior high, and one for students in high school. All items will be tested to ensure the proper readability level for the students who are completing the items. Next a list of discriminating items from each pool of items will be identified using the Menne and Tolsma method of analyzing data to determine discriminating items (49). This method was adapted and utilized by Hidlebaugh (34) to develop a model teacher performance evaluation system using a multiple appraiser approach. Look (41) also used the Menne-Tolsma method to identify effective criteria for evaluating building principals. The identification of discriminating items is based on eliciting similar responses from members of the same group and different

responses from members belonging to a different group when the groups have experienced dissimilar conditions or events. Ideally, the within-group variance should be low in relationship to the between-group variance (34, 41, 49).

A review of the literature also reveals disagreement on the effect student-held preconceptions or attitudes have on their ratings of teachers. During completion of the "Student Feedback to Teacher" questionnaires, students will provide information on the mark or grade they receive from their teacher, their like or dislike of the teacher, their initial interest in the class, and their perceptions about the amount of work the teacher requires. Students' responses to these items will be correlated to their responses on all other items that have been identified as discriminating using the Pearson Product-Moment Correlation techniques.

The Hypotheses

This study will attempt to identify items with discrimination power for use by secondary and elementary students in providing feedback to teachers about teacher performances. The effect student-held preconceptions have on their ratings of teachers will also be tested. The study can be more specifically defined by the following null hypotheses.

1. There will be no significant differences in the discriminating power of the items in the pool.

2. There will be no significant differences in the student ratings of teachers based upon:

   a. The student's earned or anticipated mark.

b. The student's like or dislike of the teacher.

c. The amount of work perceived as being required by the teacher.

d. The student's initial interest in the subject.

Definition of Terms

The following definitions of terms will be used in this investigation and report.

1. Student feedback: The process of having students rate the frequency of specified classroom behaviors of their teachers.

2. Discriminating items: Those items which elicit maximum differences among teachers being rated and minimum variances among the raters.

3. Validity: The concept that the items in fact measure what they are intended to measure.

4. Reliability: Raters of a particular teacher rate that individual similarly on a specific item. The similarity of ratings by the same individual for the same teacher at different times was not tested in this study.

5. Level 1: The student feedback to teacher items designed for completion by students in kindergarten through the second grade.

6. Level 2: The student feedback to teacher items designed for completion by students in grades three through six.

7. Level 3: The student feedback to teacher items designed for completion by students in the seventh and eighth grades.

8. <u>Level 4</u>: The student feedback to teacher items designed for completion by students in grades 9 through 12.

Delimitations of the Study

The following delimitations were observed for this investigation: (1) Only those items were used which met the reading level specifications as measured by the "Britannica Readability Formulas" and the "Random House Readability Analysis Program"; (2) ratings for specific observable behaviors were used, not general skills or attitudes; (3) items were tested for students at four levels, grades kindergarten through second, grades three through six, grades seven and eight, and grades nine through twelve; (4) only public school students were used; (5) only teachers and students in selected volunteer schools in Springfield, Missouri and El Dorado, California were involved in the study; (6) student achievement was not correlated with the ratings; and (7) to obtain the approval of the Human Subjects Research Committee to conduct this study, subjects were permitted to not return the feedback questionnaires and teachers were permitted to retain the completed questionnaires if they chose to not participate in the data analysis.

CHAPTER II. REVIEW OF LITERATURE

Teacher Evaluation

A review of the literature on teacher evaluation reveals great

progress in identifying teacher behaviors that make a difference in

student achievement. A vital step in improving the art of teaching has

been the development of a scientific basis for the relationship between

teacher performance and student learning (18, 25, 45).

> ...We now know much more about teacher effects on
> achievement than we did in 1963 or even 1973.... The
> fund of available information on producing student
> achievement...has progressed from a collection of
> disappointing and inconsistent findings to a small
> but well established knowledge base... (10).

This recent growth in the scientific knowledge about teacher performances

that make a difference in student achievement has resulted in efforts to

improve teacher performance.

Improving teacher performance requires the accurate identification of

a teacher's strengths and weaknesses. Educational research in the last

decade has resulted in improved teacher evaluation instruments based on

valid, reliable and discriminating criteria. A recent joint publication

of the National Education Association, the American Association of School

Administrators, the National Association of Elementary School Principals,

and the National Association of Secondary School Principals emphasized the

five keys to successful teacher evaluation as being the teacher, the

evaluator, the performance data, the feedback, and the context of the

evaluation (18). Teacher evaluation has been improved through training

administrators to be better evaluators and developing a consistent view of

teaching (42, 44, 45). Peer, supervisor, and self-evaluation techniques have all been refined through efforts such as those of the School Improvement Model (45). Teachers can improve with help.

Student Evaluation of Teachers

The more that is known about a teacher's performance, the better the strengths and weaknesses of that performance can be identified and the performance improved. However, a valuable source of information on teacher performance, the students, has not been fully utilized at the elementary and secondary school level (23). Student evaluation of teachers has long been used successfully in higher education with the advantages and disadvantages being thoroughly researched at the college level (2, 8, 11, 17, 61, 65). Early research concluded that high school students' evaluations of teachers were as reliable as college students' ratings (8). The recent joint publication of several educator's association reported that

> ...student evaluations of teacher performance might
> be suspect in a termination hearing. Participants
> could regard students as easily influenced, biased,
> or unqualified to judge minimum competence. There
> may, however, be no more valid source of information
> on and criticism of learning environments than the
> students who live and work in those environments.
> When their views are sought in careful, thoughtful
> ways in evaluation systems designed to promote
> teachers' continued growth, students can provide
> insights no one else can. Every teacher who is
> serious about professional growth is deeply
> interested in how he or she affects students and is
> perceived by them (18).

The origin of student ratings of teacher performance can be traced to the time of Socrates, when they were gathered informally and

unsystematically (2). Doyle (17) traced the first reported instance of student ratings of teachers in North America to Sioux City, Iowa in the late 19th century. The 1920s and early 1930s saw universities and colleges using formal surveys asking for student evaluation of teachers (11, 50, 61). The utilization of student opinions of teacher performance was limited until after the Second World War. During the 1950s and 1960s, the number of teachers grew rapidly. The 1970s saw an even greater use of student evaluation of teachers. Again, those efforts were directed primarily at the college level (2, 39, 49, 56, 61). A 1978 survey of 670 colleges, both private and public, found that 53 percent of the private colleges and 64 percent of the public colleges reported always using systematic student ratings as sources of information considered in evaluating teacher performances (65).

Research findings and intuitive reactions since the growth and development of student ratings of teachers have identified the following advantages of the process:

1. Pupils have the most contact with the teacher's behaviors in the classroom and are more familiar with their daily teaching techniques (2, 32, 56, 59, 60).

2. Students' attitudes have an important influence on the students' acquisition of knowledge, skills, interests, attitudes, and ideals (11, 56). High school students have a generally positive attitude towards rating their teachers (68).

3. Student evaluation of teachers is quick, economical, and easy. Students are in daily contact with a number of teachers and have a good basis for comparison (11, 30, 35, 39, 56, 59).

4. Pupil ratings of teachers cause minimal interference with classroom instruction. The ratings can be administered at a convenient or relevant time (2, 39, 56).

5. Gathering student ratings can provide the instructor with first-hand information on the accomplishment of particular educational goals and areas where teaching changes are needed (2, 11, 39).

The validity of student ratings is not universally accepted by researchers. The following have been reported among the disadvantages of student ratings of teachers:

1. Inferior scholars are more critical of teachers. Students receiving or anticipating a low grade will rate the teacher lower (2, 11, 56, 59, 61). If the results of student evaluations of teachers are to be used in the formal evaluation process, can a teacher ensure good evaluations by assigning high grades to students? DuCette and Kenney (20) reported that numerous research projects using a multitude of statistical methods have resulted in mixed results. After reviewing studies comparing grades and student ratings, they reported numerous studies that showed a moderate relationship, a somewhat smaller number of studies that showed no relationship, and a small number that showed a negative relationship. Their own study concluded that there was a slight relationship between grades and student ratings, but that teachers could not alter their ratings by students by using lenient grading standards. Aleamoni and

Hexner reported 20 studies finding no relationship between students'
ratings of instruction and their expected or actual grades in courses, and
27 studies finding a significant, positive, although weak, relationship
(3).

An older study reported a slightly higher ratio of studies finding no
relationship between students' ratings of instruction and their grades
(15). The mixed results on the study of the relationship between grades
earned and students' ratings of teachers have been attributed to the fact
that more effective teaching procedures produce better course mastery.
Those who learn more will give the instructor higher ratings (12, 20, 46,
61).

2. Faculty members resist being evaluated by their students (61).
Instructors are more likely to resist ratings regardless of the use made
of the data if the process is forced upon them. Given some choice in the
matter, they are reasonably likely to accept student ratings as a source
of personal evaluation and guidance (15).

3. Student ratings of teachers reinforce the democratic fallacy that
teaching is best which pleases the majority (11, 56). A review of seven
studies on consumer satisfaction concluded that increasing student
interest in a field of study might be a useful criteria for measuring
teaching effectiveness (15). This study maintained that students are
capable of distinguishing qualities of instruction which increase their
knowledge and motivation.

4. Permitting students to rate teachers may disrupt the morale of
the faculty (11, 56). Riley et al. (61) found that student surveys of

teaching ability which were intended to inform college professors of their effects on their students so that professors could re-evaluate and improve their own techniques were more popular with faculty members than a supra-imposed student evaluation system.

5. The validity and reliability of students' ratings may be affected by students liking or disliking the teacher and the personality characteristics of the teacher (11, 43, 56). A Memorial University of Newfoundland, Canada, study involving 10 different courses and 130 sections, concluded that

> Positive answers associated with attitudes towards students, for example, 'is friendly and understanding' and 'is usually available for help' had surprisingly little relationship to either favorable evaluation or a high level of student attainment (67).

Costin et al. report that although one is apt to assume intuitively that students' ratings of college teachers' performances should be influenced by or correlated with personality traits, very little evidence exists to demonstrate whether or not this is so. Overall effectiveness of teachers seem to be related positively to teachers' imaginative intelligence, emotional stability, agreeableness and enthusiasm (15). Doyle (17) reports that students liking the teacher relates to the ratings of the instructor's attitudes towards students but not to any other ratings. This conclusion was repeated in Aleamoni's review of five other studies (2).

6. The amount of work required by the teacher might affect the validity and reliability of student's ratings (11, 56). One study reviewed found that courses or teachers perceived as requiring more work

were evaluated more favorably than those requiring less work (46), while a more recent study found no relationship between the amount of work required and the students' ratings of teachers (12). Cohen (14) concluded after a meta-analysis of 41 studies that courses' difficulty and student achievement were not related.

7. The validity and reliability of students' ratings may be affected by students' prior interest in the subject (11). Interest in the course as a function of the course being required versus it being an elective course resulted in five studies finding that students rated teachers of required courses lower than teachers of elective courses. Two studies reported no difference between the student ratings of teachers of required versus elective courses. Four studies found no difference between the student ratings of teachers comparing students majoring versus students minoring in the courses' areas (3). Doyle (17) reported ratings of overall course and instructor effectiveness but not teaching ability did correlate with liking the subject matter. He concluded that liking the subject matter did not appear to be a source of bias in ratings of general teaching ability. A study involving ratings of graduate assistants and professors found some effect of student's prior interest in the subject on the ratings of graduate assistants but found that effect was not sufficient to affect the mean ratings. This study indicated that the teaching assistants were most effective with the students who especially liked the subject, while the professors were approximately equally effective with all of the students (73). Barke et al. found that course entry bias was relatively rare, but that when it existed, it had a

predictable effect on the evaluation of instructor performance, but that most students rated the quality of the instructor based on experience during the course, not precourse expectations (5).

8. Student ratings do not adequately reflect the long-term effects of instruction (19). Druckers et al. (19) extensive study involving a follow-up of alumni ten years later revealed a similarity of ratings over time. Other studies involving alumni have led researchers to conclude that students' judgments of teachers made at the end of a course are fairly permanent and mature (13, 15, 43). Both Seldin and Aleamoni in separate reviews of the literature concluded that there was a high correlation between the original and follow-up evaluation completed after time had lapsed (2, 65). Rayder, who found that student ratings of instructors were not related to students' sex, age, grade level, major area, or grade point average, concluded by saying

> ...to involve students in any system of faculty
> evaluations seems perilous. Yet it is the student
> who has the most contact with the instructor. To
> ignore them seems even more perilous... (60).

Due consideration must be given to all the potential problems with the validity and reliability of student evaluation of teachers.

> ...The weight of the evidence, however, suggests
> that student ratings are not influenced to an undue
> extent by external factors such as student
> characteristics, course characteristics or teacher
> characteristics... (14).

While student evaluation of teacher performance may be challenged, with some considering students to be biased or unqualified, many argue that there may be no more valid source of information on the classroom environment than the students in the classroom (18).

Selection of Items with Discrimination Power

Recent educational research has resulted in improvements in the reliability, validity, and discrimination power of teacher evaluation criteria (10, 25, 45). The advantages and disadvantages of student evaluation of teachers have been thoroughly researched at the college level (2, 8, 11, 17, 61, 65). There has been relatively little research on identifying discriminating items for use by students in kindergarten through the twelfth grade. When identifying items for use by secondary and elementary school students, item discrimination power should be considered to ensure that items are included which identify differences between the classroom performance of different teachers.

Menne and Tolsma (49) emphasized the importance of item discrimination for rating items designed to measure characteristics of individuals by group or multirater responses. They noted that between-group and within-group variances are important when determining if a particular item measures differences among individuals being rated. Items which have a low within-group variance in relationship to the between-group variance are considered to be discriminating items. The method developed by Menne and Tolsma (49) to identify items that discriminate among those being rated was used by Hidlebaugh (34) to identify items for teacher performance evaluation and, much later, by Look (41) to identify items for administrator performance evaluation.

Summary

America's schools are being examined closely with renewed calls for excellence in education. A crucial step in improving the quality of

education is improving the quality of teachers' classroom performances. A key step in improving the quality of teaching involves the accurate identification of teacher behaviors that make a difference in the achievement of students. A review of the literature on teacher evaluation reveals rapid growth in the understanding, on a scientific basis, of the relationship between teacher performance and student learning. Educational research has resulted in improvements in the validity, reliability, and discriminatory power of teacher evaluation criteria and instruments. Teacher evaluators have also been trained to be better evaluators during the recent trend towards improved teacher evaluation.

The past decades have resulted in the identification of an ever growing scientific base for valid reliable teacher evaluation criteria. The more that is known about the classroom behavior of individual teachers, the more likely efforts to improve the classroom performance will be successful.

At the elementary and secondary school levels, a knowledgeable source of information on the classroom performance of teachers, students, is often overlooked. Student evaluation of teachers has longed been used at the college level with the advantages and disadvantages being thoroughly researched. At the elementary and secondary levels of our educational system, student feedback to teachers is seldom used. Often the instruments that exist were developed prior to recent improvements in our knowledge of effective teaching techniques.

Advantages discussed for student ratings of teachers include the pupils' frequent contact with the teachers' behaviors and daily teaching

techniques. Students' attitudes towards teachers have an influence on their learning and should be assessed. Student evaluation of teachers is quick, inexpensive, easy, and causes little interference with classroom instruction.

Among the reported and researched disadvantages of student ratings of teachers is the fear that inferior scholars are more critical of teachers. Other possible disadvantages of student evaluation of teachers that have been thoroughly researched include the belief that faculty members resist being evaluated by pupils, students' liking or disliking teachers, the amount of work teachers require may influence the students' ratings of the teachers' skills, and student ratings do not reflect the long-term effects of instruction.

Numerous studies were reviewed with the studies often drawing contradictory conclusions. Although the evidence does not refute all the reservations about the student evaluation of teachers, most researchers concluded that the extraneous influences on teacher evaluation could be controlled with proper testing conditions, and the benefits gained from student evaluation of teachers outweighed the potential disadvantages.

The measurable effect of the extraneous factors were very small in almost all the studies. Many researchers concluded that there may be no better source of information on the learning environment and classroom performances of teachers than students.

CHAPTER III. METHODS

This study developed and tested four pools of items for student feedback to teachers based upon the discrimination power of the items. Questionnaires were completed by students in kindergarten through the twelfth grade. Four different levels of questionnaires based on the pre-determined reading levels of the questionnaires were administered. The questionnaires, subjects who participate, data collection procedures, and statistical analyses are reviewed in this chapter.

The first phase of the study involved developing four separate pools of items for students to complete regarding the classroom procedures and behaviors of their teachers. The items were developed using previously established and tested teacher evaluation criteria. All items were then tested for their reading level using the Random House Readability Analysis Program and the Britannica Readability Formulas. Both are computerized programs designed to determine reading levels. Between the programs, nine different readability formulas were utilized. Items were then modified or eliminated to ensure that the reading level of the remaining items was below the lowest grade level of students' completing the questionnaire.

After the four pools of items were developed and field tested, students used a five-point, Likert-type scale to rate their teachers. All ratings were conducted in the regular classroom of the teacher. Teachers did not see the individual ratings of the students. Uniform procedures for administering the questionnaire were established and followed based upon recommendations found while reviewing the literature on student evaluation of teachers. The data from the four levels of questionnaires

were then analyzed separately using the Menne and Tolsma method (49) to determine item discrimination power as applied by Hidlebaugh (34) and Look (41). Items which discriminated at the .05 level of significance or better were identified.

As the second phase of the study, all items identified as discriminating among teachers were then correlated with student responses as to their like or dislike of the teacher, their preconceived attitudes towards the class, their earned or expected mark, and their perceptions as to the appropriateness of the amount of work required by the teacher. The Pearson Correlation was used to determine the association between these variables. The correlation coefficients were tested for the .05 level of significance.

Construction of the Questionnaires

The questionnaires, the first phase of the study (Appendix A), consisted of developing items to be completed by the student describing the frequency of the occurrence of observable teacher behaviors. The items were selected based on a study of the research on effective teaching. Specifically, the teacher evaluation criteria developed through the efforts of the School Improvement Model (45) were used as a guide to develop items for the student feedback to teachers questionnaires. An attempt was made to develop low inference items. The items were designed to ask students to rate the frequency of specific, observable classroom behaviors as demonstrated by their teacher.

Four pools of items were developed. Several similar items were used in each of the different levels. Students in kindergarten through the

second grade (Level 1) were to have the 67 questions read to them by an adult. Level 2 (67 questions) was designed for use by students in grades 3 through 6. Level 3 (74 questions) was designed for use by students in grades 7 and 8. Level 4 (94 questions) was designed for use by high school students. The last three levels were to be completed by the students upon reading the questions themselves.

As the items were developed, they were tested for their readability level. The estimated reading level of the questions for the lower elementary grades was at the first grade, ninth month; therefore, the items were to be read to the students. Only seven of the words in the items were not on the "Dale 3000 Easy Word List." The reading level for the upper elementary grades, grades three through six, according to the reading level checks, was midway through the second grade. Only 22 of the words were not on the "Dale 3000 Easy Word List." The items for the junior high students were established as being at a reading level near the end of the fifth grade. The first 63 items on the high school questions had the same reading level as the junior high with the last 30 items having a reading level at the eighth grade.

Specific and uniform directions for administering the questionnaires were prepared based upon a review of the research on student evaluation of teachers. Directions were provided for the person administering the questionnaires to read to the students (Appendix B).

After the items were developed and tested for readability levels and the directions were prepared, a small field test was conducted utilizing volunteers, experienced teachers, and administrators who made suggestions

on modifying the directions and who noted difficulties students had with
the answer sheets, the directions, and specific questions. Answer sheets,
directions, and specific questions were modified following this field
test.

Selection of Sample and Collection of Data

All students and teachers who participated in the administration and
completion of the questionnaires were from schools voluntarily
participating in the study. All data were collected in February and March
of 1986. The questionnaires were administered to students by an adult who
was not the classroom teacher being evaluated. The school systems that
participated in the study are shown in Table 1.

Table 2 describes the number of students completing the questionnaire
and the number of students and teachers for which the data were used in
identifying discriminating items. As explained in the Treatment of Data
section of this chapter, a theoretical minimum of 15 raters was
established for this study. Data collected on teachers with fewer than 15
students completing the items were discarded.

Human Subjects Release

The Iowa State University Committee on the Use of Human Subjects in
Research reviewed this project and concluded that the rights and welfare
of the human subjects were adequately protected, that risks were
outweighed by the potential benefits and expected value of the knowledge
sought, that confidentiality of data was assured, and that informed
consent was obtained by appropriate procedures.

Table 1. Participating schools

School name	Location
Cherokee Elementary School	Springfield, Missouri
Pershing Elementary School	Springfield, Missouri
Pleasant View Elem. School	Springfield, Missouri
Study Elementary School	Springfield, Missouri
Cherokee Jr. High School	Springfield, Missouri
Pershing Jr. High School	Springfield, Missouri
Pleasant View Jr. High School	Springfield, Missouri
Study Jr. High School	Springfield, Missouri
Central High School	Springfield, Missouri
Parkview High School	Springfield, Missouri
Independence High School	El Dorado Hills, California
Oakridge High School	El Dorado Hills, California

Treatment of Data

Hidlebaugh's (34) and Look's (41) application of the Menne and Tolsma (49) methodology for determining item discrimination power based upon group responses to questions was used to identify which of the items at each level of the questionnaires discriminated among teachers. This procedure uses the percentage of the total sum of squares due to between-groups. According to Hidlebaugh and Look, this procedure is advantageous when compared to the usual analysis of variance methods.

Table 2. Students completing the questionnaire

Data gathered	Data used
Level 1 (Grades K-2)	
12 Teachers	9 Teachers
256 Students	207 Students
Level 2 (Grades 3-6)	
33 Teachers	33 Teachers
796 Students	796 Students
Level 3 (Grades 7-8)	
50 Teachers	38 Teachers
973 Students	830 Students
Level 4 (Grades 9-12)	
93 Teachers	52 Teachers
1535 Students	1086 Students
Total	
188 Teachers	132 Teachers
3560 Students	2919 Students

Under the usual analysis of variance assumptions, the ratio of between- to within-group mean squares varies as the F statistic and is greatly influenced by the size of the sample.

For an item to discriminate, a certain minimum percentage of the total sum of squares must be due to the variance between teachers. The minimum percentage was established for this investigation based on the

assumption of a minimum of 15 raters for each teacher. This theoretical

minimum was used because Menne and Tolsma (49) stated that

> ...if an item is a discriminating one in a situation
> involving a few small groups, then it will also be
> capable of discriminating among more numerous and/or
> larger groups. The reverse, of course, is not true.

It is possible for an item to be discriminating in a situation where there

are several large groups but not be discriminating in a situation where

there a few small groups. The minimum of 15 was selected based on the

assumption that most regular classrooms contain at least that many

students. Using a larger number, as the minimum number of raters

required, could reduce the application of the results of this study in

smaller school districts. A smaller minimum number would increase the

difficulty in finding discriminating items and not reflect the more common

class sizes in public schools. The sources of data analyzed to determine

item discrimination are shown in Tables 1 and 2.

The rationale for establishing 13 percent as a minimum percentage for

identifying discriminating items at the .05 level of significance is shown

in Table 3. This procedure is identical to the methodology employed by

Hidlebaugh (34) and Look (41).

This 13 percent figure was determined algebraically as follows:

Source	DF	SS	MS	F
Between groups	2-1=1	x	$\dfrac{x}{100-x/28}$	$\dfrac{4.20}{1}$
Within groups	2(15-1)=28	100-x		
Total	29	100		

Therefore:

$$\frac{\dfrac{x}{100-x}}{28} = 4.20$$

$$x = (4.20)\ \frac{100-x}{28}$$

$$28x = (4.2)\ (100-x)$$

$$28x = 420 - 4.2x$$

$$(28 + 4.2)x = 420$$

$$32.2\ x = 420$$

$$x = 13.04$$

$$100-x = 86.96$$

Table 3. Analysis of variance for two groups with 15 subjects per group

Source	DF	SS	MS	
Between groups	2-1	13%	22	13/87/28 = 4.20*
Within groups	2(15-1)=28	87%	87/28	
Total	29	100%		

*The critical F value with 1 and 28 degrees of freedom at the .05 level is 4.20.

A between-group minimum percentage of the total sums of squares sufficient to discriminate at the .05 level of significance is 13 percent. This minimum percentage assumes that the item distinguishes between two teachers each rated by 15 students. The fewest number of students and groups was at Level 1, where 9 groups and 207 students were included in

the data analyzed for this study. Level 4 had 52 groups and 1086 students involved. Based upon the assumptions of Menne and Tolsma (49), it can be concluded that the items selected using the 13 percent criteria will be discriminating items.

Using the theoretical minimum of 15 students rating each teacher required discounting the data for teachers who were rated by fewer than 15 students. Data for 56 teachers were discarded because those teachers did not have a minimum of 15 raters. The decision to disregard these data was based on the consideration that a representative sample of students must be obtained for each teacher if the data are to be interpreted as accurately reflecting the classroom performance of the teachers in question.

For this investigation, discriminating items were selected based on the analysis of data for all teachers rated by 15 or more students. Due to the large number of students (2,919) and teachers (132) for whom data were analyzed, it is believed that the items identified as discriminating in this study are representative of items that, when answered by students, actually measure differences between teachers. However, the same items may not be discriminating for teachers rated by fewer than 15 students.

A Cronbach Alpha reliability coefficient was calculated for all items identified as discriminating at the .05 level of significance to provide an estimate of the internal consistency of these items. The Cronbach Alpha reliability coefficient was selected as the most appropriate measure of internal consistency because students were asked to rate each participating teacher's performance on each item on a five-point scale.

The second phase of the study involved determining if a relationship existed between the student´s ratings of teachers on the items found to be discriminating and the student´s earned or anticipated mark, the student´s like or dislike of the teacher, the amount of work perceived as being required by the teacher, and the student´s initial interest in the subject. The Pearson Correlation was used in this phase of the study to identify the strength of the relationship between the potentially biasing factors.

CHAPTER IV. FINDINGS

Introduction

The basic problem for this study was to identify four grade-specific

pools of items for student feedback to teachers based upon item

discrimination power. To complete this task, questionnaires were

completed by students rating the classroom performance of their teachers

as to the frequency of occurrence of several behaviors. All subjects were

from volunteer schools.

During the study, 3,560 students from twelve schools and two school

districts used a five-point scale to rate the performance of designated

teachers on one of the four grade-level specific questionnaires. The

different levels of the questionnaires were based on the tested reading

levels of the items in the questionnaires. The questionnaires contained

from 67 to 96 items. Items which discriminated at the .05 level of

significance were identified using the Menne and Tolsma method (49) to

determine item discrimination power. Students also provided information

about preconceived attitudes towards the teachers and classes to allow the

correlation of these potentially biasing factors with their ratings of

each discriminating item from the pool of items. This analysis was

completed using the Pearson's Correlation.

All of the data collected were not analyzed. A minimum of 15 raters

for each teacher was established for the item discrimination research,

because it is possible for an item to be discriminating in a situation

where there are several large groups but not discriminating in a situation

involving a few small groups. A total of 3,560 subjects rated teachers in

the original data gathering process. Results are reported for the teachers rated by 2,968 subjects after the criterion of the minimum number of raters had been met.

In this chapter, each of the research null hypotheses will be restated and the results of the statistical tests will be displayed in table form. Instruments used in the data collection can be found in Appendix A. Directions for administering the questionnaires can be found in Appendix B.

Item Discrimination Questionnaire

Research Hypothesis 1

Research null hypothesis 1 stated that there would not be a difference in the discriminating power of the items on a student feedback to teacher instrument made up of items developed from a review of the literature on teacher evaluation. In order to determine if the discrimination power of the items differed, Hidlebaugh's (34) and Look's (41) adaptation of the Menne and Tolsma methodology (49) for determining the discrimination index of items in instruments using group responses was applied to all items on the questionnaires using the responses of all students for all teachers rated by at least 15 students.

The number of discriminating items identified from the four levels of the questionnaires ranged from 18 to 57. From the items completed by high school students (Level 4: grades 9-12), a total of 57 items had a sum of squares between-groups variance equal to or exceeding 13 percent of the total sums of squares variance, the criterion established for discrimination at the .05 level of significance as described in Chapter

III. For the items completed by junior high school students (Level 3: grades 7-8), a total of 34 items had a sum of squares between-groups variance equal to or exceeding 13 percent of the total sums of squares variance. From the items completed by the upper elementary school students (Level 2: grades 3-6), a total of 18 items had a sum of squares between-groups variance equal to or exceeding 13 percent of the total sums of squares variance. For items completed by students in the lower grades of the elementary schools (Level 1: grades K-2), a total of 25 items had a sum of squares between-groups variance equal to or exceeding 13 percent of the total sums of squares variance.

For each of the four levels of the items, a Cronbach Alpha reliability coefficient was calculated to determine the internal consistency of all items with discrimination value equal to or exceeding 13 percent. The Cronbach Alpha reliability coefficient was .859 for the high school items (Level 4: grades 9-12) and .839 for the junior high school items (Level 3: grades 7-8). The Cronbach Alpha reliability coefficient was .650 for the items completed by upper elementary school students (Level 2: grades 3-6) and .596 for the items completed by lower elementary school students (Level 1: grades K-2). The discrimination value of each item is shown in Table 4.

Table 5 lists only the items that were found to discriminate among teachers from each of the levels of the questionnaire. The items that were found to discriminate are listed in rank order according to the discrimination power of the items for each of the four levels of the questionnaires.

Table 4. Item discrimination power of student feedback to teachers

Item number	Item	Item discrimination percent

Level 1 - Lower Elementary (Grades Kindergarten through Second)

1.	Our work is too hard for us.	26*
2.	My teacher gives us enough time to do our work.	41*
3.	I pay attention in class.	45*
4.	We often get off the lesson in class.	18*
5.	We do the same thing every day in class.	16*
6.	We go back over each lesson when we finish it.	12
7.	My teacher gives us work to do at home.	15*
8.	My teacher makes our work interesting.	5
9.	My teacher asks us about our work.	10
10.	I can talk with my teacher about problems.	12
11.	My teacher is late coming to class.	20*
12.	My teacher gives our work back to us fast.	13*
13.	My teacher is easy to hear.	8
14.	I know what the teacher wants us to do.	9
15.	Some people upset others in class.	7
16.	I can get help from my teacher when I need it.	9
17.	Our work is too easy for us.	16*
18.	I can waste class time and still have time to do my work.	12
19.	Our work helps us learn the lesson.	9
20.	Our teacher often is not ready for class.	14*
21.	My teacher makes me feel good when I do good work.	5
22.	We often have to take a test in class.	18*
23.	When we have a test, it is not about the same things we had in class.	13*
24.	My teacher knows a lot about the lesson.	4
25.	My teacher is fair with all.	9
26.	My teacher knows when I do not pay attention.	8
27.	My teacher does not care if we waste time in class.	25*
28.	I do not work in class if the teacher is not looking.	25*
29.	My teacher wants me to find new ways to learn.	8
30.	My teacher shows us good ways to work on a lesson and to learn the lesson.	4
31.	I can get help from my teacher.	11
32.	I can never find my teacher when I need help.	16*
33.	My teacher says I do good work.	7
34.	My teacher listens to me when I need to talk.	3
35.	I have to wait a long time for the teacher to give me new work.	18*

*Indicates items that discriminate at the .05 level of significance.

Table 4. Continued

Item number	Item	Item discrimination percent

Level 1 - Lower Elementary (Grades Kindergarten through Second) (Cont.)

36.	I get to work with others in class.	10
37.	My teacher lets us know how we should act.	5
38.	My teacher often cannot find my work.	5
39.	I finish my work before class is over.	13*
40.	My teacher plans for each class.	11
41.	My teacher tells me where I can find more things to help me learn about the lesson.	15*
42.	We have to do good work to get a good mark.	10
43.	I try to do my work right.	7
44.	We often talk about something different from the lesson.	13*
45.	My teacher lets us waste time before we start the lesson.	11
46.	My teacher leaves us alone in class.	11
47.	My teacher knows when we are not at work and puts us back to work.	7
48.	My teacher gives us time to rest before our class is over.	17*
49.	My teacher takes a lot of time before we start to work.	24*
50.	I know about the lesson for class.	21*
51.	My teacher knows me well.	4
52.	If I do not know what the teacher means, my teacher will find a new way to explain it.	6
53.	When I finish my work, my teacher gives me more work that I like to do.	16*
54.	The lessons we have are easy.	11
55.	My teacher has us learn hard lessons in small steps.	14*
56.	My teacher has us work too fast.	12
57.	My teacher tells us what new things we can learn in each lesson.	6
58.	Our class does new things at the same time.	10
59.	My teacher wants us to sit and not talk in class.	7
60.	My teacher will explain new things in a way that is easy to learn.	5
61.	My teacher likes it when we ask about the lesson.	6
62.	My teacher likes the answers I give in class.	5
63.	My teacher explains the lessons clearly.	8
64.	What mark or grade do you receive from your teacher.	5
65.	Does your teacher give 1. too much work? 2. the right amount of work? 3. too little work?	8

Table 4. Continued

Item number	Item	Item discrimination percent

Level 1 - Lower Elementary (Grades Kindergarten through Second) (Cont.)

66. Do you like your teacher?		6
67. Before the school year started, did you think you would 1. like the class? 2. dislike the class? 3. did not know about the class?		16*

Level 1 (Lower Elementary K-2) - 207 subjects in 9 groups, all groups 15 or greater. Cronbach Alpha reliability 25 items with discrimination $\geq$ 13% is .596.

Level 2 - Upper Elementary (Grades Three through Six)

1. Our work is too hard for us.	12
2. My teacher gives us enough time to do our work.	16*
3. I pay attention in class.	5
4. We often get off the lesson in class.	16*
5. We do the same thing every day in class.	13*
6. My teacher reviews each lesson when we finish it.	13*
7. My teacher gives us work to do at home.	29*
8. My teacher makes our work interesting.	16*
9. My teacher asks us questions in class.	9
10. I can talk with my teacher about problems.	11
11. My teacher is late coming to class.	11
12. My teacher gives our work back to us fast.	13*
13. My teacher is easy to understand.	9
14. My teacher's directions are easy to understand.	10
15. Some students bother others in the class.	9
16. I can get help from my teacher when I need it.	12
17. Our work is too easy for us.	10
18. I can waste class time and still have time to do my work.	7
19. Our work helps us learn the lesson.	8
20. Our teacher often is not prepared for class.	7
21. My teacher makes me feel good when I do good work.	13*
22. We often have to take a test in class.	7
23. When we have a test, it is not about the same things we had in class.	9
24. My teacher knows a lot about the lesson being taught.	7
25. My teacher is fair with all.	11
26. My teacher knows when I do not pay attention.	8
27. My teacher does not care if we waste time in class.	11
28. I do not work in class if the teacher is not looking.	10

Table 4. Continued

Item number	Item	Item discrimination percent

Level 2 - Upper Elementary (Grades Three through Six) (Cont.)

29.	My teacher wants me to find new ways to learn.	9
30.	My teacher shows us good ways to work on a lesson and to learn the lesson.	11
31.	I can get help from my teacher.	13*
32.	I can never find my teacher when I need help.	8
33.	My teacher says I do good work.	10
34.	My teacher listens to me when I need to talk.	12
35.	I have to wait a long time for the teacher to give us new work.	7
36.	I get to work with others in class.	12
37.	My teacher lets us know how we should act.	6
38.	My teacher often cannot find my work.	9
39.	I finish my work before class is over.	21*
40.	My teacher plans for each class.	8
41.	My teacher tells me where I can find more information to help me learn about the lesson.	10
42.	We have to do good work to get a good mark.	7
43.	I try to do my work right.	6
44.	We often talk about something different from the lesson.	11
45.	My teacher lets us waste time before we start the lesson.	8
46.	My teacher leaves our classroom alone.	13*
47.	My teacher knows when we are not at work and puts us back to work.	8
48.	My teacher gives us time to rest before our class is over.	16*
49.	My teacher takes a lot of time before starting teaching.	9
50.	I understand the lesson being taught.	5
51.	My teacher knows me well.	15*
52.	If I do not understand, my teacher will find a new way to explain it to me.	12
53.	If I finish my work before class is over, my teacher gives me interesting work.	14*
54.	The lessons we have are easy.	8
55.	My teacher has us learn hard lessons in small steps.	8
56.	My teacher has us work too fast.	23*
57.	My teacher tells us what new things we can learn in each lesson.	13*
58.	Our class does new things at the same time.	7

Table 4. Continued

Item number	Item	Item discrimination percent

Level 2 - Upper Elementary (Grades Three through Six) (Cont.)

59. My teacher wants us to sit and not talk in class.   10
60. My teacher will explain new things in a way that is easy to understand.   13*
61. My teacher likes it when we ask about the lesson.   12
62. My teacher likes the answers I give in class.   6
63. My teacher explains the lessons clearly.   14*
64. What mark or grade do you receive from your teacher.   12
65. Does your teacher give 1.too much work? 2. the right amount of work? 3. too little work?   10
66. Do you like your teacher?   9
67. Before the school year started, did you think you would 1. like the class? 2. dislike the class? 3. did not know about the class?   8

Level 2 (Upper Elementary 3-6) - 796 subjects in 33 groups, all groups 15 or greater. Cronbach Alpha reliability 18 items with discrimination $\geq$ 13% is .650.

Level 3 - Junior High School (Grades Seven through Eight)

1. My teacher has to spend time during class looking for books or assignments that the teacher cannot find.   16*
2. My teacher takes a lot of class time handing out materials.   10
3. I pay attention in class.   9
4. My teacher starts lessons explaining what we are going to do and why we are going to do it.   10
5. My teacher knows when I am daydreaming.   12
6. My teacher explains the rules for classroom behavior very clearly.   11
7. My teacher is fair with all.   16*
8. Some students disrupt or bother class when we are working.   17*
9. I spend my time in class working on the subject the teacher wants.   7
10. I can get help from my teacher when I want it.   11
11. Many students do not work in class if the teacher is not watching.   12
12. My teacher is not in class when class is supposed to start.   10

Table 4. Continued

Item number	Item	Item discrimination percent

Level 3 - Junior High School (Grades Seven through Eight) (Cont.)

13. My teacher does not care if we waste time in class. 12
14. My teacher does not want students to disagree with him/her. 15*
15. We get off the topic of the lesson. 14*
16. My teacher asks questions to see if we understand what has been taught. 11
17. My teacher gives homework related to the subject we are studying. 23*
18. When we finish a lesson we discuss and summarize what we have just studied. 14*
19. My teacher explains what we are supposed to learn from each lesson. 11
20. My teacher tells us how we can use what we have already learned to learn new things. 8
21. My teacher makes class work interesting. 22*
22. I try to learn more on my own about what the teacher is talking about. 8
23. Our work is too easy for us. 12
24. My teacher gives enough time to do our work. 15*
25. I can waste time and still have time to do my work. 15*
26. My teacher has us working too slowly. 9
27. My teacher has us working too fast. 9
28. We do the same things every day in class. 14*
29. My teacher is well-prepared for our class. 14*
30. My teacher encourages us to look at problems in new ways and find new ways to solve problems. 12
31. My teacher asks us questions in class. 14*
32. My teacher is easy to understand when talking. 13*
33. My teacher explains ideas logically. 12
34. My teacher explains new ideas in a way that is easy to understand. 14*
35. My teacher is not interested in what is being taught. 8
36. My teacher likes it when we ask questions. 13*
37. My teacher's directions are easy to understand. 13*
38. My teacher explains the lesson clearly. 13*
39. My teacher asks questions to see if we understand the lesson. 13*
40. My teacher looks at our work, as we are doing it, to see if we understand the lesson. 19*
41. My teacher returns test and homework quickly. 12
42. I can talk alone with my teacher if I need. 13*

Table 4. Continued

Item number	Item	Item discrimination percent

Level 3 - Junior High School (Grades Seven through Eight) (Cont.)

43. My teacher explains how I could have done better work.   7
44. My teacher often gives tests.   13*
45. My teacher checks to see how well we understand what is being taught.   8
46. My teacher's tests are not about the same things we in class.   9
47. My teacher's tests are fair.   9
48. My teacher knows more about the subject than other teachers I have had.   14*
49. My teacher knows a lot about the subject being taught.   13*
50. My teacher assigns work more to keep us busy than to have us learn something important.   9
51. Every assignment helps us learn more about the subject.   10
52. We are sometimes taught things that are later found to be wrong.   7
53. My teacher has us learn a difficult lesson in small steps.   8
54. My homework helps me to learn the subject being taught.   9
55. If I do not understand, my teacher explains it to me again.   14*
56. If I finish an assignment before the class is over, my teacher gives me interesting work to do.   15*
57. My teacher gives me extra help if I need it.   11
58. My class work is interesting.   14*
59. The subject we study is too easy.   14*
60. I understand the subject being taught.   9
61. My teacher knows me well.   11
62. We often get off the subject in class.   10
63. My teacher knows when I am not working and puts me back to work.   7
64. My teacher takes a lot of time checking attendance, writing passes, and handing out assignments and class work.   13*
65. I have to do good work to get good marks.   9
66. My teacher knows what I am capable of doing.   9
67. I try to do my assignments correctly.   11
68. We use one book at all times in the class.   34*
69. My teacher often makes materials and worksheets for us to use.   27*
70. My teacher plans carefully for each class.   16*

Table 4. Continued

Item number	Item	Item discrimination percent

Level 3 - Junior High School (Grades Seven through Eight) (Cont.)

71. My teacher loses my homework assignments.   9
72. I have to wait a long time for the teacher to give me assignments.   7
73. What mark or grade do you receive from your teacher?   20*
74. Does your teacher give 1.too much work? 2. the right amount of work? 3. too little work?   12
75. Do you like your teacher?   17*
76. Before the school year started, did you think you would 1. like the class? 2. dislike the class? 3. did not know about the class?   7

Level 3 (Junior High 7-8) - 830 subjects in 38 groups, all groups 15 or greater. Cronbach Alpha reliability 34 items with discrimination $\geq$ 13% is .839.

Level 4 - High School (Grades Nine through Twelve)

1. My teacher has to spend time during class looking for books or assignments that the teacher cannot find.   11
2. My teacher takes a lot of class time handing out materials.   14*
3. I pay attention in class.   11
4. My teacher starts lessons explaining what we are going to do and why we are going to do it.   .15*
5. My teacher knows when I am daydreaming.   13*
6. My teacher explains the rules for classroom behavior very clearly.   9
7. My teacher is fair with all.   16*
8. Some students disrupt or bother class when we are working.   24*
9. I spend my time in class working on the subject the teacher wants.   10
10. I can get help from my teacher when I want it.   13*
11. Many students do not work in class if the teacher is not watching.   16*
12. My teacher is not in class when class is supposed to start.   16*
13. My teacher does not care if we waste time in class.   9
14. My teacher does not want students to disagree with him/her.   14*

Table 4. Continued

Item number	Item	Item discrimination percent

Level 4 - High School (Grades Nine through Twelve) (Cont.)

15.	We get off the topic of the lesson.	15*
16.	My teacher asks questions to see if we understand what has been taught.	20*
17.	My teacher gives homework related to the subject we are studying.	51*
18.	When we finish a lesson we discuss and summarize what we have just studied.	20*
19.	My teacher explains what we are supposed to learn from each lesson.	12
20.	My teacher tells us how we can use what we have already learned to learn new things.	21*
21.	My teacher makes class work interesting.	19*
22.	I try to learn more on my own about what the teacher is talking about.	8
23.	Our work is too easy for us.	13*
24.	My teacher gives enough time to do our work.	14*
25.	I can waste time and still have time to do my work.	13*
26.	My teacher has us working too slowly.	8
27.	My teacher has us working too fast.	10
28.	We do the same things every day in class.	15*
29.	My teacher is well-prepared for our class.	12
30.	My teacher encourages us to look at problems in new ways and find new ways to solve problems.	17*
31.	My teacher asks us questions in class.	19*
32.	My teacher is easy to understand when talking.	14*
33.	My teacher explains ideas logically.	14*
34.	My teacher explains new ideas in a way that is easy to understand.	15*
35.	My teacher is not interested in what is being taught.	9
36.	My teacher likes it when we ask questions.	12
37.	My teacher's directions are easy to understand.	14*
38.	My teacher explains the lesson clearly.	12
39.	My teacher asks questions to see if we understand the lesson.	19*
40.	My teacher looks at our work, as we are doing it, to see if we understand the lesson.	17*
41.	My teacher returns test and homework quickly.	25*
42.	I can talk alone with my teacher if I need.	11
43.	My teacher explains how I could have done better work.	14*
44.	My teacher often gives tests.	23*

Table 4. Continued

Item number	Item	Item discrimination percent

Level 4 - High School (Grades Nine through Twelve) (Cont.)

45. My teacher checks to see how well we understand what is being taught. — 15*

46. My teacher's tests are not about the same things we in class. — 7

47. My teacher's tests are fair. — 11

48. My teacher knows more about the subject than other teachers I have had. — 17*

49. My teacher knows a lot about the subject being taught. — 11

50. My teacher assigns work more to keep us busy than to have us learn something important. — 12

51. Every assignment helps us learn more about the subject. — 13*

52. We are sometimes taught things that are later found to be wrong. — 8

53. My teacher has us learn a difficult lesson in small steps. — 13*

54. My homework helps me to learn the subject being taught. — 23*

55. If I do not understand, my teacher explains it to me again. — 10

56. If I finish an assignment before the class is over, my teacher gives me interesting work to do. — 15*

57. My teacher gives me extra help if I need it. — 15*

58. My class work is interesting. — 14*

59. The subject we study is too easy. — 13*

60. I understand the subject being taught. — 10

61. My teacher knows me well. — 9

62. We often get off the subject in class. — 13*

63. My teacher knows when I am not working and puts me back to work. — 10

64. My teacher takes a lot of time checking attendance, writing passes, and handing out assignments and class work. — 14*

65. I have to do good work to get good marks. — 10

66. My teacher knows what I am capable of doing. — 10

67. I try to do my assignments correctly. — 12

68. We use one book at all times in the class. — 47*

69. My teacher often makes materials and worksheets for us to use. — 31*

70. My teacher plans carefully for each class. — 15*

71. My teacher loses my homework assignments. — 13*

Table 4. Continued

Item number	Item	Item discrimination percent

Level 4 - High School (Grades Nine through Twelve) (Cont.)

72. I have to wait a long time for the teacher to give me assignments. — 9

73. My teacher seems to have a purpose of goal for each lesson. — 12

74. Our classroom activities often do not seem to be related to the purpose of the lesson. — 12

75. We often run out of class time before the teacher has finished the lesson. — 8

76. My teacher uses a variety of classroom activities. — 19*

77. My teacher expects me to do the best work I can. — 9

78. The questions my teacher asks always have only one right answer. — 12

79. I often do not understand why I get the grades or marks I receive in this class. — 10

80. I do not know what grade or mark I am going to get until the semester or term grade. — 13*

81. My teacher's grades or marks are fair. — 13*

82. The information the teacher provides us is often out of date. — 10

83. My teacher often spends time in class talking about topics different from the subject we are studying. — 12

84. We waste a lot of time in class when we change topics or activities. — 15*

85. My teacher and this class have helped me decide what I want to do when I finish school. — 13*

86. We often watch films or filmstrips that do not help us learn about the subject we are studying. — 18*

87. My teacher tells the class about library/media materials that will help us learn about the subject we are studying. — 26*

88. My teacher is well-organized. — 17*

89. My teacher often loses his/her temper when students disrupt class. — 21*

90. We often work in different sized groups depending upon the activity we have in class. — 41*

91. What mark or grade do you receive from your teacher? — 17*

92. Does your teacher give 1. too much work? 2. the right amount of work? 3. too little work? — 12

93. Do you like your teacher? — 18*

Table 4. Continued

Item number	Item	Item discrimination percent

Level 4 - High School (Grades Nine through Twelve) (Cont.)

94. Before the school year started, did you think you
    would 1. like the class? 2. dislike the class?
    3. did not know about the class?   10

Level 4 (High School 9-12) - 1,086 subjects in 52 groups, all groups 15 or greater. Cronbach Alpha reliability 57 items with discrimination $\geq$ 13% is .857.

Table 5. Ranking of item discrimination power of discriminating items

Item number	Item	Discrimination percent

Level 1 - Lower Elementary (Grades Kindergarten through Second)

3.	I pay attention in class.	45*
2.	My teacher gives us enough time to do our work.	41*
1.	Our work is too hard for us.	26*
27.	My teacher does not care if we waste time in class.	25*
28.	I do not work in class if the teacher is not looking.	25*
49.	My teacher takes a lot of time before we start to work.	24*
50.	I know about the lesson for class.	21*
11.	My teacher is late coming to class.	20*
4.	We often get off the lesson in class.	18*
22.	We often have to take a test in class.	18*
35.	I have to wait a long time for the teacher to give me new work.	18*
48.	My teacher gives us time to rest before our class is over.	17*
5.	We do the same thing every day in class.	16*
17.	Our work is too easy for us.	16*
32.	I can never find my teacher when I need help.	16*
53.	When I finish my work, my teacher gives me more work that I like to do.	16*
67.	Before the school year started, did you think you would 1. like the class? 2. dislike the class? 3. did not know about the class?	16*
7.	My teacher gives us work to do at home.	15*
41.	My teacher tells me where I can find more things to help me learn about the lesson.	15*
20.	Our teacher often is not ready for class.	14*
55.	My teacher has us learn hard lessons in small steps.	14*
12.	My teacher gives our work back to us fast.	13*
23.	When we have a test, it is not about the same things we had in class.	13*
39.	I finish my work before class is over.	13*
44.	We often talk about something different from the lesson.	13*

*Indicates items that discriminate at the .05 level of significance.

Table 5. Continued

Item number	Item	Discrimination percent
	Level 2 - Upper Elementary (Grades Three through Six)	
7.	My teacher gives us work to do at home.	29*
56.	My teacher has us work too fast.	23*
39.	I finish my work before class is over.	21*
2.	My teacher gives us enough time to do our work.	16*
4.	We often get off the lesson in class.	16*
8.	My teacher makes our work interesting.	16*
48.	My teacher gives us time to rest before our class is over.	16*
51.	My teacher knows me well.	15*
53.	If I finish my work before class is over, my teacher gives me interesting work.	14*
63.	My teacher explains the lessons clearly.	14*
5.	We do the same thing every day in class.	13*
6.	My teacher reviews each lesson when we finish it.	13*
12.	My teacher gives our work back to us fast.	13*
21.	My teacher makes me feel good when I do good work.	13*
31.	I can get help from my teacher.	13*
46.	My teacher leaves our classroom alone.	13*
57.	My teacher tells us what new things we can learn in each lesson.	13*
60.	My teacher will explain new things in a way that is easy to understand.	13*
	Level 3 - Junior High School (Grades Seven through Eight)	
68.	We use one book at all times in the class.	34*
69.	My teacher often makes materials and worksheets for us to use.	27*
17.	My teacher gives homework related to the subject we are studying.	23*
21.	My teacher makes class work interesting.	22*
73.	What mark or grade do you receive from your teacher?	20*
40.	My teacher looks at our work, as we are doing it, to see if we understand the lesson.	19*
8.	Some students disrupt or bother class when we are working.	17*
75.	Do you like your teacher?	17*
1.	My teacher has to spend time during class looking for books or assignments that the teacher cannot find.	16*
7.	My teacher is fair with all.	16*

Table 5. Continued

Item number	Item	Discrimination percent

Level 3 - Junior High School (Grades Seven through Eight) (Cont.)

70.	My teacher plans carefully for each class.	16*
14.	My teacher does not want students to disagree with him/her.	15*
24.	My teacher gives enough time to do our work.	15*
25.	I can waste time and still have time to do my work.	15*
56.	If I finish an assignment before the class is over, my teacher gives me interesting work to do.	15*
15.	We get off the topic of the lesson.	14*
18.	When we finish a lesson we discuss and summarize what we have just studied.	14*
28.	We do the same things every day in class.	14*
29.	My teacher is well-prepared for our class.	14*
31.	My teacher asks us questions in class.	14*
34.	My teacher explains new ideas in a way that is easy to understand.	14*
48.	My teacher knows more about the subject than other teachers I have had.	14*
55.	If I do not understand, my teacher explains it to me again.	14*
58.	My class work is interesting.	14*
59.	The subject we study is too easy.	14*
32.	My teacher is easy to understand when talking.	13*
36.	My teacher likes it when we ask questions.	13*
37.	My teacher's directions are easy to understand.	13*
38.	My teacher explains the lesson clearly.	13*
39.	My teacher asks questions to see if we understand the lesson.	13*
42.	I can talk alone with my teacher if I need.	13*
44.	My teacher often gives tests.	13*
49.	My teacher knows a lot about the subject being taught.	13*
64.	My teacher takes a lot of time checking attendance, writing passes, and handing out assignments and class work.	13*

Level 4 - High School (Grades Nine through Twelve)

| 17. | My teacher gives homework related to the subject we are studying. | 51* |
| 68. | We use one book at all times in the class. | 47* |

Table 5. Continued

Item number	Item	Discrimination percent

Level 4 - High School (Grades Nine through Twelve) (Cont.)

90. We often work in different sized groups depending upon the activity we have in class. — 41*

69. My teacher often makes materials and worksheets for us to use. — 31*

87. My teacher tells the class about library/media materials that will help us learn about the subject we are studying. — 26*

41. My teacher returns test and homework quickly. — 25*

8. Some students disrupt or bother class when we are working. — 24*

44. My teacher often gives tests. — 23*

54. My homework helps me to learn the subject being taught. — 23*

20. My teacher tells us how we can use what we have already learned to learn new things. — 21*

89. My teacher often loses his/her temper when students disrupt class. — 21*

16. My teacher asks questions to see if we understand what has been taught. — 20*

18. When we finish a lesson we discuss and summarize what we have just studied. — 20*

21. My teacher makes class work interesting. — 19*

31. My teacher asks us questions in class. — 19*

39. My teacher asks questions to see if we understand the lesson. — 19*

76. My teacher uses a variety of classroom activities. — 19*

86. We often watch films or filmstrips that do not help us learn about the subject we are studying. — 18*

93 Do you like your teacher? — 18*

30. My teacher encourages us to look at problems in new ways and find new ways to solve problems. — 17*

40. My teacher looks at our work, as we are doing it, to see if we understand the lesson. — 17*

48. My teacher knows more about the subject than other teachers I have had. — 17*

88. My teacher is well-organized. — 17*

91 What mark or grade do you receive from your teacher? — 17*

7. My teacher is fair with all. — 16*

11. Many students do not work in class if the teacher is not watching. — 16*

Table 5. Continued

Item number	Item	Discrimination percent

Level 4 – High School (Grades Nine through Twelve) (Cont.)

Item number	Item	Discrimination percent
12.	My teacher is not in class when class is supposed to start.	16*
4.	My teacher starts lessons explaining what we are going to do and why we are going to do it.	15*
15.	We get off the topic of the lesson.	15*
28.	We do the same things every day in class.	15*
34.	My teacher explains new ideas in a way that is easy to understand.	15*
45.	My teacher checks to see how well we understand what is being taught.	15*
56.	If I finish an assignment before the class is over, my teacher gives me interesting work to do.	15*
57.	My teacher gives me extra help if I need it.	15*
70.	My teacher plans carefully for each class.	15*
84.	We waste a lot of time in class when we change topics or activities.	15*
2.	My teacher takes a lot of class time handing out materials.	14*
14.	My teacher does not want students to disagree with him/her.	14*
24.	My teacher gives enough time to do our work.	14*
32.	My teacher is easy to understand when talking.	14*
33.	My teacher explains ideas logically.	14*
37.	My teacher's directions are easy to understand.	14*
43.	My teacher explains how I could have done better work.	14*
58.	My class work is interesting.	14*
64.	My teacher takes a lot of time checking attendance, writing passes, and handing out assignments and class work.	14*
5.	My teacher knows when I am daydreaming.	13*
10.	I can get help from my teacher when I want it.	13*
23.	Our work is too easy for us.	13*
25.	I can waste time and still have time to do my work.	13*
51.	Every assignment helps us learn more about the subject.	13*
53.	My teacher has us learn a difficult lesson in small steps.	13*
59.	The subject we study is too easy.	13*
62.	We often get off the subject in class.	13*
71.	My teacher loses my homework assignments.	13*

Table 5. Continued

Item number	Item	Discrimination percent
	Level 4 - High School (Grades Nine through Twelve) (Cont.)	
80.	I do not know what grade or mark I am going to get until the semester or term grade.	13*
81.	My teacher's grades or marks are fair.	13*
85.	My teacher and this class have helped me decide what I want to do when I finish school.	13*

All items for all levels of the questionnaire were designed following the suggested model teacher evaluation criteria related to the classroom behaviors of the teacher developed by the School Improvement Model (45). Items were developed for the three performance areas generally classified by SIM (45) as Productive Teaching Techniques, Organized, Structured Classroom Management, and Positive Interpersonal Relations. No items were developed for the fourth performance area, Professional Responsibilities, since behaviors described in those criteria would not generally be observable by the students. Each of the SIM performance areas contains teacher evaluation criteria with the criteria being explained in more detail by descriptors. Table 6 was designed to show the SIM model teacher evaluation criteria and descriptors with the student feedback to teachers, item number, and discrimination percent listed under the appropriate criteria.

Table 7 groups the data included in Table 6 by SIM Criteria but does not include the actual questionnaire items. The most items, 46, were developed for Criterion 10, "The teacher ensures students time on task." The most items, 19, that discriminated were also classified under that criterion. Criterion 1, "The teacher demonstrates effective planning skills," Criterion 2, "The teacher implements the lesson plan," and Criterion 9, "The teacher provides opportunities for individual differences," had almost as many items that discriminated. Sixty-four percent of the items developed for Criterion 2, "The teacher implements the lesson plan," discriminated, the largest percentage of discriminating items of the criteria with ten or more items developed for testing.

Table 6. Item discrimination percent classified according to SIM criteria

Criterion number/ descriptors/ item number	Criterion/item	Questionnaire level item discrimination percent			
		(K-2)	(3-6)	(7-8)	(9-12)
Criterion 1:	The teacher demonstrates effective planning skills.				
Item	19. Our work helps us learn the lesson.	9	8		
	20. Our teacher often is not ready for class.	14*			
	20. Our teacher often is not prepared for class.		7		
	70. My teacher plans carefully for each class.			16*	15*
Descriptors The teacher:					
1. Selects appropriate long-range goals.					
2. Writes instructional objectives that are related to long-range goals.					
3. Selects objectives at the correct level of difficulty to assure successful learning experiences for each student.					
Item	1. Our work is too hard for us.	26*	12%		
	17. Our work is too easy for us.	16*	10	12	13*
	23.				
4. Includes teaching methods and procedures relevant to the objective.					
	73. My teacher seems to have a purpose of goal for each lesson.				12
5. Includes relevant student activities.					
	74. Our classroom activities often do not seem to be related to the purpose of the lesson.				12
6. Utilizes both formative and summative evaluation procedures.					
7. Plans appropriate time allotments.					
	2. My teacher gives us enough time to do our work.	41*	16*	15*	14*

*Indicates items that discriminate at the .05 level of significance.

Table 6. Continued

Criterion number/ descriptors/ item number	Criterion/item	Questionnaire level item discrimination percent			
		(K-2)	(3-6)	(7-8)	(9-12)
24.					
18.	I can waste class time and still have time to do my work.	12	7		
25.	I can waste time and still have time to do my work.			15*	13*
56.	My teacher has us work too fast.	12	23*		
27.	My teacher has us working too fast.			9	10
26.	My teacher has us working too slowly.			9	8
75.	We often run out of class time before the teacher has finished the lesson.				8
8.	Selects a variety of teaching methods and procedures along with a variety of student activities to use.				
5.	We do the same thing every day in class.	16*	13*		
28.	We do the same things every day in class.			14*	15*
76.	My teacher uses a variety of classroom activities.				19*

Criterion 2: The teacher implements the lesson plan.
Descriptors
The teacher:
1. Reviews and previews; provides the structure for learning.

| 4. | My teacher starts lessons explaining what we are going to do and why we are going to do it. | | | 10 | 15* |
| 20. | My teacher tells us how we can use what we have already learned to learn new things. | | | 8 | 21* |

2. States instructional objectives.

| 57. | My teacher tells us what new things we can learn in each lesson. | 6 | 13* | | |
| 19. | My teacher explains what we are supposed to learn from each lesson. | | | 11 | 12 |

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Table 6. Continued

Criterion number/ descriptors/ item number	Criterion/item	Questionnaire level item discrimination percent			
		(K-2)	(3-6)	(7-8)	(9-12)

3. Provides input related to objectives.
4. Models activities congruent with topic being taught and provides guided practice to reinforce concepts.

	58. Our class does new things at the same time.	10	7		
5. Utilizes lesson summary techniques.					
	6. We go back over each lesson when we finish it.	12			
	6. My teacher reviews each lesson when we finish it.		.13*		
	18. When we finish a lesson we discuss and summarize what we have just studied.			14*	20*
6. Provides independent practice activities.					
	7. My teacher gives us work to do at home.	15*	29*		
	17. My teacher gives homework related to the subject we are studying.			23*	51*

7. Indicates positive directions for moving from one activity to the next.
8. Checks for understanding.

	31. My teacher asks us questions in class.			14*	19*
	16. My teacher asks questions to see if we understand what has been taught.			11	20*
	39. My teacher asks questions to see if we understand the lesson.			13*	19*
	45. My teacher checks to see how well we understand what is being taught.			8	15*
	40. My teacher looks at our work, as we are doing it, to see if we understand the lesson.			19*	17*

Table 6. Continued

Criterion number/ descriptors/ item number	Criterion/item	Questionnaire level item discrimination percent			
		(K-2)	(3-6)	(7-8)	(9-12)

Criterion 3: The teacher motivates students.
    Descriptors
    The teacher:
    1. Communicates challenging scholastic expectations to students.

	Criterion/item	(K-2)	(3-6)	(7-8)	(9-12)
	65. I have to do good work to get good marks.			9	10
2. Responds positively to students.					
	21. My teacher makes me feel good when I do good work.	5	13*		
3. Stimulates students by choosing proper materials and techniques.					
	8. My teacher makes our work interesting.	5	16*		
	21. My teacher makes class work interesting.			22*	19*
4. Gives feedback to students.					
5. Uses methods to stimulate creative expression.					
6. Stimulates creative thinking.					
	30. My teacher encourages us to look at problems in new ways and find new ways to solve problems.			12	17*
	14. My teacher does not want students to disagree with him/her.			15*	14*
	35. My teacher is not interested in what is being taught.			8	9
	78. The questions my teacher asks always have only one right answer.				12
7. Promotes active participation during the lessons.					
	9. My teacher asks us about our work.	10			
	9. My teacher asks us questions in class.		9		
	59. My teacher wants us to sit and not talk in class.	7	10		

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Table 6. Continued

Criterion number/ descriptors/ item number	Criterion/item	Questionnaire level item discrimination percent			
		(K-2)	(3-6)	(7-8)	(9-12)
Criterion 4: The teacher communicates effectively with students. Descriptors The teacher:					
1. Speaks clearly.					
13. My teacher is easy to hear.		8			
13. My teacher is easy to understand.			9		
32. My teacher is easy to understand when talking.				13*	14*
2. Puts ideas across logically.					
60. My teacher will explain new things in a way that is easy to learn.		5			
60. My teacher will explain new things in a way that is easy to understand.			13*		
33. My teacher explains ideas logically.				12	14*
34. My teacher explains new ideas in a way that is easy to understand.				14*	15*
3. Uses a variety of verbal and nonverbal techniques.					
4. Praises, elicits, and responds to student questions before proceeding.					
61. My teacher likes it when we ask about the lesson.		6	12		
36. My teacher likes it when we ask questions.				13*	12
62. My teacher likes the answers I give in class.		5	6		
5. Gives clear, explicit directions.					
14. I know what the teacher wants us to do.		9			
14. My teacher's directions are easy to understand. 37.			10	13*	14*
63. My teacher explains the lessons clearly.		8	14*		
38. My teacher explains the lesson clearly.				13*	12

Table 6. Continued

Criterion number/ descriptors/ item number	Criterion/item	Questionnaire level item discrimination percent			
		(K-2)	(3-6)	(7-8)	(9-12)

6. Utilizes probing techniques.
7. Provides structuring comments which clarify the tasks and help the lesson proceed smoothly.

Criterion 5: The teacher provides students with specific evaluative feedback.
Descriptors
The teacher:
1. Gives written comments, as well as points or scores.

43. My teacher explains how I could have done better work.				7	14*

2. Returns test results as quickly as possible.

12. My teacher gives our work back to us fast.		13*	13*		
41. My teacher returns tests and homework quickly.				12	25*

3. Makes opportunities for one-to-one conferences.
4. Administers district-constructed, criterion-referenced tests, and/or standardized tests.
5. Interprets test results to students and parents.

Criterion 6: The teacher prepares appropriate evaluation activities.
Descriptors
The teacher:
1. Makes methods of evaluation clear and purposeful.

79. I often do not understand why I get the grades or marks I receive in this class.					10
80. I do not know what grade or mark I am going to get until the semester or term grade.					13*

2. Uses pre- and posttests.

Table 6. Continued

Criterion number/ descriptors/ item number	Criterion/item	Questionnaire level item discrimination percent			
		(K-2)	(3-6)	(7-8)	(9-12)
3. Monitors student progress through a series of formative and summative evaluation techniques.					
22. We often have to take a test in class.		18*	7		
44. My teacher often gives tests.				13*	23*
4. Prepares tests which reflect course content.					
23. When we have a test, it is not about the same things we had in class.		13*	9		
46. My teacher's tests are not about the same things we had in class.				9	7
81. My teacher's grades or marks are fair.					13*
47. My teacher's tests are fair.				9	11

Criterion 7: The teacher displays a thorough knowledge of curriculum and subject matter.

		(K-2)	(3-6)	(7-8)	(9-12)
24. My teacher knows a lot about the lesson.		4			
24. My teacher knows a lot about the lesson being taught.			7		
49. My teacher knows a lot about the subject being taught.				13*	11
48. My teacher knows more about the subject than other teachers I have had.				14*	17*

Descriptors
The teacher:
1. Designates the purpose of the topic or activity.
2. Relates specific topics or activities to content area.

		(K-2)	(3-6)	(7-8)	(9-12)
50. My teacher assigns work more to keep us busy than to have us learn something important.				9	12
51. Every assignment helps us learn more about the subject.				10	13*
54. My homework helps me to learn the subject being taught.				9	23*

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Table 6. Continued

Criterion number/ descriptors/ item number	Criterion/item	Questionnaire level item discrimination percent			
		(K-2)	(3-6)	(7-8)	(9-12)
3. Explains topics or activities in context.					
4. Uses appropriate examples and illustrations.					
5. Teaches accurate and up-to-date information.					
52. We are sometimes taught things that are later found to be wrong.				7	8
82. The information the teacher provides us is often out of date.					10
6. Identifies the subset of skills that are essential for accomplishing the instructional objective(s) of the lesson.					
55. My teacher has us learn hard lessons in small steps.		14*	8		
53. My teacher has us learn a difficult lesson in small steps.				8	13*

Criterion 8: The teacher selects learning content congruent with the prescribed curriculum.

Descriptors

The teacher:

1. Develops lesson plans which reflect the school organization's prescribed curriculum.

2. Seeks and uses advice of education specialists in content areas.

3. Prepares course outline(s) which reflect the prescribed curriculum.

4. Coordinates learning content with instructional objective(s).

Table 6. Continued

Criterion number/ descriptors/ item number	Criterion/item	Questionnaire level item discrimination percent			
		(K-2)	(3-6)	(7-8)	(9-12)

Criterion 9: The teacher provides opportunities for individual differences.

Descriptors

The teacher:

1. Uses knowledge of individual students to design educational experiences.

2. Paces learning according to student's mastery of content.

		(K-2)	(3-6)	(7-8)	(9-12)
52.	If I do not know what the teacher means, my teacher will find a new way to explain it.	12			
52.	If I do not understand, my teacher will find a new way to explain it to me.		6		

3. Provides extra help and enrichment activities.

		(K-2)	(3-6)	(7-8)	(9-12)
16.	I can get help from my teacher when I need it.	9	12		
57.	My teacher gives me extra help if I need it.			11	15*
53.	When I finish my work, my teacher gives me more work that I like to do.	16*			
53.	If I finish my work before class is over, my teacher gives me interesting work.		14*		
56.	If I finish an assignment before the class is over, my teacher gives me interesting work to do.			15*	15*
55.	If I do not understand, my teacher explains it to me again.			14*	10

4. Presents subject matter which is appropriate for abilities and interests of the students.

		(K-2)	(3-6)	(7-8)	(9-12)
50.	I know about the lesson for class.	21*			
50.	I understand the lesson being taught.		5		
60.	I understand the subject being taught.			9	10
54.	The lessons we have are easy.	.11	.08		

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Table 6. Continued

Criterion number/ descriptors/ item number	Criterion/item	Questionnaire level item discrimination percent			
		(K-2)	(3-6)	(7-8)	(9-12)
	59. The subject we study is too easy.			14*	13*
	66. My teacher knows what I am capable of doing.			9	10
	58. My class work is interesting.			14*	14*
5. Provides multimodal instruction to accommodate a variety of learning styles.					
	68. We use one book at all times in the class.			37*	47*
	69. My teacher often makes materials and worksheets for us to use.			27*	31*
	86. We often watch films or filmstrips that do not help us learn about the subject we are studying.				18*
6. Uses school and community resources to gain knowledge and understanding of students.					
	51. My teacher knows me well.	4	15*	11	9
	61.				
7. Implements Individualized Educational Programs (IEPs) as required.					
Criterion 10: The teacher ensures student time on task.					
	48. My teacher gives us time to rest before our class is over.	17*	16*		
Descriptors The teacher:					
1. Schedules learning time according to policy for the subject area(s).					
	44. We often talk about something different from the lesson.	13*	11		
	15. We get off the topic of the lesson.			14*	15*

Table 6. Continued

Criterion number/ descriptors/ item number	Criterion/item	Questionnaire level item discrimination percent			
		(K-2)	(3-6)	(7-8)	(9-12)
83.	My teacher often spends time in class talking about topics different from the subject we are studying.				12
4.	We often get off the lesson in class.	18*	16*		
62.	We often get off the subject in class.			10	13*
2. Begins class work promptly.					
11.	My teacher is late coming to class.	20*	11		
12.	My teacher is not in class when class is supposed to start.			10	16*
45.	My teacher lets us waste time before we start the lesson.	11	8		
46.	My teacher leaves us alone in class.	13*			
46.	My teacher leaves our classroom alone.		11		
3. Reinforces students who are spending time on task.					
47.	My teacher knows when we are not at work and puts us back to work.	7	8		
63.	My teacher knows when I am not working and puts me back to work.			7	10
13.	My teacher does not care if we waste time in class.			12	9
3.	I pay attention in class.	45*	5	9	11
26.	My teacher knows when I do not pay attention.	8	8		
5.	My teacher knows when I am daydreaming.			12	13*
9.	I spend my time in class working on the subject the teacher wants.			7	10
11.	Many students do not work in class if the teacher is not watching.			12	16*
4. Minimizes management time.					
49.	My teacher takes a lot of time before we start to work.	24*			

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Table 6. Continued

Criterion number/ descriptors/ item number	Criterion/item	Questionnaire level item discrimination percent			
		(K-2)	(3-6)	(7-8)	(9-12)
	49. My teacher takes a lot of time before starting teaching.		9		
	64. My teacher takes a lot of time checking attendance, writing passes, and handing out assignments and class work.			13*	14*
5. Minimizes transition time.					
	2. My teacher takes a lot of class time handing out materials.			10	14*
	72. I have to wait a long time for the teacher to give me assignments.			7	9
	84. We waste a lot of time in class when we change topics or activities.				15*

Criterion 11: The teacher sets high expectations for student achievement.

Descriptors

The teacher:

1. Establishes expectations for students based on a level of skills acquisition appropriate to their ability level.

		(K-2)	(3-6)	(7-8)	(9-12)
	42. We have to do good work to get a good mark.	10	7		
	67. I try to do my assignments correctly.			11	12
	77. My teacher expects me to do the best work I can.				9

2. Uses concrete, firsthand information about students.

3. Requires students to meet the prerequisites for promotion.

4. Promotes personal goal setting.

		(K-2)	(3-6)	(7-8)	(9-12)
	43. I try to do my work right.	7	6		
	85. My teacher and this class have helped me decide what I want to do when I finish school.				13*

Table 6. Continued

Criterion number/ descriptors/ item number	Criterion/item	Questionnaire level item discrimination percent			
		(K-2)	(3-6)	(7-8)	(9-12)
Criterion 12: The teacher plans for and makes effective use of time, materials, and resources.					
39. I finish my work before class is over.		13*	21*		
40. My teacher plans for each class.		11	8		
Descriptors The teacher:					
1. Uses supplementary materials effectively.					
2. Blends materials and resources smoothly into a lesson.					
3. Creates materials to use.					
4. Identifies available resources to use.					
41. My teacher tells me where I can find more things to help me learn about the lesson.		15*			
41. My teacher tells me where I can find more information to help me learn about the lesson.			10		
87. My teacher tells the class about library/media materials that will help us learn about the subject we are studying.					26*
Criterion 13: The teacher demonstrates evidence of personal organization.					
38. My teacher often cannot find my work.		5	9		
88. My teacher is well-organized.					17*
1. My teacher has to spend time during class looking for books or assignments that the teacher cannot find.				16*	11
71. My teacher loses my homework assignments.				9	13*

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Table 6. Continued

Criterion number/ descriptors/ item number	Criterion/item	Questionnaire level item discrimination percent			
		(K-2)	(3-6)	(7-8)	(9-12)
Descriptors The teacher: 1. Maintains classroom organization for efficient distribution of learning materials. 2. Incorporates into daily planning content from previous levels for reinforcement and anticipates content from future grade levels to ensure continuity and sequence. 3. Shows evidence of adequate lesson preparation and organization of work with objectives clearly in mind.					
29. My teacher is well-prepared for our class.				14*	12
4. Makes materials readily available to the students. 5. Provides adequate plans and procedures for substitute teachers. 6. Presents materials in a well-organized fashion.					
Criterion 14: The teacher sets high standards for student behavior. Descriptors The teacher: 1. Manages discipline problems in accordance with administrative regulations, school board policies, and legal requirements. 2. Establishes and clearly communicates parameters for student classroom behavior.					
15. Some people upset others in class.		7			
15. Some students bother others in the class.			9		
8. Some students disrupt or bother class when we are working.				17*	24*
37. My teacher lets us know how we should act.		5	6		

Table 6. Continued

Criterion number/ descriptors/ item number	Criterion/item	Questionnaire level item discrimination percent			
		(K-2)	(3-6)	(7-8)	(9-12)
6. My teacher explains the rules for classroom behavior very clearly.				11	9
3. Promotes self-discipline.					
4. Manages disruptive behavior constructively.					
89. My teacher often loses his/her temper when students disrupt class.					21*
5. Demonstrates fairness and consistency in the handling of student problems.					
25. My teacher is fair with all.		9	11	16*	16*
7.					

Criterion 15: The teacher organizes students for effective instruction.

Descriptors

The teacher:

1. Uses grouping to encourage peer group interaction.

90. We often work in different sized groups depending upon the activity we have in class.   41*

2. Makes use of the physical school environment to support current learning activities.

3. Makes certain that procedures avoid or reduce wait time for each student.

35. I have to wait a long time for the teacher to give me new work.   18*   7

4. Groups students according to their instructional needs.

5. Varies size of groups according to instructional objective.

Table 6. Continued

Criterion number/ descriptors/ item number	Criterion/item	Questionnaire level item discrimination percent			
		(K-2)	(3-6)	(7-8)	(9-12)

6. Creates a set of guidelines for students to follow when doing small group work.

    36. I get to work with others in class.   10   12

Criterion 16: The teacher demonstrates effective interpersonal relationships with others.

Descriptors

The teacher:

1. Makes use of support services as needed.
2. Shares ideas, materials, and methods with other teachers.
3. Informs administrators and/or appropriate personnel of school related matters.
4. Enhances community involvement with the school.
5. Cooperates with parents in the best interests of the student.
6. Supports and participates in parent-teacher activities.
7. Works well with other teachers and the administration.
8. Provides a climate which opens up communications between the teacher and the parent.
9. Has positive relationships with students individually and in groups.

Criterion 17: The teacher demonstrates awareness of the needs of students.

Descriptors

The teacher:

1. Shows awareness of needs and ability to deal with exceptional students.
2. Shows sensitivity to physical development of students.

Table 6. Continued

Criterion number/ descriptors/ item number	Criterion/item	Questionnaire level item discrimination percent			
		(K-2)	(3-6)	(7-8)	(9-12)

3. Is aware of special health needs of students.
4. Recognizes and deals properly with substance abuse by students.

Criterion 18: The teacher promotes positive self-concept.
    Descriptors
    The teacher:
    1. Provides opportunities for all students to achieve
       recognition for constructive behavior.
    2. Provides opportunity for each student to meet success
       regularly.
    3. Promotes student self-control.

Criterion 19: The teacher demonstrates sensitivity in relating
              to students.
    Descriptors
    The teacher:

Item		(K-2)	(3-6)	(7-8)	(9-12)
1. Is readily available to all students.					
10. I can talk with my teacher about problems.		12	11		
42. I can talk alone with my teacher if I need.				13*	11
31. I can get help from my teacher.		11	13*		
10. I can get help from my teacher when I want it.				11	13

2. Acknowledges the right of others to hold differing views
    or values.
3. Gives criticism which is constructive; praise which is
    appropriate.

Item		(K-2)	(3-6)	(7-8)	(9-12)
33. My teacher says I do good work.		7	10		

4. Makes an effort to know each student as an individual.

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Table 6. Continued

Criterion number/ descriptors/ item number	Criterion/item	Questionnaire level item discrimination percent			
		(K-2)	(3-6)	(7-8)	(9-12)
5. Uses discretion in handling confidential information and difficult situations.					
6. Is a willing listener.					
34. My teacher listens to me when I need to talk.		3	12		
7. Communicates with students sympathetically, accurately, and with understanding.					

Criterion 20: The teacher promotes self-discipline and responsibility.

Descriptors

The teacher:

		(K-2)	(3-6)	(7-8)	(9-12)
1. Helps students develop efficient learning skills and work habits.					
30. My teacher shows us good ways to work on a lesson and to learn the lesson.		4	11		
2. Creates a climate in which students display initiative and assume a personal responsibility for learning.					
28. I do not work in class if the teacher is not looking.		25*	10		
29. My teacher wants me to find new ways to learn.		8	9		
27. My teacher does not care if we waste time in class.		25*	11		
32. I can never find my teacher when I need help.		16*	8		
22. I try to learn more on my own about what the teacher is talking about.				8	8

Table 7. Item discrimination percent classified according to SIM criteria

Criterion number/ descriptors	Criterion	(K-2) (1)ᵃ	(2)ᵇ	(3-6) (1)	(2)	(7-8) (1)	(2)	(9-12) (1)	(2)	(Total K-12) (1)	(2)	% Disc.
Criterion 1:	Total for Criterion	8	5	8	3	7	4	11	6	34	18	53
Criterion 1:	The teacher demonstrates effective planning skills.	2	1	2	0	1	1	1	1	6	3	50

Descriptors
The teacher:
1. Selects appropriate long-range goals.
2. Writes instructional objectives that are related to long-range goals.
3. Selects objectives at the correct level of difficulty to assure successful learning experiences for each student.   2   2   2   0   1   0   1   1   6   3   50
4. Includes teaching methods and procedures relevant to the objective.   1   0   1   0   0
5. Includes relevant student activities.   1   0   1   0   0
6. Utilizes both formative and summative evaluation procedures.
7. Plans appropriate time allotments.   3   1   3   2   4   2   5   2   15   7   47
8. Selects a variety of teaching methods and procedures along with a variety of student activities to use.   1   1   1   1   1   1   2   2   5   5   100

[a]Items tested.

[b]Items discriminated.

Table 7. Continued

Criterion number/ descriptors	Criterion	(K-2)		(3-6)		(7-8)		(9-12)		(Total K-12)		% Disc.
		(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	
Criterion 2: Total for Criterion		4	1	4	3	10	5	10	9	28	18	64
Criterion 2: The teacher implements the lesson plan. Descriptors The teacher:												
1. Reviews and previews; provides the structure for learning.						2	0	2	2	4	2	50
2. States instructional objectives.		1		1	1	1	0	1	0	4	1	25
3. Provides input related to objectives.												
4. Models activities congruent with topic being taught and provides guided practice to reinforce concepts.		1	0	1	0					2	0	0
5. Utilizes lesson summary techniques.		1	0	1	1	1	1	1	1	4	3	75
6. Provides independent practice activities.		1	1	1	1	1	1	1	1	4	4	100
7. Indicates positive directions for moving from one activity to the next.												
8. Checks for understanding.						5	3	5	5	10	8	80
Criterion 3: Total for Criterion		4	.0	4	2	5	2	6	3	19	7	37
Criterion 3: The teacher motivates students. Descriptors The teacher:												
1. Communicates challenging scholastic expectations to students.						1	0	1	0	2	0	0
2. Responds positively to students.		1	0	1	1					2	1	50
3. Stimulates students by choosing proper materials and techniques.		1	0	1	1	1	1	1	1	4	3	75
4. Gives feedback to students.												
5. Uses methods to stimulate creative expression.												

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Table 7. Continued

Criterion number/descriptors	Criterion	Questionnaire level										% Disc.
		(K-2)		(3-6)		(7-8)		(9-12)		(Total K-12)		
		(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	
6. Stimulates creative thinking.						3	1	4	2	7	3	43
7. Promotes active participation during the lessons.		2	0	2	0					4	0	0
Criterion 4: Total for Criterion		6	0	6	2	6	5	6	4	24	11	46
Criterion 4: The teacher communicates effectively with students.												
Descriptors												
The teacher:												
1. Speaks clearly.		1	0	1	0	1	1	1	1	4	2	50
2. Puts ideas across logically.		1	0	1	1	2	1	2	2	6	4	67
3. Uses a variety of verbal and nonverbal techniques.												
4. Praises, elicits, and responds to student questions before proceeding.		2	0	2	0	1	1	1	0	6	1	17
5. Gives clear, explicit directions.		2	0	2	1	2	2	2	1	8	4	50
6. Utilizes probing techniques.												
7. Provides structuring comments which clarify the tasks and help the lesson proceed smoothly.												
Criterion 5: Total for Criterion		1	1	1	1	2	0	2	2	6	4	67
Criterion 5: The teacher provides students with specific evaluative feedback.												
Descriptors												
The teacher:												
1. Gives written comments, as well as points or scores.						1	0	1	1	2	1	50
2. Returns test results as quickly as possible.		1	1	1	1	1	0	1	1	4	3	75

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Table 7. Continued

Criterion number/ descriptors	Criterion	Questionnaire level										
		(K-2)		(3-6)		(7-8)		(9-12)		(Total K-12)		%
		(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	Disc.
3. Makes opportunities for one-to-one conferences.												
4. Administers district-constructed, criterion-referenced tests, and/or standardized tests.												
5. Interprets test results to students and parents.												
Criterion 6: Total for Criterion		2	2	2	0	3	1	6	3	13	6	46
Criterion 6: The teacher prepares appropriate evaluation activities.												
Descriptors The teacher:												
1. Makes methods of evaluation clear and purposeful.								2	1	2	1	50
2. Uses pre- and posttests.												
3. Monitors student progress through a series of formative and summative evaluation techniques.		1	1	1	0	1	1	1	1	4	3	75
4. Prepares tests which reflect course content.		1	1	1	0	2	0	3	1	7	2	29
Criterion 7: Total for Criterion		2	1	2	0	7	2	8	4	19	7	37
Criterion 7: The teacher displays a thorough knowledge of curriculum and subject matter.		1	0	1	0	2	2	2	1	6	3	50
Descriptors The teacher:												
1. Designates the purpose of the topic or activity.												

Table 7. Continued

Criterion number/ descriptors	Criterion	Questionnaire level								(Total K-12)		% Disc.
		(K-2)		(3-6)		(7-8)		(9-12)				
		(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	
2. Relates specific topics or activities to content area.						3	0	3	2	6	2	33
3. Explains topics or activities in context.												
4. Uses appropriate examples and illustrations.												
5. Teaches accurate and up-to-date information.						1	0	2	0	3	0	0
6. Identifies the subset of skills that are essential for accomplishing the instructional objective(s) of the lesson.		1	1	1	0	1	0	1	1	4	2	50

Criterion 8: Total for Criterion
Criterion 8: The teacher selects learning content congruent with the prescribed curriculum.
Descriptors
The teacher:
1. Develops lesson plans which reflect the school organization's prescribed curriculum.
2. Seeks and uses advice of education specialists in content areas.
3. Prepares course outline(s) which reflect the prescribed curriculum.
4. Coordinates learning content with instructional objective(s).

Criterion 9: Total for Criterion		6	2	6	2	10	6	11	7	33	17	52

Criterion 9: The teacher provides opportunities for individual differences.

Table 7. Continued

Criterion number/ descriptors	Criterion	Questionnaire level										% Disc.
		(K-2)		(3-6)		(7-8)		(9-12)		(Total K-12)		
		(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	
Descriptors The teacher:												
1. Uses knowledge of individual students to design educational experiences.												
2. Paces learning according to student's mastery of content.		1	0	1	0					2	0	0
3. Provides extra help and enrichment activities.		2	1	2	1	3	2	3	2	10	6	60
4. Presents subject matter which is appropriate for abilities and interests of the students.		2	1	2	0	4	2	4	2	12	5	42
5. Provides multimodal instruction to accommodate a variety of learning styles.						2	2	3	3	5	5	100
6. Uses school and community resources to gain knowledge and understanding of students.		1	0	1	1	1	0	1	0	4	1	25
7. Implements Individualized Educational Programs (IEPs) as required.												
Criterion 10: Total for Criterion		10	7	10	2	12	2	14	8	46	19	41
Criterion 10: The teacher ensures student time on task.		1	1	1	1					2	2	100
Descriptors The teacher:												
1.1. Schedules learning time according to policy for the subject area(s).		2	2	2	1	2	1	3	2	9	6	67
2.2. Begins class work promptly.		3	2	3	0	1	0	1	1	8	3	38
3.3. Reinforces students who are spending time on task.		3	1	3	0	6	0	6	2	18	3	17
4.4. Minimizes management time.		1	1	1	0	1	1	1	1	4	3	75

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Table 7. Continued

Criterion number/ descriptors	Criterion	Questionnaire level										% Disc.
		(K-2) (1)	(2)	(3-6) (1)	(2)	(7-8) (1)	(2)	(9-12) (1)	(2)	(Total K-12) (1)	(2)	
	5. Minimizes transition time.					2	0	3	2	5	2	40
Criterion 11: Total for Criterion		2	0	2	0	1	0	3	1	8	1	12
Criterion 11: The teacher sets high expectations for student achievement. Descriptors The teacher:												
	1. Establishes expectations for students based on a level of skills acquisition appropriate to their ability level.	1	0	1	0	1	0	2	0	5	0	0
	2. Uses concrete, firsthand information about students.											
	3. Requires students to meet the prerequisites for promotion.											
	4. Promotes personal goal setting.	1	0	1	0			1	1	3	1	33
Criterion 12: Total for Criterion		3	2	3	1	0	0	1	1	7	4	57
Criterion 12: The teacher plans for and makes - effective use of time, materials, and resources.		2	1	2	1					4	2	50
Descriptors The teacher:												
	1. Uses supplementary materials effectively.											
	2. Blends materials and resources smoothly into a lesson.											
	3. Creates materials to use.											
	4. Identifies available resources to use.	1	1	1	0			1	1	3	2	67

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Table 7. Continued

Criterion number/ descriptors	Criterion	(K-2)		(3-6)		(7-8)		(9-12)		(Total K-12)		%
		(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	Disc.
Criterion 13:	Total for Criterion	1	0	1	0	3	2	4	2	9	4	44
Criterion 13:	The teacher demonstrates evidence of personal organization.	1	0	10		2	1	3	2	7	3	43

Descriptors
The teacher:
1. Maintains classroom organization for efficient distribution of learning materials.
2. Incorporates into daily planning content from previous levels for reinforcement and anticipates content from future grade levels to ensure continuity and sequence.
3. Shows evidence of adequate lesson preparation and organization of work with objectives clearly in mind.
4. Makes materials readily available to the students.
5. Provides adequate plans and procedures for substitute teachers.
6. Presents materials in a well-organized fashion.

Criterion number/ descriptors	Criterion	(K-2)		(3-6)		(7-8)		(9-12)		(Total K-12)		%
(descriptor 3)						1	1	1	0	2	1	50
Criterion 14:	Total for Criterion	3	0	3	0	3	2	4	3	13	5	38
Criterion 14:	The teacher sets high standards for student behavior.											

Descriptors
The teacher:

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Table 7. Continued

Criterion number/ descriptors	Criterion	Questionnaire level										% Disc.
		(K-2)		(3-6)		(7-8)		(9-12)		(Total K-12)		
		(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	
	1. Manages discipline problems in accordance with administrative regulations, school board policies, and legal requirements.											
	2. Establishes and clearly communicates parameters for student classroom behavior.	2	0	2	0	2	1	2	1	8	2	25
	3. Promotes self-discipline.											
	4. Manages disruptive behavior constructively.							1	1	1	1	100
	5. Demonstrates fairness and consistency in the handling of student problems.	1	0	1	0	1	1	1	1	4	2	50
Criterion 15: Total for Criterion		2	1	2	0	0	0	1	1	5	2	40
Criterion 15:	The teacher organizes students for effective instruction.											
Descriptors The teacher:												
	1. Uses grouping to encourage peer group interaction.							1	1	1	1	100
	2. Makes use of the physical school environment to support current learning activities.											
	3. Makes certain that procedures avoid or reduce wait time for each student.	1	1	1	0					2	1	50
	4. Groups students according to their instructional needs.											
	5. Varies size of groups according to instructional objective.											
	6. Creates a set of guidelines for students to follow when doing small group work.	1	0	1	0					2	0	0

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Table 7. Continued

		Questionnaire level					
Criterion number/ descriptors	Criterion	(K-2) (1) (2)	(3-6) (1) (2)	(7-8) (1) (2)	(9-12) (1) (2)	(Total K-12) (1) (2)	% Disc.

Criterion 16: The teacher demonstrates effective interpersonal relationships with others.

Descriptors
The teacher:
1. Makes use of support services as needed.
2. Shares ideas, materials, and methods with other teachers.
3. Informs administrators and/or appropriate personnel of school related matters.
4. Enhances community involvement with the school.
5. Cooperates with parents in the best interests of the student.
6. Supports and participates in parent-teacher activities.
7. Works well with other teachers and the administration.
8. Provides a climate which opens up communications between the teacher and the parent.
9. Has positive relationships with students individually and in groups.

Criterion 17: The teacher demonstrates awareness of the needs of students.
Descriptors
The teacher:
1. Shows awareness of needs and ability to deal with exceptional students.

Table 7. Continued

Criterion number/ descriptors	Criterion	Questionnaire level										
		(K-2)		(3-6)		(7-8)		(9-12)		(Total K-12)		%
		(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	Disc.
	2. Shows sensitivity to physical development of students.											
	3. Is aware of special health needs of students.											
	4. Recognizes and deals properly with substance abuse by students.											
Criterion 18:	The teacher promotes positive self-concept.											
	Descriptors The teacher:											
	1. Provides opportunities for all students to achieve recognition for constructive behavior.											
	2. Provides opportunity for each student to meet success regularly.											
	3. Promotes student self-control.											
Criterion 19:	Total for Criterion	4	0	4	1	2	1	2	1	12	3	25
Criterion 19:	The teacher demonstrates sensitivity in relating to students.											
	Descriptors The teacher:											
	1. Is readily available to all students.	2	0	2	1	2	1	2	1	8	3	38
	2. Acknowledges the right of others to hold differing views or values.											
	3. Gives criticism which is constructive; praise which is appropriate.	1	0	1	0					2	0	0
	4. Makes an effort to know each student as an individual.											

Table 7. Continued

Criterion number/ descriptors	Criterion	Questionnaire level											% Disc.
		(K-2)		(3-6)		(7-8)		(9-12)		(Total K-12)			
		(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)		
5. Uses discretion in handling confidential information and difficult situations.													
6. Is a willing listener.		1	0	1	0					2	0		0
7. Communicates with students sympathetically, accurately, and with understanding.													
Criterion 20: Total for Criterion		5	3	5	0	1	0	1	0	12	3		25
Criterion 20: The teacher promotes self-discipline and responsibility.													
Descriptors													
The teacher:													
1. Helps students develop efficient learning skills and work habits.		1	0	1	0					2	0		0
2. Creates a climate in which students display initiative and assume a personal responsibility for learning.		4	3	4	0	1	0	1	0	10	3		30

Other criteria that had over one-half of the items discriminating include Criterion 1, "The teacher demonstrates effective planning skills," and Criterion 9, "The teacher provides opportunities for individual differences."

Of the criteria with ten or more items developed for testing, Criterion 19, "The teacher demonstrates sensitivity in relating to students," and Criterion 20, "The teacher promotes self-discipline and responsibility," have the lowest percentage of items that discriminated, 25 percent. Only one of the eight items developed for Criterion 11, "The teacher sets high expectations for student achievement," discriminated. At least one item discriminated for all of the criteria for which items were developed and tested.

No items were developed for testing for Criterion 8, "The teacher selects learning content congruent with the prescribed curriculum," Criterion 16, "The teacher demonstrates effective interpersonal relationships," Criterion 17, "The teacher demonstrates awareness of the needs of students," and Criterion 18, "The teacher promotes positive self-concept."

Some of the items on the four levels of the questionnaire were very similar. Tested items that discriminated in all four of the questionnaires include "My teacher gives us enough time to do our work," "We do the same thing every day in class," "My teacher gives us work to do at home," and "When I finish an assignment before class is over, my teacher gives me interesting work to do."

Examining both tables provides some additional information on the descriptors and number of discriminating items. Descriptors with a high percentage of discriminating items include Criterion 1, Descriptor 8, Criterion 9, Descriptor 5, and Criterion 2, Descriptor 8. Among the items tested for Criterion 1, "The teacher demonstrates effective planning skills," Descriptor 8, "Selects a variety of teaching methods and procedures along with a variety of student activities to use," and Criterion 9, "The teacher provides opportunities for individual differences," Descriptor 5, "Provides multimodal instruction to accommodate a variety of learning styles," all five of the items for each descriptor discriminated. Among the items tested for Criterion 2, "The teacher implements the lesson plan," Descriptor 8, "Checks for understanding," 8 of the 10 items discriminated.

Descriptors with a low percentage of discriminating items include Criterion 11, Descriptor 1, Criterion 3, Descriptor 7, Criterion 10, Descriptor 3, and Criterion 6, Descriptor 4. For Criterion 11, "The teacher sets high expectations for student achievement," Descriptor 1, "Establishes expectations for students based on a level of skills acquisition appropriate to their ability level," none of the five items discriminated. For Criterion 3, "The teacher motivates students," Descriptor 7, "Promotes active participation during the lessons," none of the four items discriminated. On Criterion 10, "The teacher ensures student time on task," Descriptor 3, "Reinforces students who are spending time on task," three of 18 items discriminated. For this criterion and descriptor, one item which did not discriminate at any level

of the test was, "My teacher knows when I am not working and puts me back to work." For the same criterion and descriptor, the items "I pay attention in class" and "My teacher knows when I do not pay attention" each discriminated at only one of the four levels tested. On Criterion 6, "The teacher prepares appropriate evaluation activities," Descriptor 4, "Prepares tests which reflect course content," two of the seven items discriminated.

Research Hypothesis 2

The second series of null hypotheses stated that there will be no significant differences in the student ratings of teachers associated with:

1. The student's earned or anticipated mark.

2. The student's like or dislike of the teacher.

3. The amount of work perceived as being required by the teacher.

4. The student's initial interest in the subject.

Table 8 contains the Pearson Correlation Coefficient and the level of significance of each of those items. Table 9 summarizes the correlation of the potentially biasing factors with the items from each level of the questionnaire and identifies the number of statistically significant relations and the strength of those relationships.

When reviewing the statistical analysis of samples as large as those used in this study, the difference between statistical and practical significance should be considered. Items can have a statistically significant correlation and still have a very weak relationship if the sample is very large. An alternate method of viewing the Pearson

Table. 8. Correlation of potentially biasing factors with items that discriminate

Item number	Item	Factors							
		Mark expected		Amount of work		Liking teacher		Liking class	
		Coef.	Sig.	Coef.	Sig.	Coef.	Sig.	Coef.	Sig.

Level 1 – Lower Elementary (Grades Kindergarten through Second)

Item number	Item	Coef.	Sig.	Coef.	Sig.	Coef.	Sig.	Coef.	Sig.
1.	Our work is too hard for us.	-.0283	.680	.2614	.000*	-.0242	.724	-.0579	.408
2.	My teacher gives us enough time to do our work.	.0441	.520	.0909	.200	-.0969	.158	-.1402	.044*
3.	I pay attention in class.	.1684	.014*	.1555	.028*	.0424	.538	-.0405	.562
4.	We often get off the lesson in class.	.0446	.518	.0880	.218	.0236	.732	-.0383	.586
5.	We do the same thing every day in class.	-.1365	.048*	.0860	.230	-.0033	.962	.0184	.794
7.	My teacher gives us work to do at home.	.0455	.510	-.0260	.716	-.0545	.430	-.0373	.592
11.	My teacher is late coming to class.	-.1757	.010*	-.0833	.242	-.0006	.992	.0652	.354
12.	My teacher gives our work back to us fast.	.1252	.066	-.0255	.720	.1279	.062	.1230	.078
17.	Our work is too easy for us.	.0043	.950	-.1009	.158	-.0201	.772	.1612	.022*
20.	Our teacher often is not ready for class.	-.0113	.870	.1360	.056	.0138	.842	.1401	.046*
22.	We often have to take a test in class.	.1243	.070	.1880	.008*	-.0223	.748	.1614	.022*
23.	When we have a test, it is not about the same things we had in class.	.0726	.294	.0425	.554	.0283	.682	-.0360	.610
27.	My teacher does not care if we waste time in class.	-.0520	.450	-.0684	.338	-.0533	.440	.1221	.082
28.	I do not work in class if the teacher is not looking.	-.2127	.002*	-.0555	.434	-.1648	.016*	.0434	.536

*Indicates items that discriminate at the .05 level of significance.

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Table 8. Continued

Item number	Item	Factors							
		Mark expected		Amount of work		Liking teacher		Liking class	
		Coef.	Sig.	Coef.	Sig.	Coef.	Sig.	Coef.	Sig.

Level 1 - Lower Elementary (Grades Kindergarten through Second) (Cont.)

Item number	Item	Mark expected Coef.	Sig.	Amount of work Coef.	Sig.	Liking teacher Coef.	Sig.	Liking class Coef.	Sig.
32.	I can never find my teacher when I need help.	.0570	.406	-.0012	.986	-.1257	.068	.0672	.338
35.	I have to wait a long time for the teacher to give me new work.	.0676	.322	.1291	.068	.0181	.792	.0737	.290
39.	I finish my work before class is over.	.2158	.002*	.0531	.454	.1575	.022*	.0488	.486
41.	My teacher tells me where I can find more things to help me learn about the lesson.	.2624	.000*	.1513	.034*	.0372	.592	.1591	.024*
44.	We often talk about something different from the lesson.	-.0201	.770	-.0203	.776	-.0795	.250	.2196	.002*
48.	My teacher gives us time to rest before our class is over.	-.0574	.400	-.0478	.500	-.1506	.028*	-.0703	.312
49.	My teacher takes a lot of time before we start to work.	-.0480	.486	.0336	.638	-.0910	.188	-.0693	.324
50.	I know about the lesson for class.	.0305	.658	.0092	.898	-.0518	.452	.1544	.028*
53.	When I finish my work, my teacher gives me more work that I like to do.	.0652	.342	.0255	.720	.0040	.954	.0794	.256
55.	My teacher has us learn hard lessons in small steps.	.1335	.052	.0669	.348	.0214	.756	.0962	.170

Level 1 (Lower Elementary K-2) - 207 subjects in 9 groups, all groups 15 or greater.

Table 8. Continued

		Factors							
		Mark expected		Amount of work		Liking teacher		Liking class	
Item number	Item	Coef.	Sig.	Coef.	Sig.	Coef.	Sig.	Coef.	Sig.

Level 2 - Upper Elementary (Grades Three through Six)

Item number	Item	Coef.	Sig.	Coef.	Sig.	Coef.	Sig.	Coef.	Sig.
2.	My teacher gives us enough time to do our work.	.1253	.000*	-.2363	.000*	.2270	.000*	.1155	.002*
4.	We often get off the lesson in class.	-.1390	.000*	.1185	.002*	.0593	.108	.0077	.836
5.	We do the same thing every day in class.	-.1127	.002*	.0432	.238	-.0858	.020*	-.0408	.268
6.	My teacher reviews each lesson when we finish it.	.0644	.080	-.0556	.128	.1035	.004*	.0296	.420
7.	My teacher gives us work to do at home.	-.0670	.066	.0862	.018*	-.1246	.000*	-.0235	.522
8.	My teacher makes our work interesting.	.1144	.002*	-.1497	.000*	.1807	.000*	.1223	.000*
12.	My teacher gives our work back to us fast.	.0724	.048*	-.0336	.358	.0501	.172	.0632	.086
21.	My teacher makes me feel good when I do good work.	.1373	.000*	-.1417	.000*	.2105	.000*	.1041	.004*
31.	I can get help from my teacher.	.1256	.000*	-.1994	.000*	.2633	.000*	.0977	.008*
39.	I finish my work before class is over.	.2435	.000*	-.1332	.000*	.1183	.002*	.0863	.018*
46.	My teacher leaves our classroom alone.	-.1085	.004*	.1143	.002*	-.0610	.098	-.0949	.010*
48.	My teacher gives us time to rest before our class is over.	.0393	.284	-.1146	.002*	.0697	.058	.0470	.200
51.	My teacher knows me well.	.2107	.000*	-.1141	.002*	.3072	.000*	.1138	.002*
53.	If I finish my work before class is over, my teacher gives me interesting work.	.0424	.250	-.1450	.000*	.0825	.024*	.1136	.002*
56.	My teacher has us work too fast.	-.1701	.000*	.2485	.000*	-.2638	.000*	-.1103	.002*
57.	My teacher tells us what new things we can learn in each lesson.	.0999	.006*	-.1731	.000*	.1268	.000*	.1674	.000*

Table 8. Continued

Item number	Item	Mark expected		Amount of work		Liking teacher		Liking class	
		Coef.	Sig.	Coef.	Sig.	Coef.	Sig.	Coef.	Sig.

Level 2 - Upper Elementary (Grades Three through Six) (Cont.)

60.	My teacher will explain new things in a way that is easy to understand.	.1720	.000*	-.2580	.000*	.2466	.000*	.1153	.002*

Level 2 (Upper Elementary 3-6) - 796 subjects in 33 groups, all groups 15 or larger.

Level 3 - Junior High School (Grades Seven through Eight)

1.	My teacher has to spend time during class looking for books or assignments that the teacher cannot find.	-.0614	.060	.0343	.292	-.1203	.000*	.0383	.250
7.	My teacher is fair with all.	.1352	.000*	-.0500	.124	.3149	.000*	.0654	.050*
8.	Some students disrupt or bother class when we are working.	-.0486	.138	-.0083	.800	-.0735	.028*	.0266	.424
14.	My teacher does not want students to disagree with him/her.	.1229	.000*	.0652	.046*	.2646	.000*	.0353	.290
15.	We get off the topic of the lesson.	-.0887	.006*	-.0325	.320	-.1470	.000*	-.0119	.722
17.	My teacher gives homework related to the subject we are studying.	.0542	.098	.1290	.000*	.1522	.000*	.0300	.368
18.	When we finish a lesson we discuss and summarize what we have just studied.	.0698	.032*	-.0159	.626	.1770	.000*	.0511	.124
21.	My teacher makes class work interesting.	.1182	.000*	-.1242	.000*	.2577	.000*	.0989	.002*
24.	My teacher gives enough time to do our work.	.0896	.006*	-.1880	.000*	.2119	.000*	.1354	.000*

Table 8. Continued

		Factors							
		Mark expected		Amount of work		Liking teacher		Liking class	
Item number	Item	Coef.	Sig.	Coef.	Sig.	Coef.	Sig.	Coef.	Sig.

Level 3 - Junior High School (Grades Seven through Eight) (Cont.)

25.	I can waste time and still have time to do my work.	-.0586	.074	-.0847	.010*	-.1233	.000*	.0148	.656
28.	We do the same things every day in class.	-.0096	.768	-.0489	.134	-.1657	.000*	-.0201	.546
29.	My teacher is well-prepared for our class.	.1506	.000*	.0078	.810	.2843	.000*	.0520	.118
31.	My teacher asks us questions in class.	.0911	.006*	.0545	.094	.1969	.000*	.0558	.094
32.	My teacher is easy to understand when talking.	.2018	.000*	-.0846	.010*	.2657	.000*	.0821	.014*
34.	My teacher explains new ideas in a way that is easy to understand.	.1407	.000*	-.0674	.038*	.2629	.000*	.1019	.002*
36.	My teacher likes it when we ask questions.	.1453	.000*	.0650	.046*	.2686	.000*	.0629	.060
37.	My teacher's directions are easy to understand.	.2320	.000*	-.0483	.140	.2556	.000*	.0696	.038*
38.	My teacher explains the lesson clearly.	.1789	.000*	-.0962	.004*	.2829	.000*	.0375	.262
39.	My teacher asks questions to see if we understand the lesson.	.1220	.000*	.0318	.330	.2491	.000*	.0555	.096
40.	My teacher looks at our work, as we are doing it, to see if we understand the lesson.	-.0287	.382	.0039	.904	.0906	.006*	.0109	.746
42.	I can talk alone with my teacher if I need.	.1843	.000*	.0032	.922	.2960	.000*	.0438	.190
44.	My teacher often gives tests.	.0285	.386	.1109	.000*	.0599	.074	-.0476	.154

Table 8. Continued

Item number	Item	Mark expected		Amount of work		Liking teacher		Liking class	
		Coef.	Sig.	Coef.	Sig.	Coef.	Sig.	Coef.	Sig.

Level 3 - Junior High School (Grades Seven through Eight) (Cont.)

Item number	Item	Mark expected Coef.	Sig.	Amount of work Coef.	Sig.	Liking teacher Coef.	Sig.	Liking class Coef.	Sig.
48.	My teacher knows more about the subject than other teachers I have had.	.1967	.000*	.0005	.986	.2341	.000*	.0655	.050*
49.	My teacher knows a lot about the subject being taught.	.2085	.000*	-.0258	.428	.2765	.000*	.1234	.000*
55.	If I do not understand, my teacher explains it to me again.	.1529	.000*	.0099	.760	.2374	.000*	.0041	.904
56.	If I finish an assignment before the class is over, my teacher gives me interesting work to do.	.0370	.258	-.1024	.002*	.0536	.108	.0992	.002*
58.	My class work is interesting.	.2163	.000*	-.1493	.000*	.1510	.000*	.1244	.000*
59.	The subject we study is too easy.	-.0023	.944	-.1719	.000*	-.0455	.176	.0373	.266
64.	My teacher takes a lot of time checking attendance, writing passes, and handing out assignments and class work.	-.1431	.000*	.0170	.604	-.1351	.000*	-.0200	.550
68.	We use one book at all times in the class.	-.0030	.926	.0359	.272	.0390	.244	.0310	.356
69.	My teacher often makes materials and worksheets for us to use.	.0634	.052	-.0635	.052	.1123	.000*	.0547	.102
70.	My teacher plans carefully for each class.	.1772	.000*	.0151	.646	.3628	.000*	.0868	.010*

Level 3 (Junior High 7-8) - 830 subjects in 38 groups, all groups 15 or greater.

Table 8. Continued

		Factors							
		Mark expected		Amount of work		Liking teacher		Liking class	
Item number	Item	Coef.	Sig.	Coef.	Sig.	Coef.	Sig.	Coef.	Sig.

Level 4 - Senior High School (Grades Nine through Twelve)

Item number	Item	Coef.	Sig.	Coef.	Sig.	Coef.	Sig.	Coef.	Sig.
2.	My teacher takes a lot of class time handing out materials.	-.0079	.762	.0197	.448	-.1612	.000*	-.0595	.022*
4.	My teacher starts lessons explaining what we are going to do and why we are going to do it.	.1033	.000*	-.0161	.536	.1632	.000*	.0487	.064
5.	My teacher knows when I am day-dreaming.	.0657	.012*	.0173	.506	.1448	.000*	.0437	.096
7.	My teacher is fair with all.	.1502	.000*	-.0302	.244	.3031	.000*	.0540	.040*
8.	Some students disrupt or bother class when we are working.	-.0384	.000*	.0528	.042*	-.0072	.782	.0189	.470
10.	I can get help from my teacher when I want it.	.1366	.000*	-.0167	.520	.2329	.000*	.0870	.000*
11.	Many students do not work in class if the teacher is not watching.	-.0425	.102	.0626	.016*	-.1182	.000*	-.0375	.152
12.	My teacher is not in class when class is supposed to start.	-.0249	.340	.0184	.480	-.0805	.002*	-.0577	.028*
14.	My teacher does not want students to disagree with him/her.	-.0443	.090	.0632	.014*	-.1728	.000*	-.0645	.014*
15.	We get off the topic of the lesson.	-.0816	.002*	-.0213	.414	-.1246	.000*	-.0716	.006*
16.	My teacher asks questions to see if we understand what has been taught.	.0918	.000*	.0073	.778	.2419	.000*	.0829	.002*
17.	My teacher gives homework related to the subject we are studying.	-.0287	.272	.1185	.000*	.1253	.000*	.0490	.062
18.	When we finish a lesson we discuss and summarize what we have just studied.	.0213	.414	-.0129	.618	.1865	.000*	.0429	.102

Table 8. Continued

Item number	Item	Factors							
		Mark expected		Amount of work		Liking teacher		Liking class	
		Coef.	Sig.	Coef.	Sig.	Coef.	Sig.	Coef.	Sig.

Level 4 – Senior High School (Grades Nine through Twelve) (Cont.)

Item number	Item	Coef.	Sig.	Coef.	Sig.	Coef.	Sig.	Coef.	Sig.
20.	My teacher tells us how we can use what we have already learned to learn new things.	.0928	.000*	−.0560	.032*	.1974	.000*	.0979	.000*
21.	My teacher makes class work interesting.	.1716	.000*	−.1134	.000*	.2524	.000*	.1021	.000*
23.	Our work is too easy for us.	.1719	.000*	−.1474	.000*	.0202	.438	.0307	.242
24.	My teacher gives enough time to do our work.	.1842	.000*	−.1094	.000*	.2259	.000*	.0982	.000*
25.	I can waste time and still have time to do my work.	.0661	.012*	−.0970	.000*	−.0771	.004*	.0023	.932
28.	We do the same things every day in class.	−.0204	.436	.0564	.030*	−.1395	.000*	−.0338	.198
30.	My teacher encourages us to look at problems in new ways and find new ways to solve problems.	.0241	.356	−.0236	.362	.1698	.000*	.0811	.002*
31.	My teacher asks us questions in class.	−.0037	.886	.0112	.666	.2277	.000*	.0672	.010*
32.	My teacher is easy to understand when talking.	.1769	.000*	−.0418	.108	.2806	.000*	.1006	.000*
33.	My teacher explains ideas logically.	.1660	.000*	.0114	.660	.3087	.000*	.1230	.000*
34.	My teacher explains new ideas in a way that is easy to understand.	.1693	.000*	−.0445	.086	.2605	.000*	.0825	.002*
37.	My teacher's directions are easy to understand.	.1889	.000*	−.0273	.296	.2949	.000*	.1283	.000*
39.	My teacher asks questions to see if we understand the lesson.	.0798	.002*	−.0065	.802	.2194	.000*	.0464	.076

Table 8. Continued

		Factors							
		Mark expected		Amount of work		Liking teacher		Liking class	
Item number	Item	Coef.	Sig.	Coef.	Sig.	Coef.	Sig.	Coef.	Sig.

Level 4 - Senior High School (Grades Nine through Twelve) (Cont.)

40.	My teacher looks at our work, as we are doing it, to see if we understand the lesson.	.0385	.140	-.0231	.374	.1633	.000*	.0742	.004*
41.	My teacher returns tests and homework quickly.	.0694	.008*	-.0025	.924	.2133	.000*	.1153	.000*
43.	My teacher explains how I could have done better work.	.0457	.080	-.0038	.884	.2307	.000*	.1172	.000*
44.	My teacher often gives tests.	-.0337	.196	.1435	.000*	.1207	.000*	.0230	.380
45.	My teacher checks to see how well we understand what is being taught.	.0737	.004*	.0091	.726	.2216	.000*	.0568	.030*
48.	My teacher knows more about the subject than other teachers I have had.	.1127	.000*	.0274	.296	.2536	.000*	.0931	.000*
51.	Every assignment helps us learn more about the subject.	.1634	.000*	-.0134	.604	.2671	.000*	.0911	.000*
53.	My teacher has us learn a difficult lesson in small steps.	.1060	.000*	-.0200	.440	.1790	.000*	.0954	.000*
54.	My homework helps me to learn the subject being taught.	.1140	.000*	-.0094	.720	.2053	.000*	.0978	.000*
56.	If I finish an assignment before the class is over, my teacher gives me interesting work to do.	.0594	.022*	-.1122	.000*	-.0321	.220	-.0130	.622
57.	My teacher gives me extra help if I need it.	.1427	.000*	-.0565	.030*	.3209	.000*	.1175	.000*
58.	My class work is interesting.	.1897	.000*	-.0939	.000*	.2457	.000*	.1359	.000*
59.	The subject we study is too easy.	.1320	.000*	-.1247	.000*	-.0788	.002*	.0113	.668

Table 8. Continued

Item number	Item	Mark expected		Amount of work		Liking teacher		Liking class	
		Coef.	Sig.	Coef.	Sig.	Coef.	Sig.	Coef.	Sig.

Level 4 - Senior High School (Grades Nine through Twelve) (Cont.)

Item number	Item	Mark expected		Amount of work		Liking teacher		Liking class	
62.	We often get off the subject in class.	-.1048	.000*	-.0226	.384	-.0981	.000*	-.0473	.072
64.	My teacher takes a lot of time checking attendance, writing passes, and handing out assignments and class work.	-.0719	.006*	-.0103	.692	-.1756	.000*	-.0801	.002*
68.	We use one book at all times in the class.	-.0610	.020*	.0752	.004*	.0661	.012*	.0486	.064
69.	My teacher often makes materials and worksheets for us to use.	.0855	.002*	.0152	.558	.1388	.000*	.0801	.002*
70.	My teacher plans carefully for each class.	.0977	.000*	.0349	.180	.2813	.000*	.0931	.000*
71.	My teacher loses my homework assignments.	-.0785	.002*	-.1011	.000*	-.2586	.000*	-.1121	.000*
76.	My teacher uses a variety of classroom activities.	.1428	.000*	-.0722	.006*	.1569	.000*	.0796	.002*
80.	I do not know what grade or mark I am going to get until the semester or term grade.	-.1456	.000*	.0585	.024*	-.1050	.000*	-.0396	.132
81.	My teacher's grades or marks are fair.	.2573	.020*	-.0454	.080	.3315	.000*	.1058	.000*
84.	We waste a lot of time in class when we change topics or activities.	-.0930	.000*	-.0385	.138	-.2137	.000*	-.0747	.004*
85.	My teacher and this class have helped me decide what I want to do when I finish school.	.0962	.000*	-.0583	.024*	.0222	.394	.0922	.000*

Table 8. Continued

Item number	Item	Mark expected		Amount of work		Liking teacher		Liking class	
		Coef.	Sig.	Coef.	Sig.	Coef.	Sig.	Coef.	Sig.

Factors

Level 4 - Senior High School (Grades Nine through Twelve) (Cont.)

86.	We often watch films or filmstrips that do not help us learn about the subject we are studying.	-.0291	.266	-.0660	.012*	-.2064	.000*	-.1453	.000*
87.	My teacher tells the class about library/media materials that will help us learn about the subject we are studying.	.0523	.046*	-.0778	.002*	.0568	.030*	.0232	.378
88.	My teacher is well-organized.	.1169	.000*	.0566	.030*	.3432	.000*	.1216	.000*
89.	My teacher often loses his/her temper when students disrupt class.	-.0482	.066	.0300	.250	-.1679	.000*	-.0897	.000*
90.	We often work in different sized groups depending upon the activity we have in class.	.0819	.002*	-.0965	.000*	-.0384	.144	.0284	.282

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Table 9. Pearson correlation between discriminating items and potentially biasing factors

Level and strength of relationship	Number and direction of significant relationships by potentially biasing factors			
	Mark anticipated	Amount of work	Liking teacher	Liking class
Level 1 (Grades K-2)				
Number of discriminating items correlated	25	25	25	25
Significant relationship	6 (3+,4-)	4 (4+)	3 (1+,2-)	7 (6+,1-)
Moderate relationship	0	0	0	0
Strong relationship	0	0	0	0
Level 2 (Grades 2-6)				
Number of discriminating items correlated	18	18	18	18
Significant relationship	13 (8+,4-)	14 (4+,10-)	13 (10+,3-)	11 (9+,2-)
Moderate relationship	0	0	1 (1+)	0
Strong relationship	0	0	0	0
Level 3 (Grades 7-8)				
Number of discriminating items correlated	34	34	34	34
Significant relationship	21 (19+,2-)	13 (4+,9-)	28 (11+,17-)	11 (11+)

Table 9. Continued

Level and strength of relationship	Number and direction of significant relationships by potentially biasing factors			
	Mark anticipated	Amount of work	Liking teacher	Liking class
Level 3 (Grades 7-8) (Cont.)				
Moderate relationship	0	0	2 (2+)	0
Strong relationship	0	0	0	0
Level 4 (Grades 9-12)				
Number of discriminating items correlated	57	57	57	57
Significant relationship	41 (33+,8-)	24 (9+,15-)	50 (35+,15-)	37 (27+,10-)
Moderate relationship	0	0	5 (5+)	0
Strong relationship	0	0	0	0
Total of all levels (Grades K-12)				
Significant relationship	81 (63+,18-)	55 (21+,34-)	94 (57+,37-)	66 (53+,13-)
Moderate relationship	0	0	8 (8+)	0
Strong relationship	0	0	0	0

Correlation is the strength of the relationship. Coefficients greater than a plus or minus .70 are often defined, admittedly arbitrarily, as describing a strong relationship. Coefficients of between plus or minus .30 and .70 are often defined as describing a moderate relationship. Coefficients of less than a plus or minus .30 describe a weak relationship (33). The correlation of the potentially biasing factors with the student evaluation of teachers revealed 288 statistically significant although weak relationships. Only 8 of the 294 significant correlations were strong enough to be defined as describing a moderate relationship and none were of a magnitude to be defined as describing a strong relationship.

This study found several significant but weak relationships between grades and student ratings. No strong or moderate relationships were found between the amount of work required and the students' ratings of teachers. The appropriateness of the amount of work perceived as being required by the teacher was inversely related to more of the responses on the ratings than for any of the other factors correlated.

All eight of the moderate relationships found in this study were with the "Liking Teacher" factor. The responses of both the junior high school and senior high school students to "My teacher is fair with all" had a positive moderate relationship with the responses to liking the teacher. There was a positive moderate correlation between the upper elementary school students' response to liking the teacher and "My teacher knows me well." A positive moderate correlation also was found between the junior high school students' response to "My teacher plans carefully for each class" and liking the teacher. The four remaining moderate relationships

were all within the high school students' questionnaire, were all

positive, and were all with the "Liking Teacher" factor. These included

the items "My teacher explains ideas logically," "My teacher gives me

extra help if I need it," "My teacher's grades or marks are fair," and "My

teacher is well-organized."

The last correlation calculated was designed to find if the students'

ratings of teachers were correlated with the students' prior interest in

the subject or the class. This study found numerous statistically

significant although weak correlations between the students liking the

class and their ratings of the teachers. The SIM teacher evaluation

criteria of "The teacher demonstrates effective planning skills," "The

teacher provides opportunities for individual differences," "The teacher

communicates effectively with students," and "The teacher implements the

lesson plan" contained most of the significant correlations. Items

seeking feedback on the teacher speaking clearly and explaining lessons or

assignments were consistently positively related to liking the class as

were items on how interesting the teacher made the class work.

CHAPTER V. SUMMARY, CONCLUSIONS, LIMITATIONS, DISCUSSION,
RECOMMENDATIONS FOR USE, RECOMMENDATIONS FOR FURTHER RESEARCH

Summary

The purpose of this study, conducted in 1986, was to develop and test items for student evaluation of teachers suitable for completion by secondary and elementary school students. The items were designed utilizing current research on effective teaching behaviors. Student evaluation of teachers has long been used at the college level with the advantages and disadvantages thoroughly researched. Few instruments exist that were designed specifically to obtain elementary and secondary students' ratings of teachers, although students have the most contact with the daily classroom performance of the teachers. Many of the instruments that exist for completion by elementary and secondary students were developed prior to recent gains in the scientific understanding of teacher effects on student achievement.

This study was conducted in two school districts and twelve school buildings in those districts. A total of 3,560 students participated in the study with data from 2,968 of those students being analyzed. Items for the questionnaires were developed after a review of the literature. The items were based on teacher behaviors that make a difference in student achievement and on valid, reliable, teacher evaluation criteria, especially criteria developed by the School Improvement Model (45). All items were tested for their reading level using two separate, computerized-readability programs, the Random House Readability Analysis Program and the Britannica Readability Formulas. Between the two

programs, a total of nine different readability formulas were utilized to determine the reading level of the items. Four groupings of items, based upon readability, were developed. The four levels included items for completion by students in the lower elementary grades (Level 1 - Grades K-2), the upper elementary grades (Level 2 - Grades 3-6), the junior high (Level 3 - Grades 7-8), and the high school (Level 4 - Grades 9-12).

The cooperation of participating school districts was enlisted from schools involved in efforts to improve teacher evaluation with the School Improvement Model Project (SIM) or from school administrators attending Teacher Performance Evaluation presentations conducted by SIM personnel. The majority of the participants were from Springfield, Missouri. In Springfield, the district's board of directors, the teachers' association, and the administration were all involved in the decision to pursue this study. The district's management cabinet selected schools, thought to contain a representative sample of the students, to participate in this study. Individual teachers or students in the selected schools could choose not to return the questionnaires. The data from several classrooms were not analyzed because there were not 15 raters for each teacher.

Students in grades kindergarten through twelve completed questionnaires rating the presence and/or frequency of teacher behaviors in their classrooms using a five-point, Likert-type scale. The data from these questionnaires were analyzed using the Menne and Tolsma methodology (49) to determine item discrimination power. Items which discriminated at the .05 level of significance were identified. A Cronbach Alpha

reliability coefficient was calculated for all items identified as discriminating at the .05 level.

The number of discriminating items range from 57 items at the high school level to 18 items for the upper elementary grades. For the high school items (Level 4 - Grades 9-12), a total of 57 items had a sum of squares between-groups variance equal to or exceeding 13 percent of the total sums of squares variance, the criterion established for discrimination at the .05 level of significance. For the junior high level (Level 3 - Grades 7-8), a total of 34 items had a sum of squares between-groups variance equal to or exceeding 13 percent of the total sums of squares variance. For the upper elementary grades (Level 2 - Grades 3-6), a total of 18 items had a sum of squares between-groups variance equal to or exceeding 13 percent of the total sums of squares variance. For the lower elementary grades (Level 1 - Grades K-2), a total of 25 items had a sum of squares between-groups variance equal to or exceeding 13 percent of the total sums of squares variance.

The Cronbach Alpha reliability coefficient was calculated to determine the internal consistency of all items with discrimination value equal to or exceeding 13 percent. The Cronbach Alpha reliability coefficient was .859 for the high school level, .839 for the junior high school level, .650 for the upper elementary school level, and .596 for lower elementary school items.

All items on the four levels of the questionnaires that were found to be discriminating between teachers were then analyzed to determine the correlation between student responses on the discrimination questionnaires

and the potentially biasing factors of the individual's earned or anticipated marks, the student's perception of the amount of work required by the teacher, the student's like or dislike of the teacher, and the student's preconceived attitude towards liking or disliking the class.

Of the 512 correlations calculated, 294 were found to have a significant relationship. Items can have a statistically significant correlation and still have a very weak relationship if the sample is very large. An alternate method of viewing the Pearson Correlation is the strength of the relationship. Only eight of the 294 significant correlations were strong enough to be defined as describing a moderate relationship (correlation coefficients of plus or minus .30 to .70) and none were strong enough to be defined as describing a strong relationship (correlation coefficients of plus or minus .70 or greater) (33). All eight of the moderate relationships were with the potentially biasing factor of "liking the teacher."

Conclusions

The following conclusions are offered based on the analysis of data collected in this study.

1. Students from kindergarten through the twelfth grade are capable of providing student feedback to teachers that discriminates among teachers if the items are developed for the reading level of the students.

2. The Menne and Tolsma methodology (49) for determining the discrimination power of items in instruments using group responses can be used to identify discriminating items for developing a pool of items for student feedback to teachers.

3. There is a difference in the discrimination power of the items in each of the four student questionnaires used in this study.

4. Some similar items discriminated among all the different levels of the test but several items discriminated among some levels and not others.

5. For each of the four levels of the items, a Cronbach Alpha reliability coefficient was calculated to determine the internal consistency of all items with discrimination value equal to or exceeding 13 percent. The Cronbach Alpha reliability coefficient was .859 for the high school items, .839 for the junior high school items, .650 for the upper elementary school items completed, and .596 for the lower elementary school items. The older, more mature students' ratings of teachers were more consistent than those of the younger students. The reliability coefficient for the older students (.859 and .839) are within or close to the levels commonly defined as being acceptable, even for established tests. The reliability coefficients for the items to be completed by the two lower grade levels of students fall within the area tolerated for research purposes especially where group, not individual, ratings are being studied (40, 68).

With reliability coefficients of the magnitude found in this study, the possibility exists that the separate items measure a similar construct, "good teaching," more than the individual components of the teaching act.

6. The correlation between student responses on several items on the questionnaires and the mark earned by the student, amount of work required

by the teacher, the student liking or disliking the teacher, and the student's preconceived attitude towards the class was statistically significant but weak or moderate on several items. The relationship of these potentially biasing factors on student feedback to teachers and the student's actual ratings of the teachers was greater than hypothesized. These findings are consistent with several reported in the review of literature (2, 3, 5, 15, 17, 46, 67). More statistically significant relationships and all of the moderate relationships were found between student responses to items on the questionnaire and their reported liking or disliking of the teacher. The potential of this factor biasing the results is somewhat diminished when it is considered that 89 percent of the students completing the lower elementary items, 88 percent of the students completing the upper elementary items, 78 percent of the students completing the junior high school items, and 79 percent of the student completing the high school items reported that they liked the teacher they were rating.

While the potential biasing influence on the students' ratings of teachers should be considered, it is unlikely that the responses of students when reviewed as a class, are affected much by the potentially biasing factors measured in this study. Exceptions to this conclusion would be the eight items found to have a moderate relationship to the student ratings of their teachers. Less than 6 percent of the discriminating items had moderate correlations with any of the potentially biasing factors. The potential bias of students' responses to the eight items that had a moderate correlation with liking the teacher should be

considered by those interpreting the student feedback if those eight items are used in the survey.

7. For teachers to receive the maximum useful information from students on how students perceive the teacher's daily teaching behaviors, items that discriminated at the .05 level of significance (Table 5) and that had a correlation coefficient of less than 0.30 with the potentially biasing factors (Table 8) should be used. Any items that did not discriminate could be used by teachers, but this study would indicate that such items would not differentiate between the teaching behaviors of different teachers. Students' responses on the items with correlation coefficients of greater than 0.30 could be influenced by the students' like or dislike of the teacher and therefore less valuable in providing information about the teacher's behavior on the factors measured by those items.

Limitations

Several limitations were imposed by the design of this study. They were:

1. Participation in the study was voluntary, students were permitted to retain their feedback to teachers form, and teachers were permitted to retain the class rankings for them so that they were not analyzed.

2. Schools involved in the study were volunteer schools with teachers being encouraged to participate by the administration of the building or district.

3. Student ratings of teachers were not correlated with actual student achievement, only the expected mark.

4. Discriminating items were selected based on the analysis of data for all teachers rated by 15 or more students. Due to the large number of raters for whom data were analyzed, it is believed that the items identified as discriminating in this study are representative of items which measure differences between teachers. However, the same items may not be discriminating among teachers rated by fewer raters.

5. This study focused on identifying discriminating items in a procedurally correct manner. No recommendations will be made on the issue of how individual school districts or individual teachers should utilize the results of the student feedback.

Discussion

The first and major purpose of this study was to identify discriminating items for use in developing four pools of grade-specific items for student feedback to teachers. The four pools of items were grouped by the readability level of the items. A discriminating item was defined as an item which elicited similar responses from those rating a designated teacher and elicited different responses from those rating another teacher, when the performance of the teachers differs. For an item to have discrimination power, the variance within the group rating the same teacher has to be low in relationship to the variance between the groups rating different teachers. The number of discriminating items found ranged from 54 for those items completed by high school students to 18 for those items completed by students in grades three through six.

This study would indicate that students from kindergarten through the twelfth grade are capable of providing student feedback to teachers that

discriminates among teachers if the items are developed for the reading level of the students.

For each of the four levels of the items, a Cronbach Alpha reliability coefficient was calculated to determine the internal consistency of all items with discrimination value equal to or exceeding 13 percent. The older, more mature students' ratings of teachers were more consistent than those of the younger students. The reliability coefficient for the older students (.859 and .839) are within or close to the levels commonly defined as being acceptable, even for established tests. The reliability coefficients for the items to be completed by the two lower grade levels of students fall within the area tolerated for research purposes especially where group, not individual, ratings are being studied (40, 68). The relative scarcity of student evaluation of teacher items at the elementary level, and the even greater lack of items linked to teacher evaluation criteria based on recent gains in the scientific understanding of teacher performance that make a difference in student achievement, leads to the argument that even with the lower reliability coefficients of the elementary school items identified in this study, they compare favorably with the test/retest reliability coefficients ranging from .593 to .895 on various subtests of the only other rating questionnaire to be completed by elementary students (7).

Through the review of the literature, several factors that might bias students' ratings of teachers were identified and later were correlated with actual ratings of the teachers. These potentially biasing factors included the mark or grade the student earned or anticipated, the

students' perceptions as to the amount of work required by the teacher, the student liking or disliking the teacher, and the student liking or disliking the class or subject.

Although students in kindergarten through the twelfth grade were involved in this study, and college students were involved in studies reported in the review of the literature, the correlations between student ratings of teachers and the earned or anticipated mark the students received found in this study, are consistent with those summarized in the review of the literature. This study found a significant but weak relationship (correlation coefficients of less than 0.30) between grades and student ratings which is consistent with the results of numerous other studies (3, 15, 20).

No strong (correlation coefficients greater than 0.70) or moderate relationships (correlation coefficients of 0.30 to 0.70) were found between the amount of work required and the students' ratings of teachers, although several statistically significant relationships were found. The appropriateness of the amount of work perceived as being required by the teacher was inversely related to more of the responses on the ratings than for any of the other factors correlated.

This study found more significant, although weak, relationships between the amount of work required and the students' ratings of teachers than was expected based upon previous studies. Most previous studies found no relationship between the amount of work required and the students' ratings of teachers (12, 46). Cohen (14) concluded after a meta-analysis of 41 studies that courses' difficulty and student

achievement were not related. This study would indicate a significant but weak relationship between students in kindergarten through the twelfth grade ratings of teachers and the amount of work required.

All eight of the moderate relationships (correlation coefficients of 0.30 to 0.70) found in this study were with the "liking teacher" factor. The responses of both the junior high school and senior high school students to "My teacher is fair with all" had a positive moderate relationship with the responses to liking the teacher. There was a positive moderate correlation between the upper elementary school students' response to liking the teacher and "My teacher knows me well." A positive moderate correlation also was found between the junior high school students' response to "My teacher plans carefully for each class" and liking the teacher. The four remaining moderate relationships were all within the high school students' questionnaire, were all positive, and were all with the liking teacher factor. These included the items "My teacher explains ideas logically," "My teacher gives me extra help if I need it," "My teacher's grades or marks are fair," and "My teacher is well-organized." One explanation of this phenomenon might be that moderate relationships found between the factor of liking the teacher and the items listed could be due to the teacher behaviors identified (being fair with all, grading fairly, providing extra help, explaining ideas logically, being well-organized, planning carefully for each class) leading to liking the teacher, rather than liking the teacher leading to positive ratings on the identified behaviors.

The findings of this study on the effect liking the teacher has on the students' rating of the teacher were similar to those found in many other studies (2, 11, 15, 17, 43, 56, 67).

The last correlation calculated was designed to find if the students' ratings of teachers were correlated with the students' prior interest in the subject or the class. Previous research indicated a slight correlation, but most researchers concluded that ratings of course effectiveness but not teaching ability correlated with liking the subject matter (3, 5, 17, 73). This study found numerous statistically significant, although weak, correlations between the students liking the class and their ratings of the teachers. The SIM teacher evaluation criteria of "The teacher demonstrates effective planning skills," "The teacher provides opportunities for individual differences," "The teacher communicates effectively with students," and "The teacher implements the lesson plan" contained most of the significant correlations. Items seeking feedback on the teacher speaking clearly and explaining lessons or assignments logically were consistently related to liking the class as were items on how interesting the teacher made the class work.

The correlation of the potentially biasing factors with the student evaluation of teachers revealed numerous statistically significant, although weak, relationships and only eight of 512 that were of moderate strength. The findings of this study have not challenged the existing research literature which might be summarized as recognizing potential problems of student bias in their ratings of teachers but maintaining that

the value of the information to be gained overcomes the weaknesses (18, 60).

Recommendations for Use

1. When selecting items for use, the teacher should select from those items found to be discriminating at the .05 level of significance (Table 5) and from those items that did not have a correlation coefficient with the potentially biasing factors of 0.30 or greater (Table 6). The items that were not found to discriminate at the .05 level could be used if desired, but this study indicates that they would not discriminate between teachers.

2. Discriminating items should be used within the same grade levels they were tested. The readability levels of the items should be followed if these items are to provide information to the teachers that will discriminate among teachers whose teaching performances are, in fact, different.

3. The directions developed for administering the questionnaires for this study should be followed if the items are to be used in the classroom. For example, teachers should not see the individual responses of the students rating them, items for kindergarten through second grade students should be read to the students, names should not be on the questionnaire, and the person supervising the administration of the questionnaire should not circulate around the room while the questionnaires are being completed.

4. This study focused on developing a pool of items for individual teachers to use in seeking feedback from their students. Teachers should

select only the number of items their students can complete in 10 to 15 minutes. Teachers should not attempt to have the students complete too many items at one time.

5. When selecting items from the pool of discriminating items, a teacher might want to first select a sample of items from each of the district's teacher performance evaluation criteria and use those results to identify specific classroom teaching behaviors on which to focus. A second administration of items may want to use all discriminating items from a select few criteria areas to gather more detail on more specific behaviors. Identical items could be administered a second time to determine if attempts by the teacher to improve on specific areas were successful.

Recommendations for Further Research

The findings of this study suggest further research. In each of the following proposals, the sample size should be as large as possible.

1. The results of this investigation should be verified. Further research is needed to ascertain if the items identified as being discriminating in this study would also be discriminating in other school districts. Similar findings in other studies would increase the generalizability of the results of this study. Further study, if undertaken, could benefit from the inclusion of fewer items to be completed by the students at one time. Teachers, especially at the lower elementary levels, noted the difficulty of the students completing the large number of items. Using mainly those items identified as

discriminating on this study could allow the new studies to start with a smaller pool of items for verification.

2. The relationship between the mean ratings of individual teachers on discriminating items and the achievement gains of their students should be investigated.

3. Further research should study the correlation between the student ratings of a teacher's classroom behaviors and the principal's or evaluator's ratings of the same teacher.

4. Further studies should investigate in more detail the relationship between the effect of preconceived ideas held by students and their ratings of their teachers.

5. Further study could allow the development of national norms so that the compiled ratings of a teacher could be compared to the overall mean ratings of teachers to determine if an individual teacher's rating is above, below, or at the norm rating for all teachers.

The past few years has resulted in a growing scientific basis for understanding teacher behaviors that make a difference in student achievement. This study found numerous discriminating student feedback to teacher items that were based upon the recent gains in our understanding of those effective teaching behaviors. These tested items will provide feedback to teachers on their daily classroom behaviors from a source that has the most contact with those daily behaviors, students. A basic premise of teacher performance evaluation is that the more that is known about the teacher's daily performance, the more the teacher can improve that performance. The discriminating student feedback to teacher items,

identified in this study, should provide a valuable source of information in helping teachers improve.

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APPENDIX A. QUESTIONNAIRES

STUDENT FEEDBACK TO TEACHERS ITEMS

LOWER ELEMENTARY SCHOOL QUESTIONNAIRE

NOTE TO STUDENTS: Please remember that completing this form is voluntary. You may keep this form if you decide not to participate!

DIRECTIONS: The statements are designed to find out more about your class and teacher. For each question or statement, fill in the circle of the one answer that best describes this class or teacher. This is not a test. Do not put your name on this paper or the answer sheet. Please answer all the statements.

CAREFULLY FILL IN CIRCLE 1
> if the statement describes your class or teacher the way it is almost all of the time.

CAREFULLY FILL IN CIRCLE 2
> if the statement describes your class or teacher the way it is usually but not all of the time.

CAREFULLY FILL IN CIRCLE 3
> if the statement describes your class or teacher the way it is sometimes.

CAREFULLY FILL IN CIRCLE 4
> if the statement does not describe your class or teacher well or if it describes something that does not happen very often.

CAREFULLY FILL IN CIRCLE 5
> if the statement does not describe your class or teacher at all.

1. Our work is too hard for us.

2. My teacher gives us enough time to do our work.

3. I pay attention in class.

4. We often get off the lesson in class.

5. We do the same thing every day in class.

6. We go back over each lesson when we finish it.

7. My teacher gives us work to do at home.

8. My teacher makes our work interesting.

9. My teacher asks us about our work.

10. I can talk with my teacher about problems.

11. My teacher is late coming to class.

12. My teacher gives our work back to us fast.

13. My teacher is easy to hear.

14. I know what the teacher wants us to do.

15. Some people upset others in the class.

16. I can get help from my teacher when I need it.

17. Our work is too easy for us.

18. I can waste class time and still have time to do my work.

19. Our work helps us learn the lesson.

20. Our teacher often is not ready for class.

21. My teacher makes me feel good when I do good work.

22. We often have to take a test in class.

23. When we have a test, it is not about the same things we had in class.

24. My teacher knows a lot about the lessons.

25. My teacher is fair with all.

26. My teacher knows when I do not pay attention.

27. My teacher does not care if we waste time in class.

28. I do not work in class if the teacher is not looking.

29. My teacher wants me to find new ways to learn.

30. My teacher shows us good ways to work on a lesson and to learn the lesson.

31. I can get help from my teacher.

32. I can never find my teacher when I need help.

33. My teacher says I do good work.

34. My teacher listens to me when I need to talk.

35. I have to wait a long time for the teacher to give me new work.

36. I get to work with others in class.

37. My teacher lets us know how we should act.

38. My teacher often cannot find my work.

39. I finish my work before class is over.

40. My teacher plans for each class.

41. My teacher tells me where I can find more things to help me learn about the lesson.

42. We have to do good work to get a good mark.

43. I try to do my work right.

44. We often talk about something different from the lesson.

45. My teacher lets us waste time before we start the lesson.

46. My teacher leaves us alone in class.

47. My teacher knows when we are not at work and puts us back to work.

48. My teacher gives us time to rest before our class is over.

49. My teacher takes a lot of time before we start to work.

50. I know about the lesson for class.

51. My teacher knows me well.

52. If I do not know what the teacher means, my teacher will find a new way to explain it.

53. When I finish my work, my teacher gives me more work that I like to do.

54. The lessons we have are easy.

55. My teacher has us learn hard lessons in small steps.

56. My teacher has us work too fast.

57. My teacher tells us what new things we can learn in each lesson.

58. Our class does new things at the same time.

59. My teacher wants us to sit and not talk in class.

60. My teacher will explain new things in a way that is easy to learn.

61. My teacher likes it when we ask about the lesson.

62. My teacher likes the answers I give in class.

63. My teacher will explain the lesson clearly.

The following questions will tell us more about you. Please circle the number by the one answer that best describes you.

64. What mark or grade do you receive from your teacher?
     1=A   2=B   3=C   4=D   5=F   6=Pass or O.K.

65. Does your teacher give
     1. too much work?
     2. the right amount of work?
     3. too little work?

66. Do you like your teacher?   1=yes   2=no

67. Before the school year started, did you think you would
     1. like the class?
     2. dislike the class?
     3. did not know about the class?

STUDENT FEEDBACK TO TEACHERS ITEMS

UPPER ELEMENTARY SCHOOL QUESTIONNAIRE

NOTE TO STUDENTS: Please remember that completing this form is voluntary. You may keep this form if you decide not to participate!

DIRECTIONS: The statements below are designed to find out more about your class and teacher. For each question or statement, fill in the circle on the separate answer sheet for the one answer that best describes this class or teacher. This is not a test. Do not put your name on this paper or answer sheet. Please answer all the statements. Carefully review the directions on the answer sheet for marking answers.

CAREFULLY FILL IN CIRCLE 1
        if the statement describes your class or teacher the way it is almost all of the time.

CAREFULLY FILL IN CIRCLE 2
        if the statement describes your class or teacher the way it is usually but not all of the time.

CAREFULLY FILL IN CIRCLE 3
        if the statement describes your class or teacher the way it is sometimes.

CAREFULLY FILL IN CIRCLE 4
        if the statement does not describe your class or teacher well or if it describes something that does not happen very often.

CAREFULLY FILL IN CIRCLE 5
        if the statement does not describe your class or teacher at all.

1. Our work is too hard for us.

2. My teacher gives us enough time to do our work.

3. I pay attention in class.

4. We often get off the lesson in class.

5. We do the same thing every day in class.

6. My teacher reviews each lesson when we finish it.

7. My teacher gives us work to do at home.

8. My teacher makes our work interesting.

9. My teacher asks us questions in class.

10. I can talk with my teacher about problems.

11. My teacher is late coming to class.

12. My teacher gives our work back to us fast.

13. My teacher is easy to understand.

14. My teacher's directions are easy to understand.

15. Some students bother others in the class.

16. I can get help from my teacher when I need it.

17. Our work is too easy for us.

18. I can waste class time and still have time to do my work.

19. Our work helps us learn the lesson.

20. Our teacher often is not prepared for class.

21. My teacher makes me feel good when I do good work.

22. We often have to take a test in class.

23. When we have a test, it is not about the same things we had in class.

24. My teacher knows a lot about the lesson being taught.

25. My teacher is fair with all.

26. My teacher knows when I do not pay attention.

27. My teacher does not care if we waste time in class.

28. I do not work in class if the teacher is not looking.

29. My teacher wants me to find new ways to learn.

30. My teacher shows us good ways to work on a lesson and to learn the lesson.

31. I can get help from my teacher.

32. I can never find my teacher when I need help.

33. My teacher says I do good work.

34. My teacher listens to me when I need to talk.

35. I have to wait a long time for the teacher to give us new work.

36. I get to work with others in class.

37. My teacher lets us know how we should act.

38. My teacher often cannot find my work.

39. I finish my work before class is over.

40. My teacher plans for each class.

41. My teacher tells me where I can find more information to help me learn about the lesson.

42. We have to do good work to get a good mark.

43. I try to do my work right.

44. We often talk about something different from the lesson.

45. My teacher lets us waste time before we start the lesson.

46. My teacher leaves our classroom alone.

47. My teacher knows when we are not at work and puts us back to work.

48. My teacher gives us time to rest before our class is over.

49. My teacher takes a lot of time before starting teaching.

50. I understand the lesson being taught.

51. My teacher knows me well.

52. If I do not understand, my teacher will find a new way to explain it to me.

53. If I finish my work before class is over, my teacher gives me interesting work.

54. The lessons we have are easy.

55. My teacher has us learn hard lessons in small steps.

56. My teacher has us work too fast.

57. My teacher tells us what new things we can learn in each lesson.

58. Our class does new things at the same time.

59. My teacher wants us to sit and not talk in class.

60. My teacher will explain new things in a way that is easy to understand.

61. My teacher likes it when we ask about the lesson.

62. My teacher likes the answers I give in class.

63. My teacher explains the lesson clearly.

The following questions will tell us more about you. Please fill in the circle on the answer sheet by the one answer that best describes you.

64. What mark or grade do you receive from your teacher?
     1=A   2=B   3=C   4=D   5=F   6=Pass or O.K.

65. Does your teacher give
     1. too much work?
     2. the right amount of work?
     3. too little work?

66. Do you like your teacher?   1=yes   2=no

67. Before the school year started, did you think you would
     1. like the class?
     2. dislike the class?
     3. did not know about the class?

STUDENT FEEDBACK TO TEACHERS ITEMS

JUNIOR HIGH - MIDDLE SCHOOL QUESTIONNAIRE

NOTE TO STUDENTS: Please remember that completing this form is voluntary. You may keep this form if you decide not to participate!

DIRECTIONS: The statements below are designed to find out more about your class and teacher. For each question or statement, fill in the circle on the separate answer sheet for the one answer that best describes this class or teacher. This is not a test. Do not put your name on this paper or answer sheet. Please answer all the statements. Carefully review the directions on the answer sheet for marking answers.

CAREFULLY FILL IN CIRCLE 1
if the statement describes your class or teacher the way it is almost all of the time.

CAREFULLY FILL IN CIRCLE 2
if the statement describes your class or teacher the way it is usually but not all of the time.

CAREFULLY FILL IN CIRCLE 3
if the statement describes your class or teacher the way it is sometimes.

CAREFULLY FILL IN CIRCLE 4
if the statement does not describe your class or teacher well or if it describes something that does not happen very often.

CAREFULLY FILL IN CIRCLE 5
if the statement does not describe your class or teacher at all.

1. My teacher has to spend time during class looking for books or assignments that the teacher cannot find.

2. My teacher takes a lot of class time handing out materials.

3. I pay attention in class.

4. My teacher starts lessons explaining what we are going to do and why we are going to do it.

5. My teacher knows when I am daydreaming.

6. My teacher explains the rules for classroom behavior very clearly.

7. My teacher is fair with all.

8. Some students disrupt or bother the class when we are working.

9. I spend my time in class working on the subject the teacher wants.

10. I can get help from my teacher when I want it.

11. Many students do not work in class if the teacher is not watching.

12. My teacher is not in class when class is supposed to start.

13. My teacher does not care if we waste time in class.

14. Our teacher is well-prepared for our class.

15. We get off the topic of the lesson.

16. My teacher asks questions to see if we understand what has been taught.

17. My teacher gives homework related to the subject we are studying.

18. When we finish a lesson we discuss and summarize what we have just studied.

19. My teacher explains what we are supposed to learn from each lesson.

20. My teacher tells us how we can use what we have already learned to learn new things.

21. My teacher makes class work interesting.

22. I try to learn more on my own about what the teacher is talking about.

23. Our work is too easy for us.

24. My teacher gives enough time to do our work.

25. I can waste time and still have time to do my work.

26. My teacher has us working too slowly.

27. My teacher has us working too fast.

28. We do the same things every day in class.

29. My teacher is well-prepared for our class.

30. My teacher encourages us to look at problems in new ways and find new ways to solve problems.

31. My teacher asks us questions in class.

32. My teacher is easy to understand when talking.

33. My teacher explains ideas logically.

34. My teacher explains new ideas in a way that is easy to understand.

35. My teacher is not interested in what is being taught.

36. My teacher likes it when we ask questions.

37. My teacher's directions are easy to understand.

38. My teacher explains the lesson clearly.

39. My teacher asks questions to see if we understand the lesson.

40. My teacher looks at our work, as we are doing it, to see if we understand the lesson.

41. My teacher returns tests and homework quickly.

42. I can talk alone with my teacher if I need.

43. My teacher explains how I could have done better work.

44. My teacher often gives tests.

45. My teacher checks to see how well we understand what is being taught.

46. My teacher's tests are not about the same things we study in class.

47. My teacher's tests are fair.

48. My teacher knows more about the subject than other teachers I have had.

49. My teacher knows a lot about the subject being taught.

50. My teacher assigns work more to keep us busy than to have us learn something important.

51. Every assignment helps us learn more about the subject.

52. We are sometimes taught things that are later found to be wrong.

53. My teacher has us learn a difficult lesson in small steps.

54. My homework helps me to learn the subject being taught.

55. If I do not understand, my teacher explains it to me again.

56. If I finish an assignment before the class is over, my teacher gives me interesting work to do.

57. My teacher gives me extra help if I need it.

58. My class work is interesting.

59. The subject we study is too easy.

60. I understand the subject being taught.

61. My teacher knows me well.

62. We often get off the subject in class.

63. My teacher knows when I am not working and puts me back to work.

64. My teacher takes a lot of time checking attendance, writing passes, and handing out assignments and class work.

65. I have to do good work to get good marks.

66. My teacher knows what I am capable of doing.

67. I try to do my assignments correctly.

68. We use one book at all times in the class.

69. My teacher often makes materials and worksheets for us to use.

70. My teacher plans carefully for each class.

71. My teacher loses my homework assignments.

72. I have to wait a long time for the teacher to give me new assignments.

The following questions will tell us more about you. Please fill in the circle on the answer sheet by the one answer that best describes you.

73. What mark or grade do you receive from your teacher?
    1=A   2=B   3=C   4=D   5=F

74. Does your teacher give
    1. too much work?
    2. the right amount of work?
    3. too little work?

75. Do you like your teacher?   1=yes   2=no

76. Before the school year started, did you think you would
    1. like the class?
    2. dislike the class?
    3. did not know about the class?

STUDENT FEEDBACK TO TEACHERS ITEMS

SENIOR HIGH SCHOOL QUESTIONNAIRE

NOTE TO STUDENTS: Please remember that completing this form is voluntary.
You may keep this form if you decide not to participate!

DIRECTIONS: The statements below are designed to find out more about your
class and teacher. For each question or statement, fill in the circle on
the separate answer sheet for the one answer that best describes this
class or teacher. This is not a test. Do not put your name on this paper
or answer sheet. Please answer all the statements. Carefully review the
directions on the answer sheet for marking answers.

CAREFULLY FILL IN CIRCLE 1
        if the statement describes your class or teacher the way it is
        almost all of the time.

CAREFULLY FILL IN CIRCLE 2
        if the statement describes your class or teacher the way it is
        usually but not all of the time.

CAREFULLY FILL IN CIRCLE 3
        if the statement describes your class or teacher the way it is
        sometimes.

CAREFULLY FILL IN CIRCLE 4
        if the statement does not describe your class or teacher well or
        if it describes something that does not happen very often.

CAREFULLY FILL IN CIRCLE 5
        if the statement does rot describe your class or teacher at all.

1. My teacher has to spend time during class looking for books or
    assignments that the teacher cannot find.

2. My teacher takes a lot of class time handing out materials.

3. I pay attention in class.

4. My teacher starts lessons explaining what we are going to do and why
    we are going to do it.

5. My teacher knows when I am daydreaming.

6. My teacher explains the rules for classroom behavior very clearly.

7. My teacher is fair with all.

8. Some students disrupt or bother the class when we are working.

9. I spend my time in class working on the subject the teacher wants.

10. I can get help from my teacher when I want it.

11. Many students do not work in class if the teacher is not watching.

12. My teacher is not in class when class is supposed to start.

13. My teacher does not care if we waste time in class.

14. My teacher does not want students to disagree with him/her.

15. We get off the topic of the lesson.

16. My teacher asks questions to see if we understand what has been taught.

17. My teacher gives homework related to the subject we are studying.

18. When we finish a lesson we discuss and summarize what we have just studied.

19. My teacher explains what we are supposed to learn from each lesson.

20. My teacher tells us how we can use what we have already learned to learn new things.

21. My teacher makes class work interesting.

22. I try to learn more on my own about what the teacher is talking about.

23. Our work is too easy for us.

24. My teacher gives enough time to do our work.

25. I can waste time and still have time to do my work.

26. My teacher has us working too slowly.

27. My teacher has us working too fast.

28. We do the same things every day in class.

29. My teacher is well-prepared for our class.

30. My teacher encourages us to look at problems in new ways and find new ways to solve problems.

31. My teacher asks us questions in class.

32. My teacher is easy to understand when talking.

33. My teacher explains ideas logically.

34. My teacher explains new ideas in a way that is easy to understand.

35. My teacher is not interested in what is being taught.

36. My teacher likes it when we ask questions.

37. My teacher's directions are easy to understand.

38. My teacher explains the lesson clearly.

39. My teacher asks questions to see if we understand the lesson.

40. My teacher looks at our work, as we are doing it, to see if we understand the lesson.

41. My teacher returns tests and homework quickly.

42. I can talk alone with my teacher if I need.

43. My teacher explains how I could have done better work.

44. My teacher often gives tests.

45. My teacher checks to see how well we understand what is being taught.

46. My teacher's tests are not about the same things we study in class.

47. My teacher's tests are fair.

48. My teacher knows more about the subject than other teachers I have had.

49. My teacher knows a lot about the subject being taught.

50. My teacher assigns work more to keep us busy than to have us learn something important.

51. Every assignment helps us learn more about the subject.

52. We are sometimes taught things that are later found to be wrong.

53. My teacher has us learn a difficult lesson in small steps.

54. My homework helps me to learn the subject being taught.

55. If I do not understand, my teacher explains it to me again.

56. If I finish an assignment before the class is over, my teacher gives me interesting work to do.

57. My teacher gives me extra help if I need it.

58. My class work is interesting.

59. The subject we study is too easy.

60. I understand the subject being taught.

61. My teacher knows me well.

62. We often get off the subject in class.

63. My teacher knows when I am not working and puts me back to work.

64. My teacher takes a lot of time checking attendance, writing passes, and handing out assignments and class work.

65. I have to do good work to get good marks.

66. My teacher knows what I am capable of doing.

67. I try to do my assignments correctly.

68. We use one book at all times in the class.

69. My teacher often makes materials and worksheets for us to use.

70. My teacher plans carefully for each class.

71. My teacher loses my homework assignments.

72. I have to wait a long time for the teacher to give me new assignments.

73. My teacher seems to have a purpose or goal for each lesson.

74. Our classroom activities often do not seem to be related to the purpose of the lesson.

75. We often run out of class time before the teacher has finished the lesson.

76. My teacher uses a variety of classroom activities.

77. My teacher expects me to do the best work I can.

78. The questions my teacher asks always have only one right answer.

79. I often do not understand why I get the grades or marks I receive in this class.

80. I do not know what grade or mark I am going to get until the semester or term grades.

81. My teacher's grades or marks are fair.

82. The information the teacher provides us is often out of date.

83. My teacher often spends time in class talking about topics different from the subject we are studying.

84. We waste a lot of time in class when we change topics or activities.

85. My teacher and this class have helped me decide what I want to do when I finish school.

86. We often watch films or filmstrips that do not help us learn about the subject we are studying.

87. My teacher tells the class about library/media materials that will help us learn about the subject we are studying.

88. My teacher is well-organized.

89. My teacher often loses his/her temper when students disrupt class.

90. We often work in different sized groups depending upon the activity we have in class.

The following questions will tell us more about you. Please fill in the circle on the answer sheet by the one answer that best describes you.

91. What mark or grade do you receive from your teacher?
    1=A   2=B   3=C   4=D   5=F

92. Does your teacher give
    1. too much work?
    2. the right amount of work?
    3. too little work?

93. Do you like your teacher?   1=yes   2=no

94. Before the school year started, did you think you would
    1. like the class?
    2. dislike the class?
    3. did not know about the class?

APPENDIX B. INDIVIDUAL CLASSROOM DIRECTIONS

INDIVIDUAL CLASSROOM DIRECTIONS

INSTRUCTIONS FOR ADULT IN CHARGE OF ADMINISTRATION OF QUESTIONNAIRE:

BEFORE MEETING WITH STUDENTS: You will be in charge of this class for the 10 to 20 minutes needed by students to answer the Student Feedback to Teachers Items Questionnaire. Make sure that all the information on the face of the large return envelope has been supplied.

WHILE ADMINISTERING THE QUESTIONNAIRE: Read the following instructions, exactly as written, to the class:

> Today you are asked to participate in a school-wide experiment to develop questions that will help teachers become better instructors. Answering the questions is voluntary, but we hope you will want to participate in this study. Do not hand in your paper if you decide not to participate.

> Please answer the following questions, selecting the response best describing this classroom. This is not a test. We are asking you to answer the questions to help our district develop a questionnaire that will provide information to your teachers to help teachers improve.

> Students can provide very valuable information to help teachers since students spend so much time with the teacher. Please answer all the questions. Answer the questions honestly and fairly, selecting the response or answer best describing the classroom and your regular teacher. Fill in the circle of the best response for each question or statement on the answer sheet.

> Do not give your name or put your name on the questionnaire or answer sheet. Your regular teacher will never see your individual answers. I will not read your answers either. All of your answers will be sealed in an envelope and mailed to Iowa State University.

> Your teacher will receive from the university, a summary of the answers of all the students. The university will mail this summary to no one except your teacher.

> After you have finished this questionnaire, sit quietly or study until all students have completed their answers. There should be no talking. You will be given enough time to answer all the questions.

I will read aloud the directions on the questionnaire as
you read them silently. If you have any questions on the
meaning of the answers, ask them when I finish reading
the directions.

You will need to explain the answers that are to be used on the
answer sheet very carefully and slowly, especially for students in the
lower grades. Before starting the survey, you may need to explain the
meaning of "grades" or "marks" using terms more common to your school for
students in the lower grades. Take the time necessary to ensure that the
students know how to complete the answer sheet.

While supervising the administration of this questionnaire, exhibit
the same attitude that is appropriate when administering any test or
examination.

Students should be given all the time needed to answer the questions.
If students are hurried, they are inclined to omit answers to questions.

Remain seated at the desk rather than circulating among the students
while they are answering the questions.

After all questionnaires have been completed, have one student
collect all copies for delivery to your desk. Promptly seal the completed
questionnaires in the enveloped addressed to Iowa State University in the
presence of the students.

AFTER THE ENVELOPE HAS BEEN SEALED: Deliver the envelope to the
building principal or the person in your building in charge or supervising
this project. All the envelopes will be collected for returning to Iowa
State University.