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# A model for developing a teacher performance evaluation system: a multiple-appraiser approach

Everett James Hidlebaugh  
*Iowa State University*

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A model for developing a teacher performance evaluation system:

A multiple-appraiser approach

by

Everett James Hidlebaugh

A Dissertation Submitted to the  
Graduate Faculty in Partial Fulfillment of  
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## INTRODUCTION

One of the most pressing problems facing American educational systems is the evaluation of teachers. With the rapid increase in the cost of education in the years after World War II, the public has begun to demand accountability in education. To most, accountability means proven productivity. Proof calls for teacher evaluation.

At a time when the public is demanding more accountability in education, research indicates that current practices used in the evaluation of teachers are shocking. National surveys (NEA, 1964, 1969) have revealed that only about one-half of the school systems in this country follow formal teacher evaluation procedures and those with formal systems are for the most part using inadequate procedures and methods (McNeil, 1971, p. 4).

The usual approach used in the public schools to evaluate teachers is one in which the principal periodically fills out a checklist-type form on which he indicates the degree to which a teacher possesses the characteristics and skills listed. The form is usually completed after a visitation by the principal. In many schools the evaluation is not preceded by classroom observation and is not followed by a conference between the principal and the teacher to discuss how the teacher might improve teaching methods. Results from varied surveys indicate that there seems to be an assumption in many schools that improved performance is an automatic result of increased age, experience, and college credits (NEA, 1972).

Evaluations by only the building principal have obvious weaknesses--one-sidedness and subjectivity. Such procedures provide little assistance to the teachers and are, therefore, looked upon with disfavor by teachers in general. Thus the development of programs for appraising teacher performance which the teaching profession will accept as valid and useful is one of the most challenging tasks facing public education today. The use of appraisal programs to make decisions relating to salary, tenure, promotion, or dismissal from the job has given rise to a fundamental issue in education which has had the effect of alienating teachers to appraisal programs and, in turn, to school administrators. The public school administrator is, therefore, faced with the dilemma of evaluating teachers with appraisal programs that his teaching staff holds suspect.

David E. Dial in an article in a Missouri teachers' journal typifies the position of many in the teaching profession. He states:

. . . the immediate prospects of arriving at a mutually acceptable evaluation instrument remains remote. Checklists, schedules, and other criteria are subjective, opinionated, and totally unsupported in terms of educational research--the only major conclusions that can be drawn from research is that we cannot evaluate teachers by mere classroom observations. (Dial, 1970, p. 22)

As a possible solution to the problem of evaluation by a single principal, multiple evaluator systems have been suggested. Such systems would provide a solution to the "one-sided" aspect of evaluation. Proponents of multiple evaluator systems point out that, in order for an evaluation system to be as equitable and objective as possible, the various "publics" with which the teacher associates should be involved. These publics include students, peer teachers, and administrators. It

would appear then that it would be a sagacious practice to have several different "publics" assist in the process of teacher evaluation.

The Research Division of the National Education Association noted this possible approach in the Division's bulletin of May 1972 (NEA, 1972). This group stated that the use of multiple evaluators would provide a solution to the "one-sided" aspect of evaluation. A committee of supervisors, peers, subordinates, and students was recommended as a possible solution to the problem of subjectivity in teacher evaluation.

Since such procedures are not now in general use in the public schools of this country, what is needed is a model system which could be used in the development of multiple evaluation systems. Involving teachers in this development is most essential. The success or failure of a teacher evaluation system depends upon their involvement (Brighton, 1965, p. 2).

With the popularity of "accountability" in education today many are calling for the evaluation of teacher effectiveness by the use of "output minus input" measures. John Menne points out the fallacy of this method when he states:

. . . if you are concerned with teacher effectiveness . . . you are concerned with the difference--OUTPUT minus INPUT and "effectiveness" in this sense is both generally quite small and difficult to measure. The reason for this is that most of the output is explained by input. Consider that if final grades from the preceding course in a sequence of courses or from a similar course are correlated with present "OUTPUT" or course grades, the correlation will typically be at least 0.70 and very often in the 0.80 to 0.90 range. (Menne, 1972, p. 5-6)

Menne points up that a correlation of 0.70 indicates that about 50 percent of the variance in the final scores can be explained by the

situations that occurred before the particular teacher had a chance to influence the student. He reasons that at the most only about 50 percent and often only 25 percent or 30 percent of variance can be contributed to such factors as teacher effort and the teacher-student interaction. Menne, therefore, argues that it would be better to use a teacher performance evaluation system rather than a teacher effectiveness evaluation system, because performance is easier to measure.

He concludes that:

. . . the proportion of variance due to teacher influence is a fairly small proportion--perhaps 20 percent, 10 percent or less. This small proportion of variance leads to the practical impossibility of measuring the difference in effectiveness (OUTPUT-INPUT) between teachers so that it would be fair and accurate to say that one teacher is better or worse than another. (Menne, 1972, p. 6)

With the problems inherent in programs of teacher evaluation, there is still no escaping the need for such responsibilities. Schools are organizations which society has developed with the responsibility for certain aspects of the formal education of children, youth, and adults. With this responsibility which is passed on ultimately to teachers rests the implication of accountability. Evaluation is the basis of accountability. Thus, from a legal and logical point of view, evaluation is essential.

Even more important than evaluation in the legal sense, however, is accountability in the personal or group sense for achieving the goals which are accepted and which govern behavior. Evaluation then becomes the means by which the school's staff assess their own performance toward the goals and objectives of the school.

Robert B. Howsam, writing in the National Elementary Principal states:

From a purely practical point of view, there can be no escaping teacher evaluation. Passing judgment seems to be a universal form of human behavior. We all have goals. People, things, events, ideas contribute to the success or frustration of these goals. Evaluation is in terms of whether goal attainment is facilitated or retarded. The more intimately we are identified with the goal the more intense is the evaluation activity. Since success in school is crucial in our society, parents and children tend to be actively involved in teacher evaluation. Further, the demands which citizens make on the schools tend to force the schools to emphasize internal evaluation; evaluation thus becomes an important administrative activity. (Howsam, 1963, p. 8-9)

Since teacher evaluation programs should be designed to determine the extent that the teacher is reaching the goals of the school district in which he teaches, it would make sense to develop teacher evaluation systems locally. In order for such systems to be effective and successful, a variety of inputs from the local school districts are necessary. The development of such a system is a cooperative enterprise involving pupils, teachers, and administrators.

With the measurement of teacher effectiveness (or "productivity") a very difficult feat, one theory of evaluation holds that it is more pragmatic to measure a teacher's performance. For example, Menne states that:

It should be noted that there are many factors or aspects to a teacher's performance. If performance is rated as a global construct, it is to be expected that some raters will think of factors such as clarity and stimulation value of material presentation; others will think of the teacher's personality, mode of interaction with students or competence in the content. Thus, it is necessary to be concerned about and delimit the rather specific aspects of performance being evaluated in order to measure something when using raters.

Measures of teacher performance are frequently obtained by using administrators or fellow teachers or students as raters. But no matter who does the ratings, there are three conditions that must be present in order to have evidence that a rating scheme does, in fact, measure anything.

- a) there must be more than one rater;
- b) the raters must closely agree in their ratings;
- c) the ratings must indicate differences between teachers. (Menne, 1972, p. 5)

An effective and successful teacher performance evaluation system, then, would be one in which there are a variety of inputs. The development of such a system must be a cooperative enterprise involving pupils, teachers, and administrators. And in order for the developed system to measure the teacher's performance toward the goals of the school, the aspects measured must meet the three criteria listed by Menne. The development of such an evaluation system is currently a difficult task for the local school districts to undertake because of the lack of a model to follow. The development of such a model is the problem toward which this study is directed.

#### Statement of the Problem

The problem is to develop a model teacher evaluation system which may be used by local school districts. The model will include the procedures to be followed in the development of criteria items which are valid for that district. The model will also meet the following criteria:

1. Validity
2. Observability

3. Variability
4. Brevity
5. Useful for use by trained appraisers

#### The Need for the Study

Accountability has come to the forefront in educational circles during the past few years. The cry for accountability emphasizes the need for a model system of teacher evaluation that is valid and workable at the local level. Statements by the 1970 chairman of the National School Boards Association's Council of Big City Boards of Education, David Wagner, illustrates this need. Wagner stated:

Accountability is the current cry. It is here that public sympathies on the issue of teacher accountability are on the Board's side . . . In some respects the public is ahead of the educational hierarchy. The public has long identified the differences in quality of performance represented in the several classrooms of any school. It wants improvement . . . In this setting are compelling reasons for the earliest possible development of teacher performance criteria, which, if they are to be workable, must be reasonably objective and essentially fair. (Wagner, 1970, p. 21-22)

This need is emphasized as increasing numbers of teachers are being dismissed in recent years, and in most cases no satisfactory evaluation system has been used to determine competency.

Several state legislatures have enacted legislation requiring accountability in education. The most notable is the law passed in California in 1971.

California legislators last year enacted a teacher evaluation law requiring each K-12 teacher in the state to be evaluated (probationary teachers annually, all others biennially) by locally devised teacher

appraisal systems. A state-wide system of imposed accountability, therefore, exists in California. Other states will surely be observing the implementation of the California teacher evaluation law with keen interest (Popham, 1972).

The need for a valid and usable local teacher evaluation system was pointed out very well by Robert Howsam in an article in the National Elementary Principal in 1963. Unfortunately, this need exists more today than ever. Howsam stated:

A professional approach to teacher evaluation is long overdue. The behavior that passes for systematic evaluation of teaching in many schools and school systems is shockingly inadequate and constitutes a blot on the educational profession. (Howsam, 1963, p. 9)

#### Definition of Terms

The following definitions of terms are presented to give clarity to their use and meaning:

1. Accountability - holding the schools (and professionals) liable for results in terms of student learning rather than solely in the use of input resources.
2. Measurement - the systematic collection and orderly arrangement of information. It is both the process and the result of this process.
3. Observability - capable of being observed by raters.
4. Rating - an estimate, made according to some systematized procedure, of the degree to which an individual possesses any given characteristic (Good, 1959, p. 439).



5. Teacher effectiveness evaluation - the measurement of the incremental knowledge gain by the students as a consequence of the contact with a particular teacher.
6. Teacher performance evaluation - measurement by observation of behavior of teachers--such an approach stresses what the teacher does, not what he is or supporting materials used in the instructional system.
7. Teacher evaluation - the consideration of evidence in the light of value standards and in terms of the particular situation and the goals which the group or individual is striving to attain (Good, 1959, p. 676).
8. Variability - selecting items for use in a rating scale that are capable of a) eliciting similar responses from members of the group rating a particular teacher, and b) eliciting maximum differences in ratings among teachers being rated (Menne, 1972, p. 5).
9. Validity - face validity as judged by a panel of six students, 12 teachers, and seven administrators from Naperville Community District 203. Validity of individual items was determined by a careful intuitive factor analysis of the items following the grouping of the items into categories according to the predetermined philosophy and goals of the school district.

### Delimitations of the Study

The study was confined to the problem of the development of a locally valid and usable model teacher performance evaluation system. In so doing a large number of existing teacher evaluation systems were reviewed and a search of the literature was made in the selection of items to be studied during the development process. The very magnitude of the number of teacher evaluation forms and literature on teacher evaluation made impossible a review of all possible data.

The judgment panel used to determine content validity was limited to six secondary students, 12 elementary and secondary teachers, and seven administrators from the Naperville Community District 203, Naperville, Illinois.

The number of teachers rated was limited to 69. These teachers were rated in order to determine discriminating criteria by 1140 students, 207 peer teachers, and 20 administrators. All of the above were students or certified employees of the Naperville Community District 203.

## REVIEW OF RELATED LITERATURE

No aspect of education has been discussed more widely than teacher effectiveness. This is understandable since one finds general agreement that the goal of having a highly competent teacher in every classroom is universal. Educators and researchers have, therefore, been attempting to appraise the quality of teaching from the very beginning. Certainly, the first teachers evaluated their own work and were evaluated by their students. More recently, in keeping with the scientific movement in education, there have been attempts to develop more formal and objective methods.

Researchers have been extremely active in this area. Biddle and Ellena (1964) state that:

Recent summaries have revealed that literally thousands of studies have been conducted on teacher excellence since the beginning of the twentieth century. Investigators have looked at teacher training, traits, behaviors, attitudes, values, abilities, sex, weight, voice quality, and many other characteristics. Teacher effects have been judged by investigators themselves, by pupils, by administrators and parents, by master teachers, by practice teachers, and by teachers themselves. The apparent result of teaching have been studied, including pupil learning, adjustment, classroom performance, sociometric status, attitudes, liking for school, and later achievement. And yet, with all this research activity, results have been modest and often contradictory. Few, if any, facts are now deemed established about teacher effectiveness, and many former "findings" have been repudiated. (Biddle and Ellena, 1964, p. VI)

Flanders (1969), writing on the subject of teacher effectiveness, notes that a review of recent research permits cautious optimism, because indications are that long-needed tools for the analysis of the teaching-learning process are gradually being developed. This

optimism is not shared by all researchers, however. For example, Flanders (1969), p. 1423), reported that Morsh and Wilder (1954, p. 4) concluded, after reviewing research on teaching effectiveness published between 1900 and 1952, "no single, specific, observable teacher act has yet been found whose frequency or percent of occurrence is invariably (and) significantly correlated with student achievement."

Flanders reports a recent trend when he states:

In the past decade, however, research has begun to relate certain teacher behavior to specific consequences in the climate of the classroom and in the academic achievement of pupils. The shift has been from subjective evaluations to more objective counting of teacher-pupil interaction, using more sophisticated observation systems, and handling the larger quantities of data by taking full advantage of computer capability. (Flanders, 1969, p. 1423)

A survey of the literature in teacher appraisal yields considerable information from many authorities in the field. The sources reported in this review range in quality from statements from those with experience--based insight to carefully concerned judgments from exhaustive studies. Because of voluminous amounts of research reported on teacher evaluation, this review has been addressed to the following major areas: review of other reviews, measurement of teacher effectiveness, rating systems, improving the effectiveness of rating systems, development of criteria, selection of discriminating items, guiding principles for evaluation, and recommended evaluation procedures.

## Review of Other Reviews

Teacher effectiveness studies have been summarized and reviewed routinely since 1926. Two major reviews are those of Domas and Tiedeman (1950) and Morsh and Wilder (1954). These summaries do not list all publications on teacher effectiveness, but are limited to quantitative empirical studies up to 1962.

Flanders (1969, p. 1424) reports that Anderson and Hunka (1963) outlined the problem areas in teacher effectiveness research and concluded that research using predictor or criterion variables had reached a dead end.

Gage (1965) concluded, after studying researchers' continual search for relationship between teacher characteristics and pupil growth, that a review of literature at the present time allows for the selection of five global characteristics which seem to be components of effective teaching. The five he selected are 1) warmth, 2) cognitive organization, 3) orderliness, 4) indirectness, and 5) problem-solving ability.

Medley and Mitzel (1963) noted, after reviewing the limitations of studies utilizing rating scales, that more powerful statistical methods will help to identify relationships between teaching behaviors and their effects. Fattu (1962), after reviewing the research on predictor criteria and teacher effectiveness, concluded that research failed to show correlations between such traits as intelligence, experience, age, cultural and socio-economic background, sex, marital status, job interest, voice quality and teacher effectiveness. He did find a slight, positive

correlations between scholarship and teacher effectiveness. Considering characteristics studied, he concluded that professional knowledge has proved to be the most successful predictor of teaching performance.

Howsam (1963) discussed four kinds of rating scales after reviewing studies. He concluded that:

- (1) Self-ratings have proved of little use because there is a consistent bias toward overrating.
- (2) Peer rating by having teachers evaluate each other are of limited value, due in part to the fact that teachers have little opportunity for one teacher to observe the work of another.
- (3) Pupil ratings have been the subject of a considerable amount of research. With remarkable consistency, the findings have shown that pupils are able to make more valid and reliable ratings of teachers than any other group, including administrators, supervisors, and experts. Teachers, in these studies, have found the pupil ratings to be both fair and accurate. Despite the favorable evidence, there is widespread resistance to the use of pupil ratings, probably arising out of the respective roles of student and teacher in our culture.
- (4) Parent ratings have not been the subject of research insofar as this writer has been able to discover, nor is there evidence of their use in school systems.
- (5) Ratings by supervisors are the most common in practice and have been the subject of much of the reported research. The findings lend little support to the practice, however. There are strong tendencies for superiors not to agree in their ratings of teachers, and ratings tend to have a low correlation with student gains. Frequently it has been suggested that administrative personnel base their evaluation on factors which have but little relation to instructional competence.
- (6) Rating by experts show little to indicate that such ratings are superior to other forms. (Howsam, 1963, p. 16)

#### Measurement of Teacher Effectiveness

Thompson (1962, p. 170) notes that the first major attempt to use pupil achievement as a criterion of teaching efficiency was made by Crabbs in 1925. By measuring pupil achievement at the beginning and end

of a fixed period, Crabbs was able to obtain "accomplishment quotients". The correlations between this criterion and ratings by supervisors were generally low and in some cases negative.

Pattu (1963, p. 20) notes that pupil growth and achievement in relation to teacher performance has been reviewed by Ackerman (1954), McCall (1952), Medley and Mitzel (1963), Morsh et al. (1956), Taylor (1930), and Webb and Bowers (1957). These researchers found great discrepancies in findings of the studies using student gains criteria to evaluate teacher effectiveness. This is not surprising since it is difficult to measure pupil growth, and to determine precisely how much change can be attributed to a particular teacher.

Menne (1972) states that the reason for these discrepancies is the fact that most of the gain on the part of students can be explained by input. He states:

Consider that if final grades from the preceding course in a sequence of courses or from a similar course are correlated with present "OUTPUT" or course grades, the correlation will typically be at least 0.70 and very often in the 0.80 to 0.90 range.

A correlation of 0.70 indicates that about 50 percent of the variance in the final scores can be explained by the situations that occurred before the particular teacher had a chance to influence the student. ---There may be a correlation of 0.80 between first and second semester English grades. In this case 64 percent of the second semester grade variance is explained or accounted for by the first English course grade and so there is only 36 percent of the variance left to be explained by current course grade unreliability, and possibly other factors. (Menne, 1972, p. 3)

Krasno (1972) specifies some of the other possible factors when he wrote:

Teachers are only one among many powerful influences affecting learning, and quite possibly a minor one. Research has

demonstrated that large percentages of variation in performance levels on standardized tests are attributable to out-of-school variables such as the pupil's socio-economic status and home environment. Additional quantities of variance can be ascribed to the effects and composition of the peer group or characteristics of the pupil's classmates. (Krasno, 1972, p. 2)

Krasno also warns of the limitations of various measurement techniques used in the assessment of pupil gain. Good achievement tests commonly used for this purpose yield a single score or a set of scores which are estimates of a particular ability or set of abilities. Such estimates are only approximations of an individual's true score or ability. The individual's actual ability or "true score" is obscured by many factors such as variance specific to the test being used, the physical circumstances under which the test is administered, and the individual's attitude during testing (Krasno, 1972, p. 3).

The recent heavily publicized work of Christopher Jencks of Harvard University's Center for Educational Policy Research seems appropriate at this point. Jencks et al. insists that effectiveness of schools depends almost entirely on factors totally beyond the school. Only nonschool factors such as genetics, environment, family background and what is seen on television are input indicators of student output in schools, and really nothing that the schools do make any difference (National School Public Relations Association, 1972, p. 13).

In summary, research has shown that there is considerable lack of confidence in the ability to measure teacher effectiveness by use of student-growth criteria.



## Rating Systems

Davis (1964, p. 41) notes that processes of making judgments about a teacher's performance and the forms on which they are recorded were once known as "rating" and "rating forms". Current terms now in use are usually "evaluation" and "evaluation forms". Rating scales have been and still are the most frequently used devices for assessing teacher behavior. The Educational Research Service reported in their circular on evaluating teacher performance that 88.1 percent of the schools reporting used evaluation procedures which base evaluation on a comparison of a teacher's performance against prescribed standards for all teachers (NEA, 1972, p. 6).

Musella (1970) notes that research in the area of rating systems has been quite extensive, but has not produced consistent findings, other than the lack of correspondence between ratings by supervisors, colleagues, students, and teacher-training specialists. He also states that research has not yielded results that can assist one in determining who should do the rating--superordinates, students, peers, or visiting personnel not identified as part of the immediate school setting. He states that:

One weakness evident in the use of formal rating forms is that regardless of the formal criteria accepted and used, one must rely on the rater's perceptual-cognitive view of the ratee, of the criteria, and of the relationship (similarity-difference) between the two. (Musella, 1970, p. 19)

Rosenshine (1970) noted after a review of research that rating scales are a useful source of information about a teacher's performance. He stated that:

Perhaps one advantage of rating systems is that an observer is able to consider clues from a variety of sources before he makes his judgment. Even though the low-inference correlates of "clarity" are presently unknown, ratings on variables referring to the clarity of the teacher's presentation were significantly related to student achievement in all studies in which such a variable was used (Belgard, Rosenshine, and Gage, 1968; Fortune, 1967; Fortune, Gage, and Shutes, 1966; Solomon, Bezdek, and Rosenberg, 1963; Wollen, 1966). The results on "clarity" are particularly robust because the investigators used student ratings, some used observer ratings, and the student ratings were given before the criterion test in some studies and after the test in others. (Rosenshine, 1970, p. 286)

Thorndike and Allen (1957), after noting limiting factors in the use of rating systems such as "generosity" and "halo error" on the part of raters, states that:

In spite of all their limitations, evaluations of persons through ratings will undoubtedly continue to be widely used for administrative evaluations in schools. (Thorndike and Allen, 1957, p. 366)

Thorndike and Allen also note that studies have repeatedly shown the between-raters reliability of the conventional rating procedures are low. They report that Seymonds (1931) summarized a number of studies and concluded that the correlation between the ratings of two independent raters on a conventional rating scale would be about 0.55. Thorndike and Allen feel that there is no good reason for this situation to have changed throughout the years.

They do note, however, that if it were possible to pool the ratings of a number of independent raters who know the teacher being rated equally well, reliability of the appraisal can be substantially increased. The authors note:

Studies have shown (Remmers et al., 1927) that pooled ratings function in the same way as lengthening a test, and that the

Spearman-Brown formula can legitimately be applied in estimating the reliability of pooled independent ratings. Thus, if the reliability of one rater is represented by a correlation of 0.55, we have the following estimates for the reliability of pooled ratings:

2 raters	0.71
3 raters	0.79
5 raters	0.86
10 raters	0.92

(Thorndike and Allen, 1957, p. 346)

### Improving the Effectiveness of Rating Systems

In view of the suggested limitations of rating systems, several authors have suggested methods that should be used to provide for the most accurate portrayal of the person being rated. Thorndike and Allen (1957) summarize their suggestions:

- (1) Appraisals be limited to those qualities which appear overtly in interpersonal relations.
  - (2) Qualities to be appraised should be analyzed into concrete and relatively specific aspects of behavior, and judgments be made of these behaviors.
  - (3) A rating form be developed that forces the rater to discriminate and/or that has controls for rater differences in judging standards.
  - (4) Raters be used who have had the most opportunity to observe the teacher in situations in which he would display the qualities to be rated.
  - (5) Raters be "sold" on the value of the ratings and trained in the use of the rating instrument.
  - (6) Independent ratings of several raters be pooled when there are several persons qualified to carry out ratings.
- (Thorndike and Allen, 1957, p. 367)

The Research Division of the National Education Association noted in a recent publication (NEA, 1972, p. 42) that a possible solution to the problem of too few raters being used to evaluate teachers would be the use of multiple evaluators. The authors recommend the use of opinions of other individuals and groups within the school to provide input in

the evaluation process. A committee of raters made up of superiors, peers, subordinates and students was recommended by the Research Division.

McNeil (1971) recommends that a team of supervisors and teachers be formed to evaluate a teacher's performance. Such a team, according to McNeil, should be required to meet with the teacher before and after the visitation of a teacher's classroom.

#### Development of Criteria

Remmers (1963) states that the content of rating scales is to some extent based upon the judgment of the originator as to what is relevant and important in teacher performance. He also notes that criteria for rating scales have been developed by three methods, these methods being rating scales based on a systematic conception of teaching, consensus of competent judges, and critical incidents.

Remmers (1963) reports that Simpson and Brown (1952) carried out a study of learning and teaching by means of a series of 12 rating scales in eight different colleges. The authors presented results for a total of 1,119 ratings of classes. The scales were as follows:

- Scale A. What is the motivational level on which learners are operating?
- Scale B. How are assignments handled?
- Scale C. What practice is given in guided problem identification?
- Scale D. What practice is given in guided problem selection?
- Scale E. What practice is given in guided problem solution?
- Scale F. What guided practice is given in trying out possible solutions to problems?
- Scale G. How are evaluative abilities developed?
- Scale H. What opportunities for guided practice of effective record keeping are provided the learner?

- Scale J. What opportunities for learning abilities connected with selecting appropriate resources are given when resources are at hand?
- Scale K. What opportunities are given for practice in democratic group discussion?
- Scale L. What guided practice in purposeful reading to identify, select, and solve problems is being given?

Simpson and Brown reported average ratings ranging from 2.7 (assignments) to 4.8 (motivation). They also reported the average level on each of the 12 scales to be rather low. (Remmers, 1963, p. 369-370)

Consensus of competent judges has been used to choose items for rating scales for many years. Remmers (1963) reports that:

In its early history, shortly after the turn of the century, such consultation of experts tended to yield a large number of trait names whose referents were assumed to exist as psychological entities in teachers and were hypothesized to be related to teacher effectiveness. Such a rationale is still implicit in many rating scales having to do with teacher effectiveness, although empirical methods of refinement, such as scaling and factor analysis, now provide tools not dreamt of at the turn of the century. (Remmers, 1963, p. 370)

Ryans (1960) used the "consensus of competent judges" approach to begin his extensive research on the characteristics of teachers. He began his study with the rationale: Find the traits and behaviors that yield significant relationships with teacher effectiveness as defined by the consensus of competent judges. The Classroom Behavior Record was the result of this phase of the study.

Flanagan (1949, 1951) used a systematic empirical approach related to the use of expert consensus which he called the "critical incidents" technique. Getzels and Jackson (1963) report that:

Flanagan's technique involves asking qualified observers or judges for reports of incidents (behaviors) that were (1) negatively effective or led to failure, and positively effective or leading to unusual success. (2) For teacher evaluation, for

example, one would ask students, parents, peers, and administrators for such incidents. After assembling a large number of such incidents and noting frequently mentioned behaviors in either the failure or success list, one may infer the psychological traits probably involved and proceed to use these inferentially abstracted traits as a basis for constructing the relevant items for a rating scale. (Getzels and Jackson, 1963, p. 566)

Ryans (1960) used the "critical incident" method in developing the Classroom Behavior Record. Ryans notes that:

The final phase of the critical behaviors study, involving sorting the record cards and classifying the reported incidents into appropriate categories, was carried out in the following five steps: (1) identification of the salient features in each incident of teacher behavior reported; (2) derivation of a rough classification scheme for the reported incidents to facilitate ordering of the data; (3) classification of each critical behavior into one of these categories; (4) derivation of a generalized descriptive statement covering each category, and (5) final refinement of the classification scheme and preparation of generalized descriptions of the principal classes of teacher behaviors. (Ryans, 1960, p. 81)

More than 500 critical incidents reported by participants were reduced to a list of 25 generalized behaviors which were then incorporated into the Classroom Observation Record.

Factor analyses of data from the above instrument revealed three patterns of elementary and secondary teacher behavior:

Teacher Characteristics Study Pattern X - warm, understanding, friendly vs. aloof, egocentric, restricted teacher behavior.

Teacher Characteristics Study Pattern Y - responsible, businesslike, systematic vs. evading, unplanned, slipshod teacher behavior.

Teacher Characteristics Study Pattern Z - stimulating, imaginative, surgent vs. dull, routine teacher behavior. (Ryans, 1960, p. 382)

Similar procedures were used by Flanders (1960) when he developed a system of interaction analysis. His system is an observational

technique which can be used to classify the verbal behavior of teachers and pupils. Using this system, verbal behavior in the classroom is classified into ten category designations. They are:

(1) accepting pupil feeling, (2) praising and encouraging, (3) accepting pupil ideas, and (4) asking questions, (5) giving information, (6) giving directions, (7) criticizing, (8) pupil response to the teacher, (9) pupil initiated task. Category 10 indicates silence or confusion. (Amidon and Flanders, 1963, p. 56)

#### Selection of Discriminating Items

Spencer and Aleamoni (1969) developed the Illinois Course Evaluation Questionnaire, which was designed to measure the effectiveness of instruction by soliciting student opinions, by culling from the extensive literature, on the subject of teacher ratings, 150 items based on their face validity. They selected additional items through the work of a faculty committee at Pennsylvania State University which was investigating effective instruction.

Spencer and Aleamoni (1969, p. 5) note that:

As a result (of the above work), a pool of over 1,000 items was obtained and then administered to 1,200 undergraduate students at the Pennsylvania State in Fall 1962. The response scale for these items consisted of five points (strongly agree, agree, uncertain, disagree, strongly disagree). In the resulting analysis many items were deleted because they appeared to be measuring much the same thing as other items, and some were dropped because they did not differentiate among instructors, thereby leaving a total of 450 items. The 450 items were then administered to another sample and reanalyzed, yielding a third reduced form containing 100 items.

These 100 items were then further reduced by use of factor analysis. This reduction resulted in a final version of the Illinois Course Evaluation Questionnaire which contains only 50 items.

Menne and Tolsma (1971) have stressed the importance of item discrimination for instruments used to measure characteristics of individuals by means of grouping responses. They note that there are varying degrees of appropriateness connected with procedures which can be used for selection of items. They argue that between-group and within-group variances are important characteristics of a group measuring instrument. Whether an item of a group measuring instrument is discriminating or not can be inferred from the pattern of between-group and within-group variances. In order for an item to be discriminating the within-group variance must be low in relation to the between-group variance.

Menne and Tolsma (1971) state that:

The percentage of the total sum of squares (SS) due to "between groups" (i.e., between teachers) is an appropriate index of item discrimination. The between and the within-groups SS add to the total SS. Characteristics of one institution, classroom or teacher can be distinguished from those of another, provided the consensual responses made by the members of the respective groups are different. In other words, the items selected must be capable of (a) eliciting similar responses from members of the same group, and (b) eliciting different responses from members belonging to a different group when the groups in question have, in fact, been exposed to or have perceived dissimilar conditions. Therefore, whether or not an item contained in an instrument designed to measure group responses is a discriminating one can be inferred from the pattern of between-group and within-group variances. For discrimination, the within-group variance should be low in relationship to the between-group variance. (Menne and Tolsma, 1971, p. 5)

Menne (1972) notes that measures of teacher performance are frequently obtained by using administrators, peer teachers, and students as raters. He argues that no matter who does the rating, three conditions must be met. They are a) there must be more than one rater; b) the



raters must closely agree in their ratings; and c) the ratings must indicate differences between teachers.

In discussing the second condition, Menne states:

The second condition means, for example, that if all raters indicated that a given teacher rated a score of four out of a possible five points on some performance aspect, such as "well prepared for class," then this consistency of raters indicates something may have been measured. On the other hand, if the ratings of the same teacher varied from one to five, then nothing has been measured--the average rating in such a situation would be a misleading statistic. Therefore, there must be consistency or low variance between raters. (Menne, 1972, p. 5)

In discussing the third condition Menne notes that ratings must indicate differences between teachers. Teacher ratings must be consistent and also must indicate differences between the performance of different teachers.

#### Guiding Principles for Evaluation

A number of writers have outlined guiding principles which will lead to successful teacher evaluation systems. Brimm (1968) listed the following:

1. The basic reason for evaluation should be for the improvement of the instructional program.
2. Development of the program should start at the policy-making level, and the board of education must establish the policy on a realistic basis with an understanding of both the strengths and the limitations of such a program.
3. Teachers should be consulted at an early stage of the planning and should have a voice in the development of the criteria and rationale.
4. The criteria for evaluation should be based upon the wide range of research that is currently available in the field of evaluation of teacher behavior.
5. Conferences between the evaluators and teachers are an essential part of the program.
6. Evaluations should be based on the findings of two or more evaluators. (Brimm, 1968, p. 13)

Brighton (1965) listed key elements to the successful teacher evaluation as follows:

1. Involve teachers in the evaluation program
2. Define educational goals and teaching
3. Schedule the evaluation cycle
4. Develop job descriptions
5. Provide time and training for evaluators
6. Evaluate on the basis of classroom performance  
(Brighton, 1965, p. 27)

Ryans (1957, p. 43) points out that criteria based on an individual's intuitive judgment are built on the weakest foundations; consequently, criteria decisions would be improved if based on the pooled judgments of experts. Such a jury may include combinations of teachers, principals, supervisors, students, and parents.

After reviewing the recommendations found in the literature addressed to improving teacher evaluation systems; Voegel (1970) recapitulated the recommendations as follows:

1. The primary goal for evaluating teachers should be an improvement of instruction.
2. Each school organization should establish educational objectives by which teaching can be evaluated.
3. The procedures for teacher evaluation should be described by a formal plan, established and periodically revised through the cooperative efforts of all the professional staff.
4. The development of role definitions for personnel will facilitate evaluation.
5. Evaluators should be trained to evaluate and their performance assessed.
6. The evaluative process should include several classroom observations to be followed by teacher-evaluator conferences.
7. The teacher should receive a written copy of an evaluation report so there is an accurate and open communication of any necessary changes in his teaching.
8. Evaluative procedures should include provision for the resolution of differences and the alleviation of tension and anxiety. (Voegel, 1970, p. 16)

### Recommended Evaluation Procedures

Bolton, after surveying evaluation systems in business and industry, government agencies, and some of the larger school systems in this country, concluded in a U.S. Office of Education Communication (U.S.O.E., PREP 21-F, 1971, p. 4) that the steps in the evaluation process includes the following:<sup>1</sup>

1. Goal setting conferences
2. Observation and information collection
3. Post-observation conferences, communication
4. Decision making
5. Assessment of the evaluation process

McNeil (1971) recommends a similar framework for the organization of the evaluation process. He suggests that a four phase cycle be used. The phases being: 1) pre-observational conference, 2) observation, 3) analysis and strategy conference, and 4) post-observational conference.

#### Pre-observational conference

McNeil (1971) recommends that a pre-observational conference between the teacher to be observed and those who will observe the classroom occur at least one day in advance of the scheduled visitation. The chief purpose of the conference is to provide a means by which all the observers and the teacher may agree on the instructional intents of the teacher and what learners will be able to do after instruction that they could not do before. McNeil (1971, p. 52-53) points out that:

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<sup>1</sup>Dale L. Bolton prepared an interpretive study of teacher evaluation for the U.S. Office of Education. The study, referred to as PREP Kit No. 21, is a collection of reports. The kit is available from ERIC Document Reproduction Service, Bethesda, Maryland. Future reference to these works will be limited to PREP No. 21 and the appropriate letter which specifies a particular report within the collection.

When the purpose of supervision is to improve instruction and not simply to judge the competency of a teacher, the observers should define at the conference their forthcoming role as a fellow problem-solver, not rater, during observation analysis sessions.

Bolton notes (PREP Kit No. 21, 1971) that it is a common practice in industry for the management to hold an interview with the new employee at the end of the first six months of employment. During the interview the supervisor and employee work together to set goals for the following year. Bolton notes that this type of activity helps develop a plan for further evaluation directed at determining how well the individual has reached the goals set at the conference, and also provides a means by which the evaluator can help establish a training program for the individual in order to assist him in reaching the established goals. Bolton notes that a similar practice of holding a goal setting conference prior to classroom observation would provide similar benefits in education.

### Observation

Researchers and evaluation experts have focused on several problems related to the observations of teachers and the collection of information. As noted earlier in this review, considerable attention has been paid to who should be involved in the observation of teachers. Other problems which have been studied include: which teachers should be observed, the number of observations per school, length of observations, and how should evaluators be trained.

Bolton, (PREP Kit No. 21, 1971) noting that some teacher evaluation systems do not call for the evaluation of all teachers annually, states that it becomes very difficult to justify such systems if the primary

purpose of teacher evaluation is to assist teachers in the improvement of their instruction. He states:

Consider an analogy to a baseball team. It is inconceivable that any major league team would discontinue observing the production and actions of a given player after he had been on the team for three or five years. This raises the question of why batting coaches still watch batters. It seems reasonable to conclude that they watch batters to determine whether they are still hitting the ball, under what conditions they are hitting the ball, and whether there appear to be any flaws which hinder improved hitting. (PREP No. 21-D, p. 4)

Bolton recommends that several observations be carefully spaced over the school year so that the best appraisal results might occur. These observations should be at different times of the day and during varying types of instruction.

#### Training of evaluators

Brighton (1965) notes that, in order for teacher evaluation systems to be successful, evaluators must receive specialized training before and during the evaluation process. He recommends the following as means for providing this training:

1. Call in specialists and consultants from time to time to participate in conferences, in-service workshops, and other planned experiences, and to counsel those who will be conducting the teacher evaluations.
2. Take advantage of any opportunities for study, reading, and participation in conferences and special classes at colleges and universities.
3. Make sure that whoever is assigned to conduct the evaluations has a schedule that allows sufficient time to do a thorough, unhurried job.

Bolton, (PREP Kit No. 21, 1971) noting that even the best principals and supervisors may need to be trained to avoid allowing their personal biases and prejudices to affect the accuracy of observations,

calls for training programs for evaluators. Procedures for training evaluators recommended by Bolton include the following:

1. Elective inservice courses
2. University courses
3. Group meetings devoted to evaluation
4. General explanations given at regular administrative meetings
5. Workshops or clinics lasting from one to three days (including assistance from outside consultants, practice, discussions, and the use of multimedia presentations.)
6. Written documents or manuals
7. Individual consultations (PREP No. 21-I, p. 4)

An example of a formal training experience for evaluators would be a three-day workshop that this writer attended at Grinnell, Iowa, on November seventh through ninth, 1972. This workshop was held to train observers in the use of the Indicators of Quality evaluation instrument developed by Martin N. Olson and William S. Vincent at Columbia University. During the workshop participants became familiar with the orientation manual and observer instrument used with this method of evaluation. Lectures on procedures used in the Indicators of Quality System were presented by consultants. Selected films were viewed showing teachers in various classroom situations. Following the films, trainees were asked to complete observer checklists which were then discussed by consultants. After the workshop participants had become informed on the use of the Indicators of Quality materials and had rated the teachers shown on the training films, they were divided into groups of three. These groups were then scheduled to visit classroom teachers in the Grinnell School District. Following each observation, team members met to compare individual check lists. A total of six classrooms were visited by each participant. A final film was then viewed

by those taking the training. Each trainee evaluated the teacher shown on the film. Their final checklists were then evaluated by the consultants to determine the validity of each participant's evaluation.

#### Post-observation conference

Researchers agree that clear and precise communication is essential following the observation phase of evaluation if the purposes for teacher evaluations are to be accomplished. They also agree that every classroom observation should be followed by a discussion between the teacher and the cooperating evaluator(s), and that this conference should be held as soon after the observation as possible.

Brighton (1965, p. 46) notes that:

During the post observation conference, the evaluator and the teacher should review together the notations made by the evaluator and entered on the evaluation form (instrument). Together they should discuss what appear to be the strong and weak aspects of the teacher's performance along with definite suggestions for possible improvements.

Redfern (1972, p. 14-15), in commenting on the conference phase of evaluation states that:

The evaluation conference is exceedingly important. It is the occasion for the persons most intimately involved in the process to discuss the outcome of their efforts to achieve the objectives (of the teacher). A very important responsibility is placed upon the evaluator to help the teacher view evaluation as a constructive rather than a negative process.

Redfern also notes that the post-observation conference will yield ideas which will lead to follow-up action by the teacher. He also notes that a tentative plan for the next cycle of evaluation should be made during the conference.

Bolton (PREP No. 21-H, 1971, p. 2) notes that research on the

use of post-observation conferences indicates the following:

1. Criticism has a negative effect on employees; it tends to build defensiveness.
2. Praise has very little effect on future productivity.
3. Mutual goal-setting for the future improves performance.
4. Assistance and coaching effect better results when it is done daily rather than once yearly.
5. Teachers accept decisions more readily if the focus is on improving performance and the situation.
6. The number of improvements that can be accomplished at any one time is limited; therefore, one should choose a few and focus on them.

Bolton (PREP No. 21-H, 1971, p. 3) recommends that the following topics and activities be included in the post-observation conference:

1. Purpose of the interview
2. Description of favorable information (feedback should be honest rather than effusive praise)
3. Discussion of weak aspects of performance (constructive criticism must be given in friendly cooperative spirit)
4. Asking for reactions
5. Responding, discussing (help the teacher to know how well he is doing and what is expected)
6. Considering the appropriate action with teacher
7. Determining what additional information is needed, when it will be sought
8. Planning the next steps
9. Concluding the interview.



## METHODOLOGY

The purpose of this chapter is to outline and explain the procedures used in the development of a model teacher performance evaluation system which includes the use of multiple appraisers. Information is given concerning the school system involved in the development of the model system, formulation of procedures by joint efforts of the district's advisory committee and the Iowa State University consultants, the instruments used, collection of special data, and the statistical techniques used.

The primary purpose of this project was the development of a model for developing a teacher performance evaluation system utilizing a multiple-appraiser approach. In a serendipitous combination of circumstance this researcher was seeking a district or districts to use for field testing in the validity and variability stages when the Naperville, Illinois, schools asked professor Richard P. Manatt for help in developing their own teacher performance evaluation system. Naperville Community District 203 was quickly selected as the school in which the model would be developed and field tested. A pilot test of the validity portion of the study was conducted in the Grinnell-Newburg Community Schools, Grinnell, Iowa.

## The School

The data used in the development of a model for developing a performance evaluation system were collected in Naperville Community District 203, Naperville, Illinois. District 203 is a kindergarten

through twelfth grade public school district located in the Chicago area. The district contains 28 square miles, has a staff of 500 certified personnel and an approximate enrollment of 9,200 students. There are seven elementary schools having grades kindergarten through five, three junior high schools having grades six through eight, one high school having only grade nine, and one high school having grades ten through twelve. Naperville is one of the fastest growing suburbs in the nation.

Naperville Community School District 203 began a study of teacher evaluation in June 1972 with the appointment of a task force. Evaluation committee members were: John F. Fields, Superintendent of Schools, District 203; Harvey Berghuis, Teacher, Naperville Central High School; Larry Solberg, Teacher, Naperville Central High School; Charles Mattka, Principal, Naperville Central High School; Dick Pope, Teacher, Naperville North High School; DeVerne Coleman, Principal, Naperville North High School; Joan Carter, Teacher, Jefferson Junior High School; Sally Pentecost, Teacher, Washington Junior High School; Don Bergendahl, Principal, Lincoln Junior High School; Janet Case, Teacher, Prairie Elementary School; Irene Rahder, Teacher, Elmwood Elementary School; Don Barnickle, Principal, Elmwood Elementary School; James Hickey, Principal, Naper Elementary School; Madge Durham, Teacher, Lincoln Junior High School; Rie Forste, Teacher, Elmwood Elementary School; Jo Ann S. Canniff, Teacher, North High School; Bud Stromburg, Teacher, Central High School.

Administrative personnel were appointed to the committee by the

central office and teacher members were assigned by the Naperville Teacher's Association. The committee began its study of teacher evaluation with a workshop held on July 18 and 19, 1972. An Iowa State University consulting team, headed by Richard P. Manatt, assisted the committee members in their study of teacher evaluation. The workshop program included a study of the state of the art in teacher evaluation which included a review of the literature in the field, a study of the use of multiple evaluators (including peer teachers, students, supervisors and administrators), and a look at motivation through evaluation (such as the recent General Electric studies). Additional time was spent in a study of accountability and the current "accountability press."

Study at the workshop was culminated by the determination of procedural steps deemed necessary in the development of a teacher evaluation system. They were:

- 1) Determine future status of evaluation committee and its responsibilities.
- 2) Develop guidelines for implementation of evaluation instruments.
- 3) Develop models for evaluation teams.
- 4) Develop specific job descriptions.
- 5) Develop evaluation instrument based on philosophy and characteristics developed in workshop.
- 6) Determine method to be used in implementing the evaluation instrument.
- 7) Consider nonteaching personnel.
- 8) Develop teacher feedback and involvement in the development

of the evaluation instrument.

During the workshop it became apparent that the district (especially the board of education) desired a research project that would lead to the development of a teacher performance evaluation instrument that was valid, meaningful, reliable and discriminating. This desire provided the opportunity for development of this dissertation. The Iowa State consulting team and the Naperville administrative team, therefore, developed a schedule that would lead to the development of such a system.

Following the workshop the teachers were provided materials that were to be used in three discussion groups during the next two weeks. The groups used a modified Delphi technique (Weaver, 1971) which involved three discussion groups working separately and then coming together to jointly arrive at one commonly acceptable solution to each of the outlined problems. Topics included in the discussion were:

- 1) What sorts of subcommittees will be needed in each building?
- 2) Who should be responsible for writing evaluation instruments?
- 3) What sorts of observations should be planned?
- 4) How should peer evaluation be structured?
- 5) How shall we provide for input description by teachers?

#### Developmental Procedures

The discussion group phase of the study led to development of a evaluation philosophy and a set of premises toward which the evaluation system should be directed. Part of the Iowa State University consulting team met with the study committee on July 27, 1972. At that meeting

the committee, with the aid of the consultants, formalized the philosophy and developed the premises into seven subheadings. These premises were then sent to the Iowa State consulting team. This researcher then searched the literature for teacher evaluation items considered to be valid and reliable which were generally in keeping with the philosophic premises (of evaluation) chosen by the steering committee (see Appendix A). A cross section of items were selected from a number of sources in order to employ the mass authorship technique to avoid (Remmers, 1963) the contention that the content of rating scales are to some extent based upon the judgment of the originator as to what is relevant and important in teacher performance. Selected items were linked, by a process of intuitive factor analysis, to one of the seven premises developed by the Naperville committee. A total of 360 items were selected for use in an instrument to be used to determine the validity and usability of each item. A judgment panel of 12 teachers, seven administrators, and six students were selected in the Naperville district to rate each item on two scales. First, the panel was asked to rate each item on a five point "appropriateness scale" which ranged from the item has little appropriateness in the measurement of a teacher's performance to the item has great appropriateness in the measurement of a teacher's performance. Secondly, the panel members were asked to determine whether or not, as a peer teacher, an administrator, or student they would be able to accurately judge a teacher's performance on the item. Members of the panel were instructed to assume that they would be rating a peer teacher, a teacher on your staff, or

a teacher who teaches one of your classes. The five point code used on the second scale ranged from "strongly disagree that I would be able to judge a teacher's performance on the item" to "strongly agree that I would be able to judge a teacher's performance on the item."

Prior to the use of the validity instrument in the Naperville schools, a pilot study was conducted in the Grinnell-Newburg Community School System to determine the feasibility of the use of instrument. The Grinnell-Newburg Community School System is located in central Iowa at Grinnell. The district enrolls approximately 2,600 students and employs 134 certified personnel. A judgment panel of seven students, nine teachers, and six administrators completed the instrument without difficulty and an analysis of the data indicated that the instrument would provide necessary data.

The validity instruments were then sent to Naperville on October 27, 1972. The judgment panel completed their analysis of the 360 items in early November. The data were then analyzed by computer and the items were separated into groups corresponding to the seven predetermined categories or premises. Each of the seven lists were placed in rank order in terms of validity and observability. Each list was then rationally reduced by this researcher following a December 13, 1972 meeting with the Naperville advisory team. At that meeting, Professor Manatt and the writer met with the committee to determine the best procedures to be used in the reduction process. A total of 139 items were left in the instrument. The consultants then added seven items--one each, which specifically referred to each of the seven premises. The

final list then totaled 146 items.

Next, a pilot test was conceptualized to involve evaluation of 31 elementary teachers, 15 junior high teachers, eight ninth grade teachers, and 15 senior high teachers in the Naperville Community District 203. Three peer teachers and one building principal rated five teachers at the following elementary buildings: Ralph E. Bebbe, Elmwood, Highlands, Mill Street, and Prairie. A like number of raters completed evaluations on three teachers at Ellsworth and Naper Elementary schools. Three peer teachers, one building principal, one assistant principal, and one classroom of students evaluated five teachers at Jefferson, Lincoln, and Washington Junior High Schools. Three administrators, three peer teachers, and one classroom of students evaluated eight teachers at North High School and fifteen teachers at Central High School.

The pilot study was conducted in order to determine which of the 146 items produced meaningful and reliable descriptions of teacher performance. An analysis was made of how students, peer teachers, and administrators responded to each item. Each item was then evaluated by analysis of variance to determine discrimination and variability. Teachers were not the focus of this step--items were. Seventy teachers were selected who had second period classes. Approximately 1,200 students in these classes, 200 peer teachers, and 20 administrators used the rating form to rate the selected teachers. Each rater was asked to think about the appropriate teacher and respond to the 146 descriptive items. Results of the pilot study were received by the Iowa State

University consultants during the week of January 29, 1973. By the use of discriminate analysis and analysis of variance, ineffective items were screened out. Items were retained that showed consistency or low variance between raters and indicated differences between teachers.

The selected items were then rationally categorized according to the seven premises developed by the Naperville Committee. The Naperville advisory committee members were then asked to rank order the philosophic premises (written the summer before to provide guidelines for the evaluation system) in order that weightings could be given to the selected items. The Iowa State University team then determined the final format of the teacher evaluation instrument within these parameters and specifications.

Finally recommendations for use of the evaluation instrument were written. Recommendations included statements on such areas as who should do the rating, number of ratings per year, types of conferences to hold with teachers, and procedures to be followed with tenure and nontenure teachers. These recommendations were presented to the Naperville Committee in April, 1973. At that meeting, final revisions were made in the instrument following recommendations of the advisory and administrative teams. The final form of the instrument was then presented to the Naperville District 203 administrative team and board of education on May 14, 1973.



## Statistical Methods

Statistical methods used in this study were related to the reduction and selection of items for use in the pilot test which involved 1276 raters appraising 69 Naperville teachers. Statistical procedures were also used to determine which items from the pilot instrument should be used in the recommended teacher performance evaluation form.

Procedures used to determine which of the items contained in Form 1 (appropriateness survey) should be retained for use in Form 2 (item discrimination survey) were as follows:

1. Selected items must have been rated by the judgment panel as having much appropriateness; and, therefore, have a rating of at least 100 total points.
2. Selected items must rank above the category mean.

These criteria were followed in the selection of items for categories one through five. It became necessary, however, to deviate slightly when items were selected for categories six and seven. Because of the small number of items in these categories, it became necessary to select some items which were both below the 100 point cut off limit and below the category mean. No item was selected, however, that the jury did not feel had some appropriateness.

Analysis of variance (AOV) was used to determine which of the 146 selected items used in Form 2 discriminated among teachers. The pattern of between-group and within-group variances was used to determine which items discriminated (Menne and Tolsma, 1971). To discriminate, a certain percentage of the total sum of squares must be due to between-group variance. Since the ratio of between to within-group mean squares,

under the usual analysis of variance assumptions, varies as the  $F$  statistic and is also influenced by the size of sample, it is more pragmatic to use the percentage of total sum of squares due to between-groups as an appropriate discrimination index. This percentage is independent of sample size and is, therefore, an advantageous procedure. Menne and Tolsma (1971) recommend that, as a minimum, 20 percent of the total sum of squares be due to between-groups. Twenty-two percent has been used as a minimum index of item discrimination for selection of items from the data secured from the ratings of 38 teachers by 935 junior and senior high students.

The rationale behind the use of 22 percent as a minimum percentage may be seen in Table 1. The writer arbitrarily used theoretic class sizes of 15 to determine the appropriate minimum percentage that might be used at the .01 level of significance to determine which items discriminated between two teachers.

Table 1. Analysis of variance for two groups with 15 subjects per group

Source	DF	SS	MS	F
Between groups	2-1 = 1	22%	22	$22/78/28 = 7.89^*$
Within groups	2(15-1) = 28	78%	$\frac{78}{28}$	
Total	29	100%		

\*The critical F value with 1 and 28 degrees of freedom at 1% level is 7.64.

This 22 percent figure is determined algebraically as follows:

<u>Source</u>	<u>DF</u>	<u>SS</u>	<u>MS</u>	<u>F</u>
Between groups	2-1 = 1	x	$\frac{x}{100-x/28}$	$\frac{7.64}{1}$
Within groups	2(15-1) = 28	<u>100-x</u>		
Total	29	100		

Therefore:

$$\frac{x}{\frac{100-x}{28}} = 7.64$$

$$x = 7.64 \left( \frac{100-x}{28} \right)$$

$$28 x = (7.64) (100-x)$$

$$28 x = 764 - 7.64 x$$

$$28 x + 7.64 x = 764$$

$$(28 + 7.64) x = 764$$

$$35.64 x = 764$$

$$x = 21.44$$

$$100-x = 78.56$$

A between-group minimum percentage of the total sums of squares sufficient to discriminate, at the .01 level of significance, is 22 percent. This minimum situation assumes the item is to distinguish between two groups comprised of a minimum of 15 respondents per group. Many more groups and raters were used in this study. One can assume, therefore, that items selected using the 22 percent criterion will differentiate discriminating items.

During the pilot study, teachers were also rated by peers and administrators. Because of the limited number of peers and administrators used to rate individual teachers in the pilot study, a larger percentage of the total variance must be due to between-groups (*i.e.*, between teachers) if items are to be judged to be discriminating. A minimum of 60 percent of the total sums of squares was selected as a minimum criterion. The 60 percent minimum was deemed appropriate because it insures a sufficient between-group variance ratio to assure discrimination. This minimum percentage was established by using two theoretical groups comprised of five respondents per group. The AOV table for this situation is shown in Table 2.

Table 2. Analysis of variance for two groups with five subjects per group

Source	DF	SS	MS	F
Between groups	2-1 = 1	60%	60	$60/40/8 = 12^*$
Within groups	2(5-1) = 8	40%	$\frac{40}{8}$	
Total	9	100%		

\*The critical F value with 1 and 8 degrees of freedom at 1% level is 11.26.

A 60 percent sum of squares due to between-groups variance minimum, was therefore, used to select discriminating items from data obtained from peer and administrative ratings of selected teachers in the pilot study.

#### Development of the Final Rating Instrument and Instructions for Appraisors

After statistical analysis it was determined that 93 items were both appropriate and suitably discriminating for use in a teacher performance evaluation instrument. The following steps were taken to develop a rating scale and a plan for its use:

- 1) Appropriate and discriminating items were grouped according to the philosophic categories to which they were previously linked.
- 2) It was rationally determined that the Model Teacher Performance Evaluation Form would contain 30 items. The number of items assigned to each of the seven categories was in accordance to the priority level assigned each category by the Naperville Teacher Evaluation Committee. Accordingly six items were selected from Category I, five from Category II, five from Category III, four from Category IV, four from Category V, three from Category VI, and three from Category VII. This procedure had, in effect, the same results as assigning quality point (weightings) ratings to the items placed in the different categories.

- 3) An introduction and preamble was developed to explain to the rater how to use the instrument.
- 4) Some open-ended questions were provided on the back document check list in order to provide for special interests or needs of individual building principals or to further elaborate instructional feedback.
- 5) Instructions for using the instrument as a self-evaluation, as a peer evaluation, as a supervisor evaluation, and also for use as a student evaluation were developed.

## FINDINGS OF THE STUDY

The Naperville Teacher Evaluation Committee of 17 teachers and school administrators, aided by Iowa State personnel, developed seven premises regarding teacher performance evaluation. It was the consensus of the committee that the teacher performance evaluation instrument should contain items which measured performance related to the seven premises. The premises determined by the committee were as follows:

1. The teacher is committed - he recognizes that his primary goal is to assist in the growth of students.
2. The teacher likes people and has a positive, enthusiastic approach to the children he teaches.
3. The teacher is sensitive to the individual needs of children and tries to have empathy with them. The teacher respects the integrity of children even when their goals differ from his.
4. The teacher keeps the course objectives in sight. He is persistent in working towards these goals while retaining perspective of the total educational program.
5. The teacher helps students synthesize individual learning with the total learning experience in and out of school.
6. The teacher has a strong sense of direction, but recognizes the value of propriety.
7. The teacher recognizes the value of positive school-community

relations.

The committee was then asked in early March, 1973, to complete a Priority Survey in order to determine the relative importance that should be placed on each of the seven essential teacher characteristics listed above. The committee of ten teachers and seven administrators were instructed to use a total of 100 weighting points to assign weights to the seven premises. Weights assigned were as follows:

<u>Category</u>	<u>Mean Priority Score</u>	<u>Rank</u>
I "Committed" to assist in the growth of students	19.6	1
II Likes people - interpersonal regard	17.5	2
III Sensitive to individual needs	16.8	3
IV Keeps course objectives in sight	14.6	4
V Helps synthesize individual learning with total learning experience	12.3	5
VI Strong sense of direction, but has value of propriety	10.2	6
VII Positive school-community relations	9.0	7

A review of the Priority Survey shows that the committee assigned the most weight to the categories which reflect commitment to meeting the needs of students, and that weightings were progressively lower as categories began to refer to areas not directly related to students. Also of interest is the fact that the committee weightings ranked the categories in numerical order one through seven, with the highest ranks assigned to category one and the lowest to category seven.



## Form 1 (Appropriateness Survey)

A search of the literature and thorough contemplation of the district's premises resulted in the development and/or selection of 360 items considered to be valid and reliable by the authors of the selected instruments or by this researcher when original items were involved. By intuitive factor analysis the selected items were linked to the seven premises. The number selected for each category were as follows:

Category I	78 items
Category II	71 items
Category III	76 items
Category IV	55 items
Category V	33 items
Category VI	25 items
Category VII	20 items

The 360 items were then randomly placed into a validity and reliability survey instrument, Evaluation of Teacher Performance, Iowa State University, Ames, Iowa, Form 1, a copy of which is found in this report in Appendix B. Form 1 was administered to a judgment panel consisting of six students, twelve teachers, and seven administrators of the Naperville Community District 203 in October, 1972. Teachers and administrators serving on the panel were predominately from the evaluation committee while "good scholars" from the junior and senior high schools were picked by their principals to be the student members of the jury. Results of this survey were then tabulated and analyzed by

computer. After the analysis the items were again paired to one of the seven categories. Data were obtained on each item viz., total rating given each item by students, teachers, and administrators. Weighting of the Appropriateness Scale was as follows:

1. The item has no appropriateness in the measurement of a teacher's performance.
2. The item has little appropriateness in the measurement of a teacher's performance.
3. The item has some appropriateness in the measurement of a teacher's performance.
4. The item has much appropriateness in the measurement of a teacher's performance.
5. The item has great appropriateness in the measurement of a teacher's performance.

The members of the judgment panel were also asked to rate each item on whether one of his group would be able to judge a teacher on that item (that is as a student, peer teacher, or administrator). This scale was referred to as the Ability to Judge Scale. The weights given by each member of the panel on each item were as follows:

1. SD - Strongly disagree that I would be able to judge a teacher's performance on the item.
2. D - Disagree that I would be able to judge a teacher's performance on the item.

3. U - Undecided about my ability to judge a teacher's performance on the item.
4. A - Agree that I would be able to judge a teacher's performance on the item.
5. SA - Strongly Agree that I would be able to judge a teacher's performance on the item.

The number of raters used to judge each item and total possible points were as follows:

	Raters	Maximum points possible
Students	6	30
Teachers	12	60
Administrators	7	35
Total	25	125

Thus under the Appropriateness Scale, an item scoring above 24 by students, 48 by teachers, 28 by administrators, and 100 by total raters would have been judged to have much appropriateness in the measurement of a teacher's performance. The same scale values would also hold true under the Ability to Judge Scale.

Results of the analysis of the data secured from Form 1 are found in Appendix C; however, a summary of the data secured from each category and a sampling of items rated high and low in each of the seven categories are provided in Tables 3 through 9. A review of these tables indicates that the judgment panel tended to reject "ascriptive" type items while "accomplishment" type items were given high ratings.

Table 3. Items measuring category I - The teacher is committed - he recognizes that his primary goal is to assist in the growth of students

Number of items = 78		Appropriateness	Ratability		
<u>Range</u>		<u>Possible range</u>			
Students	6-30	10-29	15-28		
Teachers	12-60	30-56	33-52		
Administrators	<u>7-35</u>	<u>22-35</u>	<u>23-33</u>		
Total	25-125	64-117	74-106		
<u>Mean</u>					
Students		22.9	22.0		
Teachers		48.9	43.4		
Administrators		<u>29.6</u>	<u>7.7</u>		
Total		101.3	94.1		
<u>Standard deviation</u>					
Students		3.0	2.5		
Teachers		4.9	4.2		
Administrators		<u>2.7</u>	<u>2.1</u>		
Total		9.2	6.4		
<u>High scoring items</u>					
		Student	Teacher	Admin.	Total
1.	The teacher makes the classwork interesting--puts his material across in an interesting way.	App. 29	54	34	117
		Rat. 28	48	30	106
2.	The teacher is willing to help those slow to learn.	App. 29	56	31	116
		Rat. 23	46	30	99
3.	The teacher is constantly seeking to improve teaching skills.	App. 28	54	33	115
		Rat. 23	38	30	91

Table 3 (Continued)

Number of items = 78		Appropriateness		Ratability	
<u>Low scoring items</u>					
		Student	Teacher	Admin.	Total
76.	The teacher likes to have students pay close attention to what he or she says or does.	App. 21	37	22	80
		Rat. 21	42	26	89
77.	The teacher keeps room appropriately neat and interesting.	App. 17	37	24	78
		Rat. 25	47	27	99
78.	The teacher is poised and refined in actions--sits, stands, and moves about with good posture.	App. 10	30	24	64
		Rat. 18	46	27	91

Table 4. Items measuring category II - The teacher likes people and has a positive enthusiastic approach to the children he teaches

Number of items = 71		Appropriateness		Ratability	
<u>Range</u>	<u>Possible range</u>				
Students	6-30	18-28		17-27	
Teachers	12-60	31-57		33-53	
Administrators	<u>7-35</u>	<u>23-34</u>		<u>21-32</u>	
Total	25-125	75-116		76-108	
<u>Mean</u>					
Students		23.4		22.1	
Teachers		49.5		43.1	
Administrators		<u>29.3</u>		<u>27.3</u>	
Total		102.2		92.5	

Table 4 (Continued)

Number of items = 71	Appropriateness		Ratability		
<u>Standard deviation</u>					
Students	2.4		2.1		
Teachers	4.8		4.6		
Administrators	<u>2.4</u>		<u>2.3</u>		
Total	7.9		7.4		
<u>High scoring items</u>					
		Student	Teacher	Admin.	Total
1. The teacher accepts pupils' handicaps with understanding and sympathy, rather than with ridicule	App.	27	57	32	116
	Rat.	25	47	30	102
2. The teacher seems to be enthusiastic about teaching.	App.	27	57	30	114
	Rat.	27	53	28	108
3. The teacher supports and accepts each student as he is regardless of race, sex, nationality, family background or educational ability.	App.	28	54	31	113
	Rat.	22	39	26	87
<u>Low scoring items</u>					
		Student	Teacher	Admin.	Total
69. The teacher emphasizes adherence to standards of conduct that have been established in the classroom.	App.	20	41	26	87
	Rat.	21	37	29	87
70. The teacher encourages students to be friendly and kind to one another.	App.	21	42	23	88
	Rat.	20	40	21	81
71. The teacher treats students as "grown-ups".	App.	21	31	23	75

Items found in category III refer to a teacher's sensitivity to the individual needs of children. It is interesting to note that the judgment panel ranked the item referring to the physical needs of the student the lowest while ranking items which related to students' educational, social, and psychological needs were highly ranked.

Table 5. Items measuring category III - The teacher is sensitive to the individual needs of children and tries to have empathy with them. The teacher respects the integrity of children even when their goals differ from his

Number of items = 76		Appropriateness	Ratability
<u>Range</u>	<u>Possible range</u>		
Students	6-30	12-29	16-26
Teachers	12-60	27.58	33-52
Administrators	<u>7-35</u>	<u>20-34</u>	<u>23-34</u>
Total	25-125	60-118	75-106
<u>Mean</u>			
Students		23.87	22.1
Teachers		48.8	41.8
Administrators		<u>29.8</u>	<u>27.5</u>
Total		102.47	91.4
<u>Standard deviation</u>			
Students		2.65	2.1
Teachers		5.6	4.3
Administrators		<u>2.8</u>	<u>2.5</u>
Total		9.4	6.6

Table 5 (Continued)

Number of items = 76		Appropriateness		Ratability	
<u>High scoring items</u>					
		Student	Teacher	Admin.	Total
1.	The teacher makes his students feel free to ask questions, disagree, and express their ideas.	App. 29	56	33	118
		Rat. 25	48	28	101
2.	The teacher appears to be sensitive to students' feelings and problems; shows respect for the students.	App. 25	58	34	117
		Rat. 24	52	27	103
3.	The teacher provides opportunities for successful learning experiences for each pupil at his ability level.	App. 29	55	33	117
		Rat. 24	41	30	95
<u>Low scoring items</u>					
		Student	Teacher	Admin.	Total
74.	The teacher never deliberately forces own decisions on the class.	App. 25	35	23	83
		Rat. 23	35	23	81
75.	The teacher directs comments to individuals, not to group.	App. 20	27	26	73
		Rat. 24	36	26	86
76.	The teacher arranges for effective classroom heating, ventilation and lighting.	App. 12	28	20	60



Table 6. Items measuring category IV - The teacher keeps the course objectives in sight: he is persistent in working towards these goals while retaining perspective of the total educational program

Number of items = 55		Appropriateness	Ratability		
<hr/>					
<u>Range</u>	<u>Possible range</u>				
Students	6-30	10-27	16-25		
Teachers	12-60	25-57	34-53		
Administrators	<u>7-35</u>	<u>17-34</u>	<u>22-33</u>		
Total	25-125	61-112	78-108		
<u>Mean</u>					
Students		22.2	21.9		
Teachers		47.49	42.1		
Administrators		<u>29.6</u>	<u>28.5</u>		
Total		99.3	92.6		
<u>Standard deviation</u>					
Students		3.2	1.9		
Teachers		5.9	3.9		
Administrators		<u>2.9</u>	<u>2.4</u>		
Total		9.95	5.9		
<u>High scoring items</u>		Student	Teacher	Admin.	Total
1. The teacher encourages open-ended inquiry and discussion when consistent with the instructional goals of the class.	App.	25	54	33	112
	Rat.	22	44	31	97
2. The teacher makes it clear what is expected of students.	App.	23	57	31	111
	Rat.	23	48	26	97
3. The teacher adapts to situations which arise in class; is flexible.	App.	25	51	34	111
	Rat.	22	46	28	96

Table 6 (Continued)

Number of items = 55		Appropriateness		Ratability		
<u>Low scoring items</u>		Student	Teacher	Admin.	Total	
53.	The teacher spaces assignments evenly.	App.	18	38	24	80
		Rat.	23	40	24	87
54.	The teacher writes difficult words on the blackboard and explains them.	App.	10	37	17	64
		Rat.	19	42	26	87
55.	The teacher makes sure that students always know what is coming up next class period.	App.	13	25	23	61
		Rat.	22	37	23	82

Category V related to the teacher's responsibility to help students synthesize individual learning with the total learning experience in and out of school. As the results in Table 7 indicate, an item which referred to vocational information and careers ranked quite low. This is somewhat surprising with the current emphasis in this country on career education. The rating given this item might, however, reflect the fact that Naperville is a wealthy school district in which 75 percent of the students go on to higher education. Another item which is interesting is item 33--the teacher can talk intelligently on almost any topic. This item received a very low rating, reflecting the current consensus that a teacher cannot be expected to be an "all-knowing" individual.

Table 7. Items measuring category V - The teacher helps students synthesize individual learning with the total learning experience in and out of school

Number of items = 33		Appropriateness	Ratability		
<u>Range</u>		<u>Possible range</u>			
Students	6-30	15-27	18-25		
Teachers	12-60	32-59	30-46		
Administrators	<u>7-35</u>	<u>20-35</u>	<u>17-31</u>		
Total	25-125	68-115	70-99		
<u>Mean</u>					
Students		22.5	21.5		
Teachers		46.97	39.6		
Administrators		<u>28.8</u>	<u>26.3</u>		
Total		98.24	87.3		
<u>Standard deviation</u>					
Students		2.76	2.2		
Teachers		5.67	3.6		
Administrators		<u>3.2</u>	<u>3.3</u>		
Total		9.9	7.3		
<u>High scoring items</u>		Student	Teacher	Admin.	Total
1.	The teacher encourages critical thinking.	App. 24	59	32	115
		Rat. 21	43	29	93
2.	The teacher is teaching the students to develop independent study skills.	App. 26	53	33	112
		Rat. 20	41	29	90
3.	The teacher creates classroom conditions in which pupils develop initiative and assume a personal responsibility for learning.	App. 26	54	32	112
		Rat. 23	36	25	84

Table 7 (Continued)

Number of items = 33		Appropriateness		Ratability	
<u>Low scoring items</u>		Student	Teacher	Admin.	Total
31.	The teacher shows the relationship between his classroom program and the school curriculum	App. 17	38	28	83
		Rat. 18	38	27	83
32.	The teacher directs pupils to sources of information on vocational opportunities and careers.	App. 20	39	24	83
		Rat. 21	36	22	79
33.	The teacher can talk intelligently on almost any topic.	App. 16	32	20	68
		Rat. 18	35	17	70

Table 8. Items measuring category VI - The teacher has a strong sense of direction but recognizes the value of propriety

Number of items = 25		Appropriateness		Ratability	
<u>Range</u>	<u>Possible range</u>				
Students	6-30	15-24		13-22	
Teachers	12-60	39-54		33-54	
Administrators	<u>7-35</u>	<u>26-34</u>		<u>25-32</u>	
Total	25-125	86-112		77-101	
<u>Mean</u>					
Students		19.96		18.3	
Teachers		47.56		44.4	
Administrators		<u>29.3</u>		<u>28.6</u>	
Total		96.84		91.36	

Table 8 (Continued)

Number of items = 25		Appropriateness		Ratability	
<u>Standard deviation</u>					
Students		2.65		2.7	
Teachers		4.4		4.8	
Administrators		<u>2.01</u>		<u>2.0</u>	
Total		7.2		5.9	
<u>High scoring items</u>					
		Student	Teacher	Admin.	Total
1.	The teacher uses discretion in handling confidential information and difficult situations.	App. 24	54	34	112
		Rat. 21	47	30	98
2.	The teacher provides for an atmosphere of mutually shared respect among pupils and teachers.	App. 24	54	33	111
		Rat. 20	47	32	99
3.	The teacher demonstrates fairness and consistency in the handling of student problems.	App. 24	54	32	110
		Rat. 22	46	30	98
<u>Low scoring items</u>					
		Student	Teacher	Admin.	Total
23.	The teacher supports the school in words and deeds; exhibits confidence in his/her fellow teachers and the administration.	App. 19	40	28	87
		Rat. 22	40	28	90
24.	The teacher contributes to the honor and prestige of the profession by his personal conduct.	App. 18	41	28	87
		Rat. 17	35	26	78
25.	The teacher communicates effectively with the public as well as with the members of the teaching profession.	App. 19	39	28	86
		Rat. 16	33	28	77

Category VII refers to the teacher's recognition of the value of positive school-community relations. Items which related to the teacher responding to parental concerns, and notifying parents of student progress were highly ranked by the judgment panel. Such items as "the teacher encourages parental visitation" were given quite low ranking. It is interesting to note that the jury did not place much weight to an item which indicated the teacher's responsibility not to discuss other teachers and administrators with parents and students. Results of category VII are found in Table 9.

Table 9. Items measuring category VII - The teacher recognizes the value of positive school-community relations

Number of items = 20		Appropriateness	Ratability
<u>Range</u>	<u>Possible range</u>		
Students	6-30	14-25	14-23
Teachers	12-60	32-51	29-53
Administrators	<u>7-35</u>	<u>20-31</u>	<u>22-30</u>
Total	25-125	73-107	74-100
<u>Mean</u>			
Students		18.9	19.2
Teachers		42.2	41.7
Administrators		<u>27.1</u>	<u>26.3</u>
Total		88.2	87.2

Table 9 (Continued)

Number of items = 20	Appropriateness	Ratability			
<u>Standard deviation</u>					
Students	2.8	2.5			
Teachers	5.96	5.8			
Administrators	<u>2.7</u>	<u>2.0</u>			
Total	10.0	7.0			
<u>High scoring items</u>					
		Student	Teacher	Admin.	Total
1. The teacher responds promptly to parental concerns.	App. 25	51	31	107	
	Rat. 18	43	26	87	
2. The teacher lets parents know of problems relating to a student's progress and attendance.	App. 23	51	31	105	
	Rat. 19	40	28	87	
3. The teacher reports pupil progress to parents in an effective manner.	App. 22	49	30	101	
	Rat. 17	47	27	91	
<u>Low scoring items</u>					
		Student	Teacher	Admin.	Total
18. The teacher reveals to the public the significance of the school program through activities in classroom, school, and community projects.	App. 17	36	24	77	
	Rat. 22	38	25	85	
19. The teacher encourages parents to visit regular classes and special events.	App. 18	32	26	76	
	Rat. 21	29	24	74	
20. The teacher does <u>not</u> discuss teachers or administrators with students or parents.	App. 15	38	20	73	
	Rat. 14	38	24	76	

After the December 13, 1972, meeting with the Naperville Advisory Committee, the number of items used for Form 1 were reduced to 139. The number remaining in each category was rationally reduced by selecting those items which the validity panel selected as having both appropriateness and ratability. Twenty-six items remained in category I, 25 in category II, 24 in category III, 25 in category IV, 15 in category V, 12 in category VI, and 12 in category VII after the reduction process. At the suggestion of one of the evaluation committee members, one item was then added which specifically referred to each of the seven premises. Form 2 was then put into final form containing a total of 146 items. A copy of Form 2 is found in Appendix D.

#### Form 2 (Item Discrimination Survey)

Form 2 was then used to check on the discriminating power of each item by evaluating 69 instructors in Naperville Community District 203. Three peers and one administrator (for each subject) rated 26 elementary school teachers; three peers and two administrators rated five elementary teachers; three peers, two administrators, and one classroom of students (for each subject) rated 15 junior high school teachers; and three peers, three administrators and one classroom of students rated 23 senior high teachers. Thus 1277 appraisers considered and responded to 146 items.

When student appraisers were examined for the evaluation index only 38 teachers were involved because of using only secondary students. An analysis of variance was conducted on the ratings of 38 secondary



teachers by 935 students. This analysis indicated that a total of 133 items had a sum of squares between-groups variance equal to or exceeding 22 percent of the total sums of squares variance. Thus, the data indicated that 133 of 146 items from Form 2 discriminated between teachers. A copy of the computer print-out showing the complete results of this analysis is found in Appendix E. Items with discrimination values equal to or exceeding a value of 22 percent are shown in Table 10.

Table 10. Form 2 items with discrimination values equal to or exceeding a value of 22 percent. Analysis based on 935 subjects in 38 groups\*

Item number	Number of raters	Item discrimination	Item number	Number of raters	Item discrimination
1	933	23%	81	925	23%
2	926	23%	82	925	27%
3	929	26%	83	917	30%
4	932	22%	84	913	32%
6	928	33%	85	925	27%
7	926	25%	86	924	25%
8	930	24%	87	913	35%
11	927	30%	88	924	27%
12	917	33%	89	925	27%

\*See Appendix C for complete items.

Table 10 (Continued)

Item number	Number of raters	Item discrimination	Item number	Number of raters	Item discrimination
13	933	23%	90	903	41%
15	919	31%	91	922	30%
16	928	23%	92	912	35%
18	930	25%	93	925	31%
19	920	29%	94	920	32%
21	927	27%	95	923	31%
22	922	26%	96	918	34%
23	917	36%	97	907	39%
24	929	23%	98	918	28%
25	927	23%	99	921	32%
26	930	23%	100	920	29%
27	924	27%	101	918	28%
28	928	27%	102	924	25%
29	925	22%	103	915	35%
30	930	24%	104	920	29%
31	922	30%	105	910	35%
32	930	22%	106	904	44%
33	927	24%	107	914	34%
34	908	31%	108	910	36%
35	923	27%	109	909	38%
36	926	29%	110	915	34%

Table 10 (Continued)

Item number	Number of raters	Item discrimination	Item number	Number of raters	Item discrimination
37	930	27%	111	914	30%
38	927	30%	112	915	31%
40	915	31%	113	909	39%
42	926	23%	114	907	34%
44	928	23%	115	914	30%
45	927	31%	116	890	48%
46	925	28%	117	914	36%
47	924	30%	118	918	31%
48	910	41%	119	895	45%
49	925	24%	120	875	58%
50	926	23%	121	910	37%
51	928	29%	122	869	57%
52	930	23%	123	908	38%
53	923	27%	124	878	54%
54	922	26%	125	881	53%
55	929	24%	126	882	54%
56	913	32%	127	875	57%
57	921	25%	128	876	56%
59	931	22%	129	902	41%
60	927	22%	130	891	45%
61	915	40%	131	903	47%

Table 10 (Continued)

Item number	Number of raters	Item discrimination	Item number	Number of raters	Item discrimination
62	923	26%	132	877	51%
65	926	26%	133	893	48%
66	926	27%	134	901	43%
67	930	22%	135	903	35%
68	919	29%	136	887	52%
69	926	22%	137	898	46%
70	923	32%	138	885	50%
71	923	33%	139	895	33%
72	923	32%	140	905	41%
73	925	30%	141	900	46%
74	924	26%	142	900	46%
75	925	23%	143	888	55%
76	912	36%	144	874	55%
78	923	28%	145	874	56%
79	929	25%	146	865	54%
80	925	23%			

It is interesting to note that items showing the most discrimination were the last seven items 140-146. These items were developed to specifically relate to the seven premises formulated by the Naperville Teacher Evaluation Committee. Also of interest is the fact that the number of raters on these items, as well as other high scoring items, was less than found on items from the first four categories. This might indicate that students who did not feel that they knew enough about the particular teacher's attribute being considered left it blank. This act tended to increase the discrimination index on these items. This pilot experience indicates that perhaps raters should have been instructed to leave items blank that they were uncertain about.

Data obtained from peers and administrative ratings of 69 teachers were also processed by computer. A total of 341 peer teachers and administrators evaluated 69 elementary, junior and senior high teachers on the 146 items. An average of five peer teachers and administrators evaluated each of the selected teachers. The computer print-out showing the complete analysis of this data is found in Appendix F. This analysis indicated that 100 of 146 items had item discrimination equal to or exceeding 60 percent. Items which equal or exceed the 60 percent minimum level are listed in Table 11.

As with the ratings by students, the last seven items, which were developed to specifically relate to the seven premises formulated by the Naperville Evaluation Committee, discriminated when peer teachers and administrators rated teachers.

The items were placed into Form 2 by category with category I

item being 1-26, category II, 27-51, category III, 52-75, category IV, 76-100, category V, 101-115, category VI, 116-127, and category VII, 128-139. Item 140 was developed for category I, 141 for category II, 142 for category III, 143 for category IV, 144 for category V, 145 for category VI and 146 for category VII. An inspection of Tables 10 and 11 will show that more items discriminated in the last five categories which indicates that the measurement of the teacher characteristics linked with the first two categories may have been more difficult.

Table 11. Form 2 items with discrimination percentages equal to or exceeding 60 percent

Item number	Number of raters	Item discrimination	Item number	Number of raters	Item discrimination
1	335	64%	84	330	65%
3	330	65%	85	331	68%
9	333	65%	86	330	70%
10	334	61%	87	332	61%
12	328	70%	88	326	73%
13	332	67%	89	328	72%
15	332	64%	90	330	65%
17	326	72%	91	335	63%
18	332	61%	92	328	73%
19	335	60%	94	335	62%
20	332	68%	95	328	74%

Table 11 (Continued)

Item number	Number of raters	Item discrimination	Item number	Number of raters	Item discrimination
22	331	65%	96	325	76%
24	334	61%	97	326	72%
31	330	65%	98	327	72%
33	332	65%	99	333	62%
35	333	64%	100	329	72%
37	329	69%	101	323	77%
39	333	68%	102	334	62%
40	327	69%	103	332	63%
41	329	68%	104	329	66%
44	334	61%	105	328	66%
46	329	69%	106	323	73%
47	330	68%	107	325	67%
48	334	64%	108	329	63%
49	334	64%	109	324	70%
51	334	65%	110	329	63%
52	329	70%	111	323	70%
54	332	65%	112	329	63%
55	334	65%	113	327	72%
56	329	70%	114	321	73%
58	332	63%	115	327	69%
59	332	65%	120	338	63%

Table 11 (Continued)

Item number	Number of raters	Item discrimination	Item number	Number of raters	Item discrimination
60	331	67%	125	331	63%
61	336	63%	126	337	65%
62	322	73%	127	335	60%
63	331	69%	129	328	71%
65	324	70%	130	326	74%
68	328	73%	131	337	60%
69	327	69%	134	328	70%
71	327	71%	135	326	69%
74	327	72%	137	328	66%
75	335	64%	138	331	63%
76	326	68%	139	328	66%
77	333	64%	140	335	60%
78	333	63%	141	332	66%
79	329	68%	142	325	72%
80	330	69%	143	326	75%
81	333	66%	144	317	77%
82	333	61%	145	321	76%
83	329	66%	146	326	65%



## Rationale for Final Item Selection

In order to select items for use in a model teacher performance evaluation instrument, total weights were assigned to items which discriminated in both the student ratings and the peer-administrator ratings. Total weights were arrived at by adding the appropriateness score from the validity check, the discrimination score from student ratings, and the discrimination score from the peer teacher and administrative ratings. Discriminating items are listed by category in Table 12.

Table 12. Items listed by category which discriminated in both student ratings of teachers and peer teacher-administrator ratings of teachers (rank order by category, 94 total)

Item number	Approp. score	Student rating	Peer-admin. rating	Total
Category I				
140. The teacher is committed; he recognizes that his primary goal is to assist the growth of students.	--*	41	60	--
12. The teacher sustains pupil attention and response with use of activities appropriate to pupils' level.	110	33	70	213
3. The teacher gives the student experience with a wide range of problems and problem-solving techniques.	114	26	65	203

\*Items without appropriateness scores were created after the first survey at the suggestion of an evaluation committee member.

Table 12 (Continued)

Item number	Approp. score	Student rating	Peer-admin. rating	Total
Category I (Cont.)				
1. The teacher makes the class-work interesting--puts his material across in an interesting way.	117	23	64	204
13. The teacher stimulates pupils by use of interesting materials and techniques.	109	28	67	204
15. The teacher develops understanding of skills, objectives and appreciations associated with subject areas.	109	31	64	204
22. The teacher provides learning activities that are sufficiently varied so that all pupils participate in learning activities.	106	26	65	197
19. The teacher utilizes varied teaching strategies that stimulate student learning.	107	29	60	196
20. The teacher conducts clear, practical demonstrations and explanations.	107	21	68	196
18. The teacher makes the class-work exciting.	107	25	61	193
25. The teacher supervises students when and where necessary and appropriate.	105	23	61	189
Category II				
141. The teacher likes people and has a positive enthusiastic approach to the children he teaches.	--	46	66	--

Table 12 (Continued)

Item number	Approp. score	Student rating	Peer-admin. rating	Total
Category II (Cont.)				
48. The teacher sees that there is a feeling of goodwill in the classroom and that there is good rapport between the teacher and students.	107	41	64	212
40. The teacher encourages active participation and recognizes the instructional value of his/her own silence.	110	31	69	210
31. The teacher provides a climate in which both pupils and teacher openly and naturally accept and recognize errors of each other, rather than trying to cover, save face or show guilt.	112	30	65	207
37. The teacher encourages questions and discussions during class time.	111	27	69	207
47. The teacher has the ability to arouse interest in students.	108	30	68	206
46. The teacher conducts a classroom in which pupils actively participate in classroom discussions and activities.	108	28	69	205
33. The teacher uses positive, encouraging and supportive criticism, rather than discouragement, disapproval, blame or shame.	112	24	65	201
51. The teacher and pupils share in the enjoyment of humorous situations.	106	29	65	200

Table 12 (Continued)

Item number	Approp. score	Student rating	Peer-admin. rating	Total
Category II (Cont.)				
35. The teacher communicates with pupils at a level they can comprehend.	108	27	64	199
49. The teacher places value upon each student's contributions.	107	24	64	195
44. The teacher provides extra help and enrichment where needed.	109	23	61	193
Category III				
142. The teacher shows respect for students - even when their goals differ from his.	--	46	72	--
56. The teacher communicates realistic expectations of achievement for each pupil.	115	32	70	217
61. The teacher maintains an open, friendly rapport with students.	111	40	63	214
71. The teacher encourages expression of student viewpoint.	108	33	71	212
68. The teacher provides opportunities for developing creative thinking and problem solving approaches by students.	109	29	73	211
52. The teacher makes his students feel free to ask questions, disagree, and express their ideas.	118	23	70	211

Table 12 (Continued)

Item number		Approp. score	Student rating	Peer-admin. rating	Total
Category III (Cont.)					
62.	The teacher uses the results of classroom tests to improve classroom instruction.	111	26	73	210
54.	The teacher provides opportunities for successful learning experiences for each pupil at his ability level.	117	26	65	208
74.	The teacher stimulates students to do free and independent thinking.	108	26	72	206
65.	The teacher respects students who have ideas which are different from his or her own ideas.	110	26	70	206
55.	The teacher encourages students to think.	116	24	65	205
60.	The teacher provides opportunities for all pupils to experience success.	112	22	67	201
59.	The teacher is fair, impartial, and objective in treatment of pupils.	113	22	65	200
69.	The teacher inspires students to independent effort; creates desire for investigation.	109	22	69	200
70.	The teacher handles his/her own discipline problems, is firm but friendly, is consistent in policy, and self-confident in management of pupils.	108	32	59	199

Table 12 (Continued)

Item number	Approp. score	Student rating	Peer-admin. rating	Total
Category III (Cont.)				
75. The teacher is careful of the feelings of the students.	107	23	64	194
Category IV				
143. The teacher keeps the course objectives clearly in mind and works towards these goals while retaining perspective of the total educational program.	--	55	75	--
76. The teacher encourages open-ended inquiry and discussion when consistent with the instructional goals of the class.	112	36	68	216
97. The teacher gauges pupil understanding during lesson as a guide to pacing.	103	39	72	214
96. The teacher expresses himself clearly and interestingly on those occasions when he must communicate objectives, present information, or provide demonstrations.	103	34	76	213
92. The teacher provides for the development of understandings, skills and attitudes in accordance with the ability of the student.	104	35	73	212
90. The teacher demonstrates initiative and adaptability in adjusting predetermined plans to circumstances and individuals.	105	41	65	211

Table 12 (Continued)

Item number		Approp. score	Student rating	Peer-admin. rating	Total
Category IV (Cont.)					
95.	The teacher presents material in a well-organized fashion.	103	31	74	208
84.	The teacher has immediate and long-range objectives designed to fit the needs of students.	108	32	65	205
88.	The teacher explains assignments thoroughly.	105	27	73	205
89.	The teacher puts ideas across logically and orderly.	105	27	72	204
83.	The teacher plans learning activities so as to encourage pupil initiative and leadership.	108	30	66	204
79.	The teacher communicates effectively to the students what classroom procedures will be followed - pupils understand objectives toward which they are working.	110	25	68	203
100.	The teacher makes clear-cut assignments.	102	29	72	203
98.	The teacher provides opportunities for pupils to develop qualities of leadership and self-direction.	103	28	72	203
80.	The teacher makes realistic assignments and student appraisals.	110	23	69	202

Table 12 (Continued)

Item number		Approp. score	Student rating	Peer-admin. rating	Total
Category IV (Cont.)					
85.	The teacher is clear and and thorough in giving directions.	107	27	68	202
87.	The teacher sets educational objectives in terms of stu- dent's level of development.	106	35	61	202
86.	The teacher employs a variety of approaches in presenting new materials.	107	25	70	202
78.	The teacher adapts to situ- ations which arise in class; is flexible.	111	28	63	202
93.	The teacher is well-prepared for class.	104	31	65	200
81.	The teacher gives each stu- dent a feeling of importance as a person.	109	23	66	198
91.	The teacher makes effective use of materials, media, and supplies.	104	30	63	197
94.	The teacher has materials readily available to the students.	103	32	62	197
82.	The teacher has classroom procedures that are flexible within an overall plan.	108	27	61	196
99.	The teacher uses a variety of materials to supplement the basic program.	102	32	62	196



Table 12 (Continued)

Item number	Approp. score	Student rating	Peer-admin. rating	Total
Category V				
144. The teacher helps students synthesize individual learning with the total learning experience in and out of school.	--	55	77	--
106. The teacher leads or directs pupils to generalizations, application, and/or to see interrelatedness of knowledge - stimulates thought.	107	44	73	224
101. The teacher encourages critical thinking.	115	28	77	220
113. The teacher relates current lessons to previous learning.	103	39	72	214
109. The teacher provides opportunities in which students can exercise self-direction in terms of the instructional program.	105	38	70	213
105. The teacher utilizes current events and unexpected situations for their educative value when appropriate to subject area and/or to the needs of the students.	109	35	66	210
103. The teacher creates classroom conditions in which pupils develop initiative and assume a personal responsibility for learning.	112	35	63	210
107. The teacher carefully considers student suggestions when making decisions.	107	34	67	208

Table 12 (Continued)

Item number	Approp. score	Student rating	Peer-admin. rating	Total
Category V (Cont.)				
114. The teacher assists pupils in defining realistic goals.	100	34	73	207
110. The teacher presents problems to the students in a manner which stimulates pupils to contribute to the solution.	105	34	67	206
104. The teacher provides students with opportunities to make decisions.	110	29	67	206
111. The teacher assists pupils in self-evaluation by helping them to understand their own abilities and limitations.	105	30	70	205
108. The teacher teaches for concept development rather than for memorization of specific facts.	105	36	63	204
115. The teacher inspires students to seek more knowledge on the subject.	100	30	69	199
102. The teacher is teaching the students to develop independent study skills.	112	25	62	199
112. The teacher directs pupils in learning to use those materials from which they will continue to learn after leaving school.	104	31	63	198

Table 12 (Continued)

Item number		Approp. score	Student rating	Peer-admin. rating	Total
Category VI					
145.	The teacher has a strong sense of direction but recognizes the value of propriety.	--	56	76	--
120.	The teacher works well with other teachers and the administration.	104	58	63	225
126.	The teacher cooperates with fellow staff members and the school administration.	96	54	67	217
125.	The teacher strives for improvement through positive participation in professional growth activities.	99	53	63	215
127.	The teacher is a good team worker.	96	57	60	213
Category VII					
146.	The teacher actively works for positive school-community relations.	--	54	65	--
130.	The teacher reports pupil progress to parents in an effective manner.	101	45	74	220
129.	The teacher lets parents know of problems relating to a student's progress and attendance.	105	41	71	217
137.	The teacher utilizes available educational resources of the community in classroom procedures.	89	46	66	207

Table 12 (Continued)

Item number	Approp. score	Student rating	Peer-admin. rating	Total
Category VII (Cont.)				
134. The teacher strives to develop social and civic values in students.	94	43	70	207
131. The teacher displays positive attitude toward school and other teachers.	98	47	60	205
138. The teacher assumes responsibilities outside of the classroom as they relate to school.	89	50	63	202
135. The teacher points up the relationship of school learning and out-of-school life whenever possible.	93	35	69	197
139. The teacher utilizes field trips to draw on community resources if and when applicable.	88	33	66	187

It should be noted that the appropriateness score, the student rating discriminating percentage, and the peer-administrative rating discrimination percentage do not necessarily have additive quantities. Rather the total score was used only as a means to rank order and identify discriminating items in each category. Using the selection level of approximately 100 points on the appropriateness scale, 22 percent discrimination on student ratings, and 60 percent discrimination

on peer-administrative ratings, the total number of discriminating items found in category I was 11, 12 in category II, 16 in category III, 25 in category IV, 16 in category V, five in category VI, and nine in category VII. An analysis of discriminating items in category IV, the category with the largest number of discriminating items, indicates that many of the items are similar in nature and are probably measuring the same teacher traits. A total of 94 items (of the original 360) were found to be appropriate and to discriminate between teachers when used by students, peer teachers, and administrators to rate selected teachers.

#### Correlation Among Appraisals on Selected Items

A correlation study of appraisals by approximately 890 students, 100 administrators, and 115 peer teachers of 38 secondary teachers was conducted in order to determine similarities of ratings by these groups. The seven items written to represent the seven basic premises of desired teaching characteristics were used for the correlation analysis. Results indicated that there was a slight positive correlation among the appraisals given teachers by students, peer teachers, and administrators. Administrative appraisals correlated more closely to peer teacher appraisals than with student appraisals. The mean correlation between administrative and peer teacher appraisals on the last seven items was .296. The mean correlation between administrative and student appraisals on the same items was .223.

Data from these computations also indicated that administrators and

peer teachers tended to rank the evaluated teachers higher than did the student appraisers. Ratings by the administrators and peer teachers were higher on each of the seven items than were the student appraisals. The mean score (on a five point scale) given the 38 teachers on the seven items by the administrators was 4.16. Even though the scores given individual teachers by the administrators and peer teachers varied, the mean score of the peer teacher appraisal was 4.15 which was very nearly the same as the administrative mean appraisal. The student appraisal mean score, on the other hand, was noticeably lower at 3.74.

SUMMARY, CONCLUSIONS, LIMITATIONS, DISCUSSION,  
MODEL AND RECOMMENDATIONS

Summary

The purpose of this study was the development of a model teacher performance evaluation system using a multiple-appraiser approach. There were four stages in this development. First, the literature was searched to determine recommended methods, procedures and items that should be used in teacher evaluation. Second, a validity survey instrument containing 360 evaluative items, (some from the literature, some created) was developed after a search of the literature. Selected items were linked, by a process of intuitive factor analysis, to one of seven premises (a taxonomy of desired teacher performance characteristics) developed by a committee of teachers and administrators from Naperville (Illinois) Community School District 203. A judgment panel of 12 teachers, seven administrators, and six students, all from the Naperville school district, evaluated each item as to its appropriateness for evaluating a teacher's performance. The panel also evaluated each item to determine whether an evaluator could judge a teacher's performance on the item.

Prior to the analysis of the selected items by the Naperville judgment panel, a pilot study was conducted in the Grinnell-Newburg Community School District in Grinnell, Iowa. A judgment panel was formed in the Grinnell district in order to determine the feasibility of the use of the validity instrument. After an analysis of data from the pilot

study indicated that the instrument would indeed provide necessary data, the validity instrument was sent to the Naperville judgment panel. Resulting data were analyzed by the Iowa State University Computation Center, and those items considered by the panel to have both appropriateness and ratability were then selected for use in the third stage of the study. A total of 139 items were retained from the original instrument. In addition seven items, one referring specifically to each of the seven premises, were added making a total of 146 items that were used in the third phase of the study.

This phase of the study involved the determination of those items, from the 146 selected items, that would discriminate between teachers, but would provide for close agreement among raters. Nine hundred thirty-five students, using the selected items, rated 38 teachers (some teachers selected for the pilot survey had pupils too young to read the instrument). Data from these ratings were analyzed by computer to determine item discrimination. A total of 134 items were found to discriminate at or beyond the 22 percent level.<sup>1</sup> Ratings by 341 peer teachers and administrators, of 69 elementary and secondary teachers, were then analyzed. One hundred of the 146 items were found to be discriminating at or above the 60 percent level. Items which discriminated, at or beyond the set limits, when used by students, peers, and administrators were then rank ordered by totaling the discrimination scores and the appropriateness scores. A total of 94 items (of the original 360) were

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<sup>1</sup>Because of sub-sample sizes, the discrimination index of 22 percent for pupils and 60 percent for peer teachers and administrators would provide significant F values at the one percent level.



found to be appropriate and to discriminate between teachers when used by students, peer teachers, and administrators to rate selected teachers. Items which were judged to be appropriate and which showed discriminatory power were then grouped by category. The model teacher performance evaluation instrument was then developed from these items.

The fourth phase of the study involved the development of a model rating instrument, instructions for its use, recommended number of ratings per year, recommended number of appraisers, recommendations for training appraisers, and procedures to be followed to insure proper communication between appraisee and appraisers.

### Conclusions

A review of the literature on teacher evaluation reveals that the measurement of teacher effectiveness, as measured by productivity, is a very difficult task. It appears more pragmatic, therefore, to measure a teacher's performance. In order for a teacher performance evaluation system to be meaningful, items used in performance evaluation instruments must provide for close agreement among raters appraising the same teacher's performance, and must also indicate differences between teachers.

Past research has shown that an effective and successful teacher performance evaluation system must provide for a variety of inputs. Indications are that there must be more than one rater, and that the development of an evaluation system must be a cooperative enterprise involving pupils, teachers, and administrators. A salient fact seems

to be that if an evaluation system is to succeed there must be teacher involvement from the very beginning.

Considerable research has shown consistent results in regard to ratings of teachers obtained from four types of raters. The four types are self-ratings, ratings by peers, ratings by students, and ratings by administrators. Self-ratings have tended to be of little value because the strong teacher underrates himself while the weak teacher overrates himself. Peer ratings have not proven very successful because of the little opportunity provided the typical peer teacher to observe the work of the teacher being rated. Research has shown that administrative ratings often tend to be based on factors other than those related to instructional competence. Considerable research, on the other hand, consistently shows that student ratings of teachers are more valid and reliable.

The results of the present investigation have indicated that it is possible to develop a valid, appropriate, and meaningful teacher performance evaluation system which is specifically designed for use in a local district. The procedure of linking evaluation items to the school's evaluation philosophy and premises appears to be a pragmatic means of developing a system designed to meet local needs. After the teachers and administrators of a school district have established an evaluative philosophy, and premises to go with that philosophy, appropriate items may be selected for use in a pilot study. A judgment panel, made up of pupils, teachers, and administrators from the district, may then select appropriate items from a large pool of items, which have

been developed or selected from the literature. Social validity was established by a judgment panel which was asked to rate item appropriateness for use in evaluating a teacher's performance.

In this study, panel members were asked to rate each item as to ratability as well as appropriateness. Results from this step suggest that asking panel members to judge the ratability of each item was not necessary and not worth the effort. Ratability was more accurately determined by the pilot test which followed the use of a judgment panel. The final step was the determination of item discrimination via a pilot test. Selected Naperville teachers were rated by students, peer teachers, and administrators so that items could be selected which discriminated between teachers. An additional criterion was that items selected must also provide for close agreement among raters appraising the same teacher. The analysis of variance technique (Menne and Tolsma, 1971) used in this study appears to provide the necessary means of determining which items, of those selected as appropriate by the judgment panel, provide for discrimination between teachers and close agreement among raters.

Using the Menne adaptation of the F test, a theoretical limit of 22 percent of total means square due to between-groups variance appears to provide a valid cutting point for use when large groups of students rate teachers. From a practical standpoint, a much smaller group of administrators and peer teachers are available to rate teachers. Therefore, the theoretical limit of 60 percent variance due to between-groups means square, based on five raters, appears to provide a reasonable

criteria for selecting items which discriminate when used by a small group, say two administrators and three peer teachers, to rate teacher performance.

By using the stated limit of at least 22 percent discrimination with student ratings and 60 percent for peer-administrative ratings, items may be selected which discriminate when used by both groups. Items which discriminate when used by both groups may then be selected for use in developing a teacher performance evaluation instrument. Final selection, however, calls for consideration of the appropriateness scores received by each item when judged by the judgment panel.

Items, which received high appropriateness and discrimination ratings, may then be recategorized according to the locally developed evaluative premises. It is necessary at this point to determine how many items are to be included in the final instrument. A procedure of asking a committee of local teachers and administrators to establish a priority level for each evaluation premise or category appears to provide a reasonable and practical method of determining the ratio of items to be included from each category.

A pool of 360 items were originally selected or developed for use by the judgment panel. Of these 360 items, 139 were selected by the panel as being appropriate for use in rating a teacher's performance. The judgment panel tended to reject items which were "ascriptive" in nature while items which were "accomplishment" or "behavioral" in nature were retained. Said another way, it would appear from the results of this study, that teachers, students, and administrators are

not interested in how a teacher looks or dresses; rather, they are concerned about how the teacher relates with students and what actually takes place in the classroom, all other things being equal.

The literature indicates that students' ratings generally differ from peer ratings and administrators' ratings of the same teacher. To examine this phenomena in this dissertation a correlation study was made of the ratings on the 38 secondary teachers by students, peer teachers, and administrators. The coefficients obtained indicated that there was not close agreement among these three groups when the teachers were rated on the seven key items which were written to reflect the seven paramount teaching characteristics of the Naperville district. These results, along with results of earlier research, would indicate that there is not close agreement among peer teachers, students, and administrators when the same teacher is being evaluated. These results would support the use of multiple appraisers in the evaluation of a teacher's performance. The use of multiple appraisers would yield input from each group which would provide valuable information necessary to determine what changes are needed in a teacher's performance to improve instruction.

#### Limitations

The determination of teacher performance items which were appropriate and discriminating from the pool of selected items was limited to only one school district. No attempt was made to ascertain whether items determined to be appropriate and discriminating in the Naperville

district were also discriminating and appropriate in a cross section of school districts.

Because of the voluminous amount of literature on teacher evaluation, it was not possible to include in the validity survey, items from all available rating systems. The selection process was, therefore, limited to those items that the writer intuitively felt were representative of a cross section of items found in those teacher evaluation instruments which were reviewed.

Students used in both the judgment panel and in the evaluation of selected teachers for item discrimination were all in grade seven and above. No attempt was made to utilize the judgments of students in the elementary grades; by the same token, even some junior and senior high students may have lacked the maturity and insight for the task.

The teachers evaluated in the pilot testing for item discrimination analysis were limited to those teachers who were willing to be evaluated by administrators, peer teachers, and in the case of secondary teachers, students. Effort was made to select a cross section of teachers. However, some selected teachers were unwilling to participate. This necessitated the selection of alternate teachers. It is uncertain whether this had any influence on the selection of appropriate and discriminating items--i.e., did only "weak" teachers drop out?

The raters who were asked to use Form 2, to rate selected teachers, were not given specific instructions on what they were to do when they were in doubt about a particular item. For this reason, some raters did not respond to certain items. It might be appropriate in the future

recommend to raters that they should leave items blank about which they are uncertain.

A final limitation must be kept in mind. This investigation stopped short of an empirical testing of a total instrument; thus no norming experience or results are available.

### Discussion

A number of procedures used in this study were "situations specific" to Naperville District 203. Some procedures used are not, therefore, necessarily recommended for use in the development of teacher evaluation systems in other school districts. The development of the district's evaluation philosophy is a good case in point. Ten classroom teachers and seven administrators developed the district's evaluation philosophy and premises during the summer prior to this study. No attempt was made to reach consensus with the entire faculty on the evaluation philosophy and premises. This researcher strongly recommends that a consensus approach be used in the development of a school districts' evaluative philosophy. This approach would not only assure a philosophy which is truly representative of the entire faculty, but would also do much to assure cooperation from the faculty during the process of developing a teacher evaluation system.

As this writer investigated the topic of teacher evaluation over the past two years, one fact has become increasingly clear. If teacher evaluation systems are to meet the stated goal of improved classroom instruction, the system must in actuality be designed to assist the

individual teacher in the improvement of instruction. Most teacher evaluation systems, now in use, claim to be designed to improve instruction, but a careful evaluation of these systems reveal that there is usually only one rater and in many cases there is no pre-observation or post-observation conference. If the goal of improved teacher performance is to be reached, the school district must truly be committed to this task and not simply the rating of teachers in order to determine which are to be rehired, held in step, or released. Most teacher evaluation systems simply rate teachers based on limited administrative visitation and little is done to assist the teacher in the improvement of his performance.

A review of the literature points out the conspicuous fact that if teacher evaluations are to be valid and meaningful more than one rater must be involved. Moreover, teachers must be actively involved in the evaluation of instruction if the goal of improved teacher performance is to be reached.

During this study the writer experienced extreme resistance by some teachers to student evaluation. This is unfortunate because the bulk of empirical evidence indicates that student ratings are probably the best single indication of a teacher's true performance. The accuracy of student ratings probably is a function of the large number of raters involved when students rate their teacher. There seems little doubt that secondary student ratings of teachers can provide a valid and meaningful input in the evaluation process. This writer strongly urges that student ratings be included in teacher evaluation systems.



In practice, however, these ratings should be available only to the teacher unless the teacher requests otherwise.

In summation, a teacher evaluation system should be based on a school district's philosophy of improved teacher performance by evaluation. A teacher performance evaluation system which includes self-evaluation, peer-evaluation, student rating of their teachers, and administrative evaluation would provide for the necessary essentials of a viable system: teacher involvement, multiple raters and open communication between raters and the teacher.

## A Model Teacher Performance Instrument

### Instructions of students

You are requested by your instructor to respond to each of the following statements or questions in order to provide information which will help him improve his teaching.

### Instructions for peer teachers and administrators

Please evaluate the instructor's performance by responding to each of the following statements or questions. Your analysis will provide valuable information which will assist the instructor in the improvement of his teaching.

### General instructions

- 1) Please indicate the name of the instructor, course name, and section number on the answer sheet.
- 2) Students - do not enter your name.
- 3) Mark only one item response per item.
- 4) Use a #2 pencil.

NOTE: Please use the back of the answer sheet to write any additional comments which you might wish to make and will assist the instructor in the improvement of instruction.

## Evaluation of Teacher Performance Report

FOR EACH QUESTION, PLEASE MARK THE NUMBER ON YOUR ANSWER SHEET WHICH MOST ACCURATELY DESCRIBES YOUR JUDGMENT OF THE DESIGNATED TEACHER'S PERFORMANCE ON THE ITEM BEING RATED.

EXPLANATION OF SCALE

Never or strongly disagree	1
Seldom or disagree	2
Sometimes or neither agree or disagree	3
Often or agree	4
Always or strongly agree	5

## EXAMPLE:

1. The teacher likes and understands students 1 2 3 4 5

PLEASE NOTE THAT THE NUMBERS RUN CONSECUTIVELY ACROSS THE ANSWER SHEET RATHER THAN UP AND DOWN THE PAGE.

## Evaluation of Teacher Performance Report:

- |  |   |   |   |   |   |
|--|---|---|---|---|---|
| 1. The teacher is committed; he recognizes that his primary goal is to assist the growth of students.  | 1 | 2 | 3 | 4 | 5 |
| 2. The teacher makes the classwork interesting-- puts his material across in an interesting way.   | 1 | 2 | 3 | 4 | 5 |
| 3. The teacher gives the student experience with a wide range of problems and problem-solving techniques.  | 1 | 2 | 3 | 4 | 5 |
| 4. The teacher sustains pupil attention and response with use of activities appropriate to pupils level.   | 1 | 2 | 3 | 4 | 5 |
| 5. The teacher develops understanding of skills, objectives and appreciations associated with subject area.  | 1 | 2 | 3 | 4 | 5 |
| 6. The teacher handles his/her own discipline problems, is firm but friendly, is consistent in policy, and self-confident in management of pupils.                                       | 1 | 2 | 3 | 4 | 5 |
| 7. The teacher likes people and has a positive enthusiastic approach to the pupils he teaches.   | 1 | 2 | 3 | 4 | 5 |
| 8. The teacher provides a climate in which both pupils and teacher openly and naturally accept and recognize errors of each other, rather than trying to cover, save face or show guilt. | 1 | 2 | 3 | 4 | 5 |
| 9. The teacher encourages questions and discussions during class time.   | 1 | 2 | 3 | 4 | 5 |
| 10. The teacher encourages active participation and recognizes the instructional value of his/her own silence.   | 1 | 2 | 3 | 4 | 5 |
| 11. The teacher uses positive, encouraging and supportive criticism, rather than discouragement, disapproval, blame or shame.  | 1 | 2 | 3 | 4 | 5 |

## Evaluation (Cont.)

- |   |   |   |   |   |   |
|---|---|---|---|---|---|
| 12. The teacher shows respect for students--even when their goals differ from his.  | 1 | 2 | 3 | 4 | 5 |
| 13. The teacher communicates realistic expectations of achievement for each pupil.  | 1 | 2 | 3 | 4 | 5 |
| 14. The teacher makes his student feel free to ask questions, disagree, and express their ideas.  | 1 | 2 | 3 | 4 | 5 |
| 15. The teacher maintains an open, friendly rapport with students.  | 1 | 2 | 3 | 4 | 5 |
| 16. The teacher encourages expression of student viewpoint.   | 1 | 2 | 3 | 4 | 5 |
| 17. The teacher keeps the course objectives clearly in mind and works toward these goals while retaining perspective of the total educational program.                      | 1 | 2 | 3 | 4 | 5 |
| 18. The teacher encourages open-ended inquiry and discussion when consistent with the instructional goals of the class.   | 1 | 2 | 3 | 4 | 5 |
| 19. The teacher expresses himself/herself clearly and interestingly on those occasions when he must communicate objectives, present information, or provide demonstrations. | 1 | 2 | 3 | 4 | 5 |
| 20. The teacher gauges pupil understanding during the lesson as a guide to pacing.  | 1 | 2 | 3 | 4 | 5 |
| 21. The teacher helps students synthesize individual learning with the total learning experience in and out of school.  | 1 | 2 | 3 | 4 | 5 |
| 22. The teacher leads or directs pupils to generalizations, application, and/or to see inter-relatedness of knowledge--stimulates thought.                                  | 1 | 2 | 3 | 4 | 5 |

## Evaluation (Cont.)

- |   |   |   |   |   |   |
|---|---|---|---|---|---|
| 23. The teacher provides opportunities in which students can exercise self-direction in terms of the instructional program.                                       | 1 | 2 | 3 | 4 | 5 |
| 24. The teacher utilizes current events and unexpected situations for their educative value when appropriate to subject area and/or to the needs of the students. | 1 | 2 | 3 | 4 | 5 |
| 25. The teacher has a strong sense of direction but recognizes the value of propriety.  | 1 | 2 | 3 | 4 | 5 |
| 26. The teacher works well with other teachers and the administration.  | 1 | 2 | 3 | 4 | 5 |
| 27. The teacher strives for improvement through positive participation in professional growth activities.   | 1 | 2 | 3 | 4 | 5 |
| 28. The teacher actively works for positive school-community relations.   | 1 | 2 | 3 | 4 | 5 |
| 29. The teacher reports pupil progress to parents in an effective manner.   | 1 | 2 | 3 | 4 | 5 |
| 30. The teacher utilizes available educational resources of the community in classroom procedures.  | 1 | 2 | 3 | 4 | 5 |

## Recommendation for Use in the Field

The following procedures are recommended:

1. An evaluation team made-up of supervisory personnel (principal, assistant principal, and department heads) and peer teachers is recommended. The assignment of the evaluation team members should be left to the discretion of the building principal. Each team must, however, include both peer teachers and supervisors. The number of raters per team may vary, but it is strongly recommended that final ratings be based on input from at least four evaluation team members. The building principal should have the responsibility to organize and supervise all evaluation activities. Machine score-able answer sheets should be used by students when they rate teachers to assure anonymity. Scoring by a computation center will also provide for rapid meaningful analysis of student data. Peer-administrative ratings may either be tabulated by a computation center or manually depending on the desires of the district.
2. The minimum number of evaluations per year should be as follows:
  - A. Nontenure or beginning teachers
    - 1) Six observations (30 minutes minimum, one or more team members).
  - B. Tenure teachers
    - 1) Four observations (30 minutes minimum, one or more team members).
  - C. Self-evaluations

- 1) All teachers should be required to complete a self-evaluation using the adopted teacher evaluation instrument at the close of each semester.

D. Student evaluation

- 1) All teachers, grade six and above, should be required to ask their students to complete an evaluation instrument at the close of each semester. Students should use machine scoreable answer sheets, and the results should be machine tabulated. Analysis of student data should include mean scores, distribution of scores on each item. Results of these analyses should be held in strict confidence and made available to the teacher only. However, the teacher may, by choice, submit student evaluations to the building principal so that student ratings may be used by the evaluation committee and become a part of the teacher's evaluation record. It should be noted that items which incur a large spread of ratings should not be considered as meaningful; rather, items which receive similar responses from the majority of the raters should be considered to be the most meaningful.

3. Other conditions

A. Pre-evaluation conference

- 1) Every visitation by the evaluation team should be preceded by a pre-evaluation conference. During this conference the teacher will state his goals in relation to



his students, methods to be used to achieve these goals, and expected outcomes.

- 2) The evaluation team and evaluatee will mutually agree upon a time for visitation that is convenient to all parties (unannounced visits will also be made by administrative personnel).

B. Visitation

- 1) The evaluative team should arrive promptly at the agreed upon time and be expected to visit at least 30 minutes.
- 2) Appraiser(s) should complete a Teacher Performance Evaluation Report during or following the visit.

C. Analysis conference

- 1) Following the visitation, evaluative team members should meet to discuss findings and plan for conducting the post-observational conference.

D. Post-observational conference.

- 1) A post-observation conference, including all team members and the teacher, should be scheduled promptly following the visitation and analysis conference.
- 2) There should be free and open discussion concerning the visitation.
- 3) Input from all team members should be shared by the entire team and evaluatee.
- 4) Focus should be on the analysis of the results of the evaluation, and planning whatever steps may seem to be

indicated.

5) Future visitations should be planned during this conference.

E. Training of evaluators

1) A formal training program for evaluators be developed.

a) The training program should include workshops or clinics which includes assistance from outside evaluation consultants.

b) Regularly scheduled meetings of all evaluators should be held to discuss problems and procedures.

c) Practice observation sessions should be held during which evaluators view films showing teachers in various classroom situations. Following the film the group should complete evaluation forms and discuss them within the group.

d) Practice observations should be made by groups of raters so that a discussion might be held so that members might compare evaluations and discuss procedures.

e) Written documents should be developed explaining the general procedures and guidelines which should be followed during the evaluation process.

f) Sufficient time should be provided the evaluators both during a period of training and during the actual evaluative process.

g) An ongoing evaluation of the evaluation process should be provided for.

#### F. Written reports

- 1) Two written reports, signed by evaluators and evaluatee should be filed yearly in the central office.
  - a) Reports should be signed by all evaluators and the teacher. The teacher's signature does not, however, necessarily indicate agreement. The teacher may file a statement disagreeing with the report and ask for reevaluation by central office personnel.

#### 4. Norming procedures

Schools using procedures developed in this study should formulate district norms based on experience over time. Establishing such norm groups would enable the district to determine which teachers rate as outstanding, average, or below average on their evaluations.

#### Recommendations for Further Study

- 1) Howsam (1963) notes that parent ratings of teacher performance have not been the subject of research. Research is needed to discover similarity or dissimilarity of parent opinions of appropriate items to use in teacher evaluation instruments, and the use of parents as raters of a teacher's performance.
- 2) Howsam (1963) notes that administrative personnel base ratings on factors which have little relation to instructional competence. More research is needed to determine

what factors are being used by administrators in making teacher ratings.

- 3) More research is needed to determine appropriate procedures that should be followed in the training of teacher evaluators.
- 4) Investigations designed to determine the feasibility of using students, below the seventh grade, as teacher performance raters are needed.
- 5) The results of this investigation should be verified. Research is needed to determine if items determined to be appropriate and discriminating in the Naperville Community District 203 are also appropriate and discriminating in a cross section of public schools.
- 6) Investigations designed to determine the feasibility of the use of input from school board members in the development of teacher rating systems are needed.
- 7) Research in the area of evaluation of administrative personnel is needed. It is recommended that a study be made of the evaluation of administrative personnel using the same methods and procedures used in this study.

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**APPENDIX A: NAPERVILLE (ILLINOIS) DISTRICT 203 EVALUATION GUIDELINES**

GUIDELINES FOR OBSERVATION (BY PEERS AND ADMINISTRATORS) AND  
FOLLOW-UP CONFERENCES (BY ADMINISTRATORS).

During the August 1972 meetings of the Evaluation Committee (Naperville), the following observation and conference premises were agreed upon:

A. Observation

- (1) A major purpose of classroom observation is teacher evaluation (especially for the purpose of teacher improvement).
- (2) The principal's goals and objectives in observation should be very consistent within the premises of the evaluatory tool. Naturally his observation would differ with the department and experience of the teacher.
- (3) The evaluation advisory committee strongly disagrees that the principal should be the only person involved with classroom evaluation. Self evaluation should be used; peers should routinely be involved; students optional by examining.
- (4) The observer should spend his time in the classroom by examining the total teaching situation, not just the teacher.
- (5) Peer evaluation is an important part of classroom evaluation.
- (6) Each teacher should be observed for at least two lessons every year. The committee generally agreed that at least 30 minutes (and more desirably an entire period) should be devoted to observation.
- (7) Before a classroom observation is held, a pre-visit notification should be customary. (Additional visits may be unannounced).

- (8) The principal should spend at least 50 per cent of his time in instructional leadership (but not necessarily all of that time in classroom visitation).
- (9) Every teacher needs to be observed in the classroom, not just beginners.
- (10) During a classroom observation, the observer should try to make himself as inconspicuous as possible. Observers may, under certain circumstances, visit with pupils, look at their work, and should always feel free to use different kinds of observations with different kinds of classes.
- (11) The committee again reinforced the idea that the observer should spend his entire time in the classroom observing the teacher-learning situation, which includes both teacher behavior, student behavior, and the environment.
- (12) All observation comments about the teacher made by an evaluator should be written or stated in behavioral terms whenever possible.
- (13) The committee was not sure that after an unsatisfactory observation conference, a principal should call in an additional observer.
- (14) The principal should evaluate total performance, not just individual instruction techniques.

B. The Follow-up Conference

- (1) The primary purpose of the follow-up conference is to identify in detail the performance of the teacher observed.
- (2) Following a classroom observation, a conference (or some kind of feedback) for the teacher should be held as soon as possible.



- (3) Suggestions to the teacher for improvement should be stated in behavioral terms whenever possible.
- (4) The principal should be totally honest with a teacher during a follow-up conference, but, of course, the normal social consideration and tact should be used.
- (5) During a follow-up conference, the only person present, other than the teacher, should be the evaluator.
- (6) Both teacher and principal should sign the evaluation instrument after the conference to indicate a summary of discussion. The joint signatures also indicate that both have seen it.
- (7) The observation instrument should make provision for the teacher's written reaction to the evaluation.
- (8) The follow-up conference should consist of an interaction between an observer and the teacher based on both the observer's and the teacher's scoring of the evaluation instrument.

## ROLE OF A TEACHER

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### I. Relationship to Students

The role of a teacher is to provide an environment for students in which self-actualization can emerge and be sustained, protected and nurtured.

A teacher should

1. differentiate the instructional needs based upon objective and subjective evaluation
2. tailor worthwhile and realistic goals to the student
3. provide for the development of understandings, skills and attitudes in accordance with the ability of the student
4. provide opportunities in which students can exercise self-selection and self-direction in terms of the instructional program
5. encourage students to use a variety of resources in learning
6. involve students in evaluating the learning process

### II. Relationship to Co-Workers

A teacher should

1. relate to co-workers positively
2. share ideas and techniques with co-workers willingly
3. assume a fair share of the responsibilities outside of the classroom as they relate to school
4. seek self-improvement through staff interaction
5. accept and utilize constructive suggestions
6. assume an equitable amount of responsibility in team and/or committee work
7. propose and initiate courses of action intended to be beneficial to students, faculty or the school community
8. follow proper steps for communication within the school system

III. Relationship to School Community

A teacher should

1. assume the responsibility for reporting pupil progress to parents
2. assume the responsibility for implementing the adopted curriculum
3. have an awareness of community needs and aspirations
4. welcome parental contact
5. use discretion in discussing school affairs

An Evaluation System for the Naperville Public Schools

## Premise

## Believing that:

1. A school community has a right to expect that the school board, administrators, and faculty of their district will conduct a valid and continuous evaluation of the service of all district employees.
2. The essential purpose of evaluation is the improvement of performance.
3. The professional teacher desires improvement of his performance.
4. It is possible to differentiate levels of performance
5. All evaluation of the teacher's activities should be conducted openly and with the teachers full knowledge and awareness
6. There is no single "model" educator that results in effective learning; we respect the uniqueness of each individual within the framework of the school
7. Multiple sources of evaluation increase the validity of an evaluation instrument

## Purposes for Evaluation:

1. To improve instruction by identifying teachers (evaluatees) strengths and weaknesses and to provide guides to develop a course of action to improve upon deficiencies
2. To provide a variety of means for teachers to appraise their own teaching behavior in systematic ways in an effort to continually improve the quality of their service

APPENDIX B: FORM 1 - APPROPRIATENESS SURVEY

FORM 1  
October, 1972

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EVALUATION OF TEACHER PERFORMANCE  
Iowa State University  
Ames, Iowa

Check One: (Students indicate grade level)

Teacher \_\_\_\_\_ Administrator \_\_\_\_\_ Student \_\_\_\_\_ Grade \_\_\_\_\_

In order to develop a pool of valid items which are appropriate for use in instruments designed to evaluate teaching performance, we are asking a group of teachers, administrators, and students to rate a number of items. The reduced pool of items will then be tested in selected schools in order to establish the reliability of the remaining items and finally select a pool of valid and reliable items.

Enclosed is a list of the items which you are requested to rate. An explanation of the scales by which you are asked to judge each item appears at the beginning of the list.

Thank you for taking your time to rate these items.

This is a long checklist! Take a break about half-way through (Item #180).

## GENERAL DIRECTIONS:

Please rate the items below on the two scales provided. The first scale is the Appropriateness Scale, which is represented by the numbers 0, 1, 2, 3, and 4. Please rate the items on whether or not the item is an appropriate measure of a teacher's performance. The code for this scale is as follows:

0. The item has no appropriateness in the measurement of a teacher's performance.
1. The item has little appropriateness in the measurement of a teacher's performance.
2. The item has some appropriateness in the measurement of a teacher's performance.
3. The item has much appropriateness in the measurement of a teacher's performance.
4. The item has great appropriateness in the measurement of a teacher's performance.

For each item, please circle the number which most accurately describes your opinion.

The second scale is the Ability to Judge Scale, which is represented by the letters "SD," "D," "U," "A," and "SA". The purpose of this scale is to determine your opinion on whether or not you, as a teacher, administrator, or student, are able to accurately judge a teacher's performance on the item. It is assumed that you would be rating a peer teacher, a teacher on your staff, or a teacher who teaches one of your classes. The code for this second scale is as follows:

- SD) - Strongly disagree that I would be able to judge a teacher's performance on the item.
- D - Disagree that I would be able to judge a teacher's performance on the item.

U - Undecided about my ability to judge a teacher's performance on the item.

A - Agree that I would be able to judge a teacher's performance on the item.

SA - Strongly Agree that I would be able to judge a teacher's performance on the item.

For each item, please circle the letter(s) which most accurately describe(s) your judgment.

EXAMPLE:

1. The teacher likes and understands students 0 1 2 3 4  
SD D U A SA

BE SURE TO CIRCLE BOTH A LETTER(S) AND NUMBER FOR EACH STATEMENT.

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| 1. The teacher moves among pupils; confers individually with students.   | 0 1 2 3 4<br>SD D U A SA |
| 2. The teacher makes the classwork interesting-- puts his material across in an interesting way.   | 0 1 2 3 4<br>SD D U A SA |
| 3. The teacher does <u>not</u> discuss other teachers or administrators with students or parents.  | 0 1 2 3 4<br>SD D U A SA |
| 4. The teacher provides opportunities for natural growth in language ability by employing effective language and thereby providing a model for pupils. | 0 1 2 3 4<br>SD D U A SA |
| 5. The teacher uses democratic techniques and skills in teaching.  | 0 1 2 3 4<br>SD D U A SA |
| 6. The teacher organizes and summarizes data for meaningful interpretation.  | 0 1 2 3 4<br>SD D U A SA |
| 7. The teacher communicates realistic expectations of achievement for each pupil.  | 0 1 2 3 4<br>SD D U A SA |
| 8. The teacher gives the student experience with a wide range of problems and problem-solving techniques.  | 0 1 2 3 4<br>SD D U A SA |
| 9. The teacher works well with other teachers and the administration.  | 0 1 2 3 4<br>SD D U A SA |
| 10. The teacher urges students to accept responsibilities.   | 0 1 2 3 4<br>SD D U A SA |
| 11. The teacher has materials readily available to the students.   | 0 1 2 3 4<br>SD D U A SA |



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| 12. The teacher is relaxed, good-natured, cheerful and courteous.  | 0 1 2 3 4<br>SD D U A SA |
| 13. The teacher plans learning activities so as to encourage pupil initiative and leadership.  | 0 1 2 3 4<br>SD D U A SA |
| 14. The teacher provides classroom challenges within the range of ability of the pupils in the class.                                      | 0 1 2 3 4<br>SD D U A SA |
| 15. The teacher strives for improvement through positive participation in professional growth activities.                                  | 0 1 2 3 4<br>SD D U A SA |
| 16. The teacher provides for extra help and enrichment through planning or allowing the use of extra class time.                           | 0 1 2 3 4<br>SD D U A SA |
| 17. The teacher encourages and expects all students to contribute to class activities.   | 0 1 2 3 4<br>SD D U A SA |
| 18. The teacher is knowledgeable of the nature and type of materials that are available in his/her teaching area.                          | 0 1 2 3 4<br>SD D U A SA |
| 19. The teacher seizes opportunities to encourage all pupils to enter into group activities; evidences awareness of personal temperaments. | 0 1 2 3 4<br>SD D U A SA |
| 20. The teacher seems to be enthusiastic about teaching.   | 0 1 2 3 4<br>SD D U A SA |
| 21. The teacher demonstrates a commitment to teaching as a career.   | 0 1 2 3 4<br>SD D U A SA |
| 22. The teacher makes the class work exciting.   | 0 1 2 3 4<br>SD D U A SA |
| 23. The teacher makes effective use of materials, media and supplies.  | 0 1 2 3 4<br>SD D U A SA |
| 24. The teacher encourages free expression of ideas.   | 0 1 2 3 4<br>SD D U A SA |
| 25. The teacher encourages critical thinking.  | 0 1 2 3 4<br>SD D U A SA |
| 26. The teacher has the type of attitude that serves as a real inspiration to student achievement.   | 0 1 2 3 4<br>SD D U A SA |
| 27. The teacher provides for the development of effective committee and small group participation.   | 0 1 2 3 4<br>SD D U A SA |

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| 28. The teacher provides opportunities for successful learning experiences for each pupil at his ability level.            | 0 1 2 3 4<br>SD D U A SA |
| 29. The teacher makes it clear what is expected of students.   | 0 1 2 3 4<br>SD D U A SA |
| 30. The teacher stimulates students to do free and independent thinking.   | 0 1 2 3 4<br>SD D U A SA |
| 31. The teacher inspires students to seek more knowledge on the subject.   | 0 1 2 3 4<br>SD D U A SA |
| 32. The teacher leads the learner to assume an important role in the evaluation of his own growth and development.         | 0 1 2 3 4<br>SD D U A SA |
| 33. The teacher always has class materials ready.  | 0 1 2 3 4<br>SD D U A SA |
| 34. The teacher doesn't make fun of student's response to questions.   | 0 1 2 3 4<br>SD D U A SA |
| 35. The teacher encourages student participation in planning and organizing class objectives and activities.               | 0 1 2 3 4<br>SD D U A SA |
| 36. The teacher shows personal interest in student's work.   | 0 1 2 3 4<br>SD D U A SA |
| 37. The teacher writes difficult words on the blackboard and explains them.  | 0 1 2 3 4<br>SD D U A SA |
| 38. The teacher uses a variety of instruments and techniques for evaluation and keeping pupils informed of their progress. | 0 1 2 3 4<br>SD D U A SA |
| 39. The teacher provides for the development of effective discussion practices.  | 0 1 2 3 4<br>SD D U A SA |
| 40. The teacher helps students to develop willingness and ability to cooperate in the solution of problems.                | 0 1 2 3 4<br>SD D U A SA |
| 41. The teacher is teaching the students to develop independent study skills.  | 0 1 2 3 4<br>SD D U A SA |
| 42. The teacher helps pupils believe that they should try harder to achieve.   | 0 1 2 3 4<br>SD D U A SA |
| 43. The teacher teaches pupils to locate information on current problems.  | 0 1 2 3 4<br>SD D U A SA |
| 44. The teacher avoids giving too many directions following the introduction of a given task.                              | 0 1 2 3 4<br>SD D U A SA |
| 45. The teacher makes realistic assignments and student appraisals.  | 0 1 2 3 4<br>SD D U A SA |

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| 46. The teacher employs varied teaching techniques including the use of pre-test for purposes of determining instructional levels. | 0 1 2 3 4<br>SD D U A SA |
| 47. The teacher helps pupils engage in self-directed study outside the demands of the classroom.                                   | 0 1 2 3 4<br>SD D U A SA |
| 48. The teacher uses evaluative evidence to improve teaching-learning experiences.   | 0 1 2 3 4<br>SD D U A SA |
| 49. The teacher performs the required administrative duties in an acceptable manner.   | 0 1 2 3 4<br>SD D U A SA |
| 50. The teacher makes differentiated assignments to meet needs and abilities of individual pupils.                                 | 0 1 2 3 4<br>SD D U A SA |
| 51. The teacher plans activities to meet the personal and social needs of the pupils.  | 0 1 2 3 4<br>SD D U A SA |
| 52. The teacher gives instruction on study techniques, vocabulary, and concepts as a regular part of the lesson.                   | 0 1 2 3 4<br>SD D U A SA |
| 53. The teacher is logical in thinking.  | 0 1 2 3 4<br>SD D U A SA |
| 54. The teacher increases students' vocabulary by own excellent usage.   | 0 1 2 3 4<br>SD D U A SA |
| 55. The teacher uses discretion in discussing school affairs.  | 0 1 2 3 4<br>SD D U A SA |
| 56. The teacher tries to find things that students are "good at" instead of things they are "poor at".                             | 0 1 2 3 4<br>SD D U A SA |
| 57. The teacher keeps accurate and meaningful records.   | 0 1 2 3 4<br>SD D U A SA |
| 58. The teacher is fair, impartial, and objective in treatment of pupils.  | 0 1 2 3 4<br>SD D U A SA |
| 59. The teacher teaches for concept development rather than for memorization of specific facts.                                    | 0 1 2 3 4<br>SD D U A SA |
| 60. The teacher encourages pupils to work through their own problems and evaluate their accomplishments.                           | 0 1 2 3 4<br>SD D U A SA |
| 61. The teacher spaces assignments evenly.   | 0 1 2 3 4<br>SD D U A SA |
| 62. The teacher appears to be sensitive to students' feelings and problems; shows respect for the students.                        | 0 1 2 3 4<br>SD D U A SA |
| 63. The teacher reports pupil progress to parents in an effective manner.  | 0 1 2 3 4<br>SD D U A SA |
| 64. The teacher makes his students feel free to ask questions, disagree, and express their ideas.                                  | 0 1 2 3 4<br>SD D U A SA |

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| 65. The teacher leads or directs pupils to generalization, application, and/or to see inter-relatedness of knowledge--stimulates thought.     | 0 1 2 3 4<br>SD D U A SA |
| 66. The teacher keeps course material up to date.   | 0 1 2 3 4<br>SD D U A SA |
| 67. The teacher relates in a professional manner with colleagues.   | 0 1 2 3 4<br>SD D U A SA |
| 68. The teacher is helpful to students having difficulty with the subject.  | 0 1 2 3 4<br>SD D U A SA |
| 69. The teacher does not fill up class time with unimportant material.  | 0 1 2 3 4<br>SD D U A SA |
| 70. The teacher recognizes and admits own mistakes.   | 0 1 2 3 4<br>SD D U A SA |
| 71. The teacher can talk intelligently on almost any topic.   | 0 1 2 3 4<br>SD D U A SA |
| 72. The teacher <u>does not</u> belittle students.  | 0 1 2 3 4<br>SD D U A SA |
| 73. The teacher uses discretion in handling confidential information and difficult situations.  | 0 1 2 3 4<br>SD D U A SA |
| 74. The teacher clearly explains how the class grades are determined.   | 0 1 2 3 4<br>SD D U A SA |
| 75. The teacher utilizes available educational resources of the community in classroom procedures.  | 0 1 2 3 4<br>SD D U A SA |
| 76. The teacher is friendly and courteous in relations with pupils.   | 0 1 2 3 4<br>SD D U A SA |
| 77. The teacher accepts suggestions and is willing to try them.   | 0 1 2 3 4<br>SD D U A SA |
| 78. The teacher knows and uses pupils' first names.   | 0 1 2 3 4<br>SD D U A SA |
| 79. The teacher usually presents new learning that is related to previously mastered materials.   | 0 1 2 3 4<br>SD D U A SA |
| 80. The teacher helps pupils believe that achievement at a higher level is possible.  | 0 1 2 3 4<br>SD D U A SA |
| 81. The teacher reveals to the public the significance of the school program through activities in classroom, school, and community projects. | 0 1 2 3 4<br>SD D U A SA |
| 82. The teacher is conscientious and hard-working.  | 0 1 2 3 4<br>SD D U A SA |

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| 83. The teacher encourages open-ended inquiry and discussion when consistent with the instructional goals of the class.        | 0 1 2 3 4<br>SD D U A SA |
| 84. The teacher endeavors to make his/her classroom a physical setting conducive to learning.                                  | 0 1 2 3 4<br>SD D U A SA |
| 85. The teacher supports the school in words and deeds; exhibits confidence in his/her fellow teachers and the administration. | 0 1 2 3 4<br>SD D U A SA |
| 86. The teacher likes to have students pay close attention to what he or she says or does.                                     | 0 1 2 3 4<br>SD D U A SA |
| 87. The teacher has generally positive responses from parents.   | 0 1 2 3 4<br>SD D U A SA |
| 88. The teacher is fair and impartial in his dealings with the students.   | 0 1 2 3 4<br>SD D U A SA |
| 89. The teacher tailors worthwhile and realistic goals to the student's interests and abilities.                               | 0 1 2 3 4<br>SD D U A SA |
| 90. The teacher is very sincere when talking with students.  | 0 1 2 3 4<br>SD D U A SA |
| 91. The teacher exhibits standards of conduct that indicate a pride in the teaching profession.                                | 0 1 2 3 4<br>SD D U A SA |
| 92. The teacher has classroom procedures that are flexible within an over-all plan.  | 0 1 2 3 4<br>SD D U A SA |
| 93. The teacher has excellent subject matter background and uses initiative to keep ahead in his/her field.                    | 0 1 2 3 4<br>SD D U A SA |
| 94. The teacher sustains pupil attention and response with use of activities appropriate to pupils' level.                     | 0 1 2 3 4<br>SD D U A SA |
| 95. The teacher maintains an open, friendly rapport with students.   | 0 1 2 3 4<br>SD D U A SA |
| 96. The teacher always considers the other person's point of view.   | 0 1 2 3 4<br>SD D U A SA |
| 97. The teacher points up the relationship of school learning and out-of-school life whenever possible.                        | 0 1 2 3 4<br>SD D U A SA |
| 98. The teacher has respect and understanding for all pupils and is considerate of student needs.                              | 0 1 2 3 4<br>SD D U A SA |
| 99. The teacher maintains an open, friendly rapport with other teachers.   | 0 1 2 3 4<br>SD D U A SA |

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| 100. | The teacher develops understanding of skills, objectives and appreciations associated with subject area.  | 0 1 2 3 4<br>SD D U A SA |
| 101. | The teacher employs a variety of approaches in presenting new materials.  | 0 1 2 3 4<br>SD D U A SA |
| 102. | The teacher helps pupils grow in speech-articulation abilities.   | 0 1 2 3 4<br>SD D U A SA |
| 103. | The teacher handles his/her own discipline problems, is firm but friendly, is consistent in policy, and self-confident in management of pupils. | 0 1 2 3 4<br>SD D U A SA |
| 104. | The teacher assumes responsibility in team or committee work.   | 0 1 2 3 4<br>SD D U A SA |
| 105. | The teacher wins cooperation of pupils remarkably well.   | 0 1 2 3 4<br>SD D U A SA |
| 106. | The teacher relates positively with other teachers.   | 0 1 2 3 4<br>SD D U A SA |
| 107. | The teacher does <u>not</u> care if a student is different from other pupils.   | 0 1 2 3 4<br>SD D U A SA |
| 108. | The teacher always has well-organized daily plans.  | 0 1 2 3 4<br>SD D U A SA |
| 109. | The teacher is regular in attendance and on time for assignments.   | 0 1 2 3 4<br>SD D U A SA |
| 110. | The teacher provides for an atmosphere of mutually shared respect among pupils and teachers.  | 0 1 2 3 4<br>SD D U A SA |
| 111. | The teacher shows the stamina to meet daily obligations of school life.   | 0 1 2 3 4<br>SD D U A SA |
| 112. | The teacher seeks and accepts guidance from other teachers, specialized and supervisory personnel.  | 0 1 2 3 4<br>SD D U A SA |
| 113. | The teacher is exceptionally fair and square.   | 0 1 2 3 4<br>SD D U A SA |
| 114. | The teacher sets educational objectives in terms of student's level of development.   | 0 1 2 3 4<br>SD D U A SA |
| 115. | The teacher accepts the pupils' efforts as sincere.   | 0 1 2 3 4<br>SD D U A SA |
| 116. | The teacher communicates effectively with the public as well as with the members of the teaching profession.                                    | 0 1 2 3 4<br>SD D U A SA |

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| 117. | The teacher welcomes differences of opinion by the students.  | 0 1 2 3 4<br>SD D U A SA |
| 118. | The teacher organizes the course in logical fashion.  | 0 1 2 3 4<br>SD D U A SA |
| 119. | The teacher usually controls temper well.   | 0 1 2 3 4<br>SD D U A SA |
| 120. | The teacher is readily available to students.   | 0 1 2 3 4<br>SD D U A SA |
| 121. | The teacher appears vigorous and energetic.   | 0 1 2 3 4<br>SD D U A SA |
| 122. | The teacher helps the student see that the subject matter and school achievement are relevant to his life outside the school.                                 | 0 1 2 3 4<br>SD D U A SA |
| 123. | The teacher does not expect too much nor too little of his students.  | 0 1 2 3 4<br>SD D U A SA |
| 124. | The teacher utilizes current events and unexpected situations for their educative value when appropriate to subject area and/or to the needs of the students. | 0 1 2 3 4<br>SD D U A SA |
| 125. | The teacher controls conflict situations skilfully and easily, without undue tension.   | 0 1 2 3 4<br>SD D U A SA |
| 126. | The teacher cooperates with fellow staff members and the school administration.   | 0 1 2 3 4<br>SD D U A SA |
| 127. | The teacher demonstrates a genuine personal interest in students.   | 0 1 2 3 4<br>SD D U A SA |
| 128. | The teacher works effectively with the public to define school aims.  | 0 1 2 3 4<br>SD D U A SA |
| 129. | The teacher encourages social acceptance of minority-group pupils.  | 0 1 2 3 4<br>SD D U A SA |
| 130. | The teacher shares ideas and techniques with other teachers.  | 0 1 2 3 4<br>SD D U A SA |
| 131. | The teacher is fair and reasonable to students in the grading procedure.  | 0 1 2 3 4<br>SD D U A SA |
| 132. | The teacher assists pupils in making application of his experience to many situations.  | 0 1 2 3 4<br>SD D U A SA |
| 133. | The teacher constructs tests as learning experiences and involves students in evaluation of tests as learning activity.                                       | 0 1 2 3 4<br>SD D U A SA |

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| 134. | The teacher maintains an effective balance of freedom and security in the classroom.   | 0 1 2 3 4<br>SD D U A SA |
| 135. | The teacher provides opportunities in which students can exercise self-direction in terms of the instructional program.                                      | 0 1 2 3 4<br>SD D U A SA |
| 136. | The teacher communicates effectively to the students what classroom procedures will be followed--pupils understand objectives toward which they are working. | 0 1 2 3 4<br>SD D U A SA |
| 137. | The teacher provides for individual differences and needs of pupils.   | 0 1 2 3 4<br>SD D U A SA |
| 138. | The teacher disciplines in a quiet, dignified, and positive manner.  | 0 1 2 3 4<br>SD D U A SA |
| 139. | The teacher uses the results of classroom tests to improve classroom instruction.  | 0 1 2 3 4<br>SD D U A SA |
| 140. | The teacher is always on time for class.   | 0 1 2 3 4<br>SD D U A SA |
| 141. | The teacher presents material in a well-organized fashion.   | 0 1 2 3 4<br>SD D U A SA |
| 142. | The teacher involves students in evaluating the learning process.  | 0 1 2 3 4<br>SD D U A SA |
| 143. | The teacher uses words that the students are able to understand.   | 0 1 2 3 4<br>SD D U A SA |
| 144. | The teacher inspires students to independent effort; creates desire for investigation.   | 0 1 2 3 4<br>SD D U A SA |
| 145. | The teacher and pupils share in the enjoyment of humorous situations.  | 0 1 2 3 4<br>SD D U A SA |
| 146. | The teacher provides opportunities for all pupils to experience success.   | 0 1 2 3 4<br>SD D U A SA |
| 147. | The teacher assists students in setting up personal objectives.  | 0 1 2 3 4<br>SD D U A SA |
| 148. | The teacher keeps room appropriately neat and interesting.   | 0 1 2 3 4<br>SD D U A SA |
| 149. | The teacher encourages students to be friendly and kind to one another.  | 0 1 2 3 4<br>SD D U A SA |
| 150. | The teacher provides opportunities for pupils to develop qualities of leadership and self-direction.   | 0 1 2 3 4<br>SD D U A SA |



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| 151. | The teacher makes an effort to know each pupil as an individual.  | 0 1 2 3 4<br>SD D U A SA |
| 152. | The teacher displays evidence of being well informed in areas other than the area being taught.   | 0 1 2 3 4<br>SD D U A SA |
| 153. | The teacher encourages active participation and recognizes the instructional value of his/her own silence.  | 0 1 2 3 4<br>SD D U A SA |
| 154. | The teacher presents problems to the students in a manner which stimulate pupils to contribute to the solution.   | 0 1 2 3 4<br>SD D U A SA |
| 155. | The teacher provides numerous and varied opportunities for individual and group expression in creative fields.  | 0 1 2 3 4<br>SD D U A SA |
| 156. | The teacher shows interest and enthusiasm in his/her subject.   | 0 1 2 3 4<br>SD D U A SA |
| 157. | The teacher develops objectives for large units of study, daily class work and special activities in cooperation with pupils.   | 0 1 2 3 4<br>SD D U A SA |
| 158. | The teacher provides for the development of mutual respect and tolerance among the students.  | 0 1 2 3 4<br>SD D U A SA |
| 159. | The teacher outlines in writing objectives upon which students, teachers, parents, or administrators can evaluate progress.   | 0 1 2 3 4<br>SD D U A SA |
| 160. | The teacher responds promptly to parental concerns.   | 0 1 2 3 4<br>SD D U A SA |
| 161. | The teacher provides a climate in which both pupils and teacher openly and naturally accept and recognize errors of each other, rather than trying to cover, save face or show guilt. | 0 1 2 3 4<br>SD D U A SA |
| 162. | The teacher helps pupils feel a part of the academic achieving group.   | 0 1 2 3 4<br>SD D U A SA |
| 163. | The teacher sees that there is a feeling of goodwill in the classroom and that there is good rapport between the teacher and students.  | 0 1 2 3 4<br>SD D U A SA |
| 164. | The teacher keeps track of the learning progress of each student and keeps appropriate records.   | 0 1 2 3 4<br>SD D U A SA |
| 165. | The teacher is constantly seeking to improve teaching skills.   | 0 1 2 3 4<br>SD D U A SA |

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| 166. The teacher expresses himself easily and clearly--<br>meaning is always clear.  | 0 1 2 3 4<br>SD D U A SA |
| 167. The teacher shows understanding and sympathy in<br>working with pupils.   | 0 1 2 3 4<br>SD D U A SA |
| 168. The teacher meets pupils on their level and is not<br>withdrawn, aloof, distant, or superior.   | 0 1 2 3 4<br>SD D U A SA |
| 169. The teacher gives help willingly.   | 0 1 2 3 4<br>SD D U A SA |
| 170. The teacher involves students in discussion among<br>themselves.  | 0 1 2 3 4<br>SD D U A SA |
| 171. The teacher covers subject well.  | 0 1 2 3 4<br>SD D U A SA |
| 172. The teacher is truly interested in the pupils in the<br>class and in classroom activities.  | 0 1 2 3 4<br>SD D U A SA |
| 173. The teacher maintains effective classroom control.  | 0 1 2 3 4<br>SD D U A SA |
| 174. The teacher contributes to the honor and prestige<br>of the profession by his personal conduct.   | 0 1 2 3 4<br>SD D U A SA |
| 175. The teacher shows the relationship between his<br>classroom program and the school curriculum.  | 0 1 2 3 4<br>SD D U A SA |
| 176. The teacher interests and motivates the students'<br>desire to become involved in the learning process.   | 0 1 2 3 4<br>SD D U A SA |
| 177. The teacher provides the opportunity for and encourages<br>pupils expression.   | 0 1 2 3 4<br>SD D U A SA |
| 178. The teacher uses enough examples or illustrations<br>to clarify the material.   | 0 1 2 3 4<br>SD D U A SA |
| 179. The teacher accepts pupils handicaps with understand-<br>ing and sympathy, rather than with ridicule or<br>embarrassment.   | 0 1 2 3 4<br>SD D U A SA |
| 180. The teacher has command of the knowledge of the<br>subject being taught.  | 0 1 2 3 4<br>SD D U A SA |
| 181. The teacher emphasizes adherence to standards of<br>conduct that have been established in the classroom.  | 0 1 2 3 4<br>SD D U A SA |
| 182. The teacher guides the pupils into efficient study<br>habits.   | 0 1 2 3 4<br>SD D U A SA |
| 183. The teacher communicates individually as may be needed<br>with pupils singly or in small groups instead of send-<br>ing out oral messages to "whom it may concern." | 0 1 2 3 4<br>SD D U A SA |

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| 184. | The teacher provides opportunities for the pupils to develop leadership and cooperation.  | 0 1 2 3 4<br>SD D U A SA |
| 185. | The teacher sets rules and regulations that are fair.   | 0 1 2 3 4<br>SD D U A SA |
| 186. | The teacher shows adaptability and understanding of techniques in his presentation of new materials.                            | 0 1 2 3 4<br>SD D U A SA |
| 187. | The teacher knows each pupil as an individual.  | 0 1 2 3 4<br>SD D U A SA |
| 188. | The teacher assists students to analyze a problem, summarize data, and to draw conclusions.                                     | 0 1 2 3 4<br>SD D U A SA |
| 189. | The teacher encourages pupils to make judgment of own work.   | 0 1 2 3 4<br>SD D U A SA |
| 190. | The teacher assumes responsibilities outside of the classroom as they relate to school.   | 0 1 2 3 4<br>SD D U A SA |
| 191. | The teacher refers and relates his/her lessons to other subjects.   | 0 1 2 3 4<br>SD D U A SA |
| 192. | The teacher asks questions that vary in type and difficulty for different pupils to help make sure that each pupil understands. | 0 1 2 3 4<br>SD D U A SA |
| 193. | The teacher directs comments to individuals, not to group.  | 0 1 2 3 4<br>SD D U A SA |
| 194. | The teacher adopts the role of a resource person and helper when the need arises.   | 0 1 2 3 4<br>SD D U A SA |
| 195. | The teacher appreciates accomplishments of students.  | 0 1 2 3 4<br>SD D U A SA |
| 196. | The teacher spends time helping each student with his or her own special problem.   | 0 1 2 3 4<br>SD D U A SA |
| 197. | The teacher involves students in planning objectives and activities.  | 0 1 2 3 4<br>SD D U A SA |
| 198. | The teacher directs class discussions to include participation by all students rather than monopolization by a few.             | 0 1 2 3 4<br>SD D U A SA |
| 199. | The teacher is careful of the feelings of the students.   | 0 1 2 3 4<br>SD D U A SA |
| 200. | The teacher shows contagious enthusiasm for subject.  | 0 1 2 3 4<br>SD D U A SA |
| 201. | The teacher is alert to physical needs of students.   | 0 1 2 3 4<br>SD D U A SA |

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| 202. | The teacher is a good team worker.   | 0 1 2 3 4<br>SD D U A SA |
| 203. | The teacher utilizes field trips to draw on community resources, if and when applicable.                 | 0 1 2 3 4<br>SD D U A SA |
| 204. | The teacher continues to keep abreast of current development in his/her subject matter field.            | 0 1 2 3 4<br>SD D U A SA |
| 205. | The teacher varies assignments and procedures in terms of student's individual abilities.                | 0 1 2 3 4<br>SD D U A SA |
| 206. | The teacher is a good listener.  | 0 1 2 3 4<br>SD D U A SA |
| 207. | The teacher strives to help each student to develop oral skills in the classroom.                        | 0 1 2 3 4<br>SD D U A SA |
| 208. | The teacher exhibits great self-confidence and inspires confidence in daily contacts.                    | 0 1 2 3 4<br>SD D U A SA |
| 209. | The teacher knows how to explain things so that the students are able to understand.                     | 0 1 2 3 4<br>SD D U A SA |
| 210. | The teacher encourages and accepts suggestions from the students.  | 0 1 2 3 4<br>SD D U A SA |
| 211. | The teacher possesses a fund of valuable teaching experiences.   | 0 1 2 3 4<br>SD D U A SA |
| 212. | The teacher conducts clear, practical demonstrations and explanations.                                   | 0 1 2 3 4<br>SD D U A SA |
| 213. | The teacher participates in P.T.A., curriculum development, in-service programs, and faculty meetings.   | 0 1 2 3 4<br>SD D U A SA |
| 214. | The teacher suggests variety of resources for various pupils.  | 0 1 2 3 4<br>SD D U A SA |
| 215. | The teacher avoids making public comparisons between pupils.   | 0 1 2 3 4<br>SD D U A SA |
| 216. | The teacher creates an effective classroom atmosphere.   | 0 1 2 3 4<br>SD D U A SA |
| 217. | The teacher has a pleasing manner, free from annoying mannerisms.  | 0 1 2 3 4<br>SD D U A SA |
| 218. | The teacher gives support to pupils experiencing social stress due to late or early physical maturation. | 0 1 2 3 4<br>SD D U A SA |
| 219. | The teacher makes assignments that are clear, reasonable and easy to understand.                         | 0 1 2 3 4<br>SD D U A SA |

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| 220. | The teacher lets parents know of problems relating to a student's progress and attendance.   | 0 1 2 3 4<br>SD D U A SA |
| 221. | The teacher has personal convictions but tries to present both sides of the story.   | 0 1 2 3 4<br>SD D U A SA |
| 222. | The teacher has a classroom in which pupils are orderly and businesslike; show pride in achievement; cooperate in group activities.  | 0 1 2 3 4<br>SD D U A SA |
| 223. | The teacher encourages students to use a variety of resources in learning.   | 0 1 2 3 4<br>SD D U A SA |
| 224. | The teacher recognizes that a student's emotional problems affect his learning potential.  | 0 1 2 3 4<br>SD D U A SA |
| 225. | The teacher stimulates pupils by use of interesting materials and techniques.  | 0 1 2 3 4<br>SD D U A SA |
| 226. | The teacher respects students who have ideas which are different from his or her own ideas.  | 0 1 2 3 4<br>SD D U A SA |
| 227. | The teacher makes clear cut assignments.   | 0 1 2 3 4<br>SD D U A SA |
| 228. | The teacher demonstrates a humanistic attitude in dealing with students.   | 0 1 2 3 4<br>SD D U A SA |
| 229. | The teacher makes clear what is expected of students.  | 0 1 2 3 4<br>SD D U A SA |
| 230. | The teacher is willing to talk with students during or after class about any problem which might be bothering them.  | 0 1 2 3 4<br>SD D U A SA |
| 231. | The teacher demonstrates an understanding of student problems.   | 0 1 2 3 4<br>SD D U A SA |
| 232. | The teacher interacts, guides, and controls reaction to student's responses.   | 0 1 2 3 4<br>SD D U A SA |
| 233. | The teacher provides opportunities for natural growth in language ability by encouraging free discussion, conversation, oral reports, etc., under conditions of warmth and acceptance. | 0 1 2 3 4<br>SD D U A SA |
| 234. | The teacher uses open-ended questions rather than questions with a one "right" answer.   | 0 1 2 3 4<br>SD D U A SA |
| 235. | The teacher uses a variety of resource materials in class.   | 0 1 2 3 4<br>SD D U A SA |
| 236. | The teacher relates current lessons to previous learning.  | 0 1 2 3 4<br>SD D U A SA |
| 237. | The teacher adapts to situations which arise in class; is flexible.  | 0 1 2 3 4<br>SD D U A SA |

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| 238. | The teacher takes time to listen to and to accept a pupil's point of view.  | 0 1 2 3 4<br>SD D U A SA |
| 239. | The teacher is friendly outside the classroom.  | 0 1 2 3 4<br>SD D U A SA |
| 240. | The teacher is poised and refined in actions--sits, stands, and moves about with good posture.                            | 0 1 2 3 4<br>SD D U A SA |
| 241. | The teacher utilizes pupils' experiences in order to motivate interest.   | 0 1 2 3 4<br>SD D U A SA |
| 242. | The teacher uses good oral and written language.  | 0 1 2 3 4<br>SD D U A SA |
| 243. | The teacher demonstrates proper use and care of equipment and materials.  | 0 1 2 3 4<br>SD D U A SA |
| 244. | The teacher treats students as "Grown Ups".   | 0 1 2 3 4<br>SD D U A SA |
| 245. | The teacher employs materials and techniques appropriate to the varying abilities and backgrounds of the pupils.          | 0 1 2 3 4<br>SD D U A SA |
| 246. | The teacher encourages pupils to try to do their best.  | 0 1 2 3 4<br>SD D U A SA |
| 247. | The teacher helps students develop critical attitudes.  | 0 1 2 3 4<br>SD D U A SA |
| 248. | The teacher has the respect and admiration of the students.   | 0 1 2 3 4<br>SD D U A SA |
| 249. | The teacher is sincerely interested in the subject being taught.  | 0 1 2 3 4<br>SD D U A SA |
| 250. | The teacher encourages parents to visit regular classes and special events.   | 0 1 2 3 4<br>SD D U A SA |
| 251. | The teacher provides an opportunity for his/her students to use a wide variety of source material.                        | 0 1 2 3 4<br>SD D U A SA |
| 252. | The teacher uses positive, encouraging and supportive criticism, rather than discouragement, disapproval, blame or shame. | 0 1 2 3 4<br>SD D U A SA |
| 253. | The teacher provides students with opportunities to make decisions.   | 0 1 2 3 4<br>SD D U A SA |
| 254. | The teacher demonstrates initiative and adaptability in adjusting predetermined plans to circumstances and individuals.   | 0 1 2 3 4<br>SD D U A SA |
| 255. | The teacher encourages students to think.   | 0 1 2 3 4<br>SD D U A SA |

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| 256. | The teacher has a classroom in which pupils are eager, prompt, and willing to make voluntary contributions to the class.  | 0 1 2 3 4<br>SD D U A SA |
| 257. | The teacher provides opportunities and materials for creative work.   | 0 1 2 3 4<br>SD D U A SA |
| 258. | The teacher is cheerful and optimistic.   | 0 1 2 3 4<br>SD D U A SA |
| 259. | The teacher expresses himself clearly and interestingly on those occasions when he must communicate objectives, present information, or provide demonstrations. | 0 1 2 3 4<br>SD D U A SA |
| 260. | The teacher encourages free expression of ideas.  | 0 1 2 3 4<br>SD D U A SA |
| 261. | The teacher presents all sides of a point in question when there are conflicting theories in a field.   | 0 1 2 3 4<br>SD D U A SA |
| 262. | The teacher foresees and attempts to resolve potential difficulties.  | 0 1 2 3 4<br>SD D U A SA |
| 263. | The teacher helps pupils with personal problems if asked to do so by the pupils.  | 0 1 2 3 4<br>SD D U A SA |
| 264. | The teacher provides a variety of learning experiences.   | 0 1 2 3 4<br>SD D U A SA |
| 265. | The teacher frequently relates course to other fields and to present-day problems.  | 0 1 2 3 4<br>SD D U A SA |
| 266. | The teacher avoids presenting too much new material at one time.  | 0 1 2 3 4<br>SD D U A SA |
| 267. | The teacher uses a variety of appropriate ways of measuring student's achievement and/or progress toward instructional goals.                                   | 0 1 2 3 4<br>SD D U A SA |
| 268. | The teacher is fair in handling discipline.   | 0 1 2 3 4<br>SD D U A SA |
| 269. | The teacher has a sense of humor, is willing to laugh at things students think funny.   | 0 1 2 3 4<br>SD D U A SA |
| 270. | The teacher provides learning activities that are sufficiently varied so that all pupils participate in learning activities.                                    | 0 1 2 3 4<br>SD D U A SA |
| 271. | The teacher exhibits wise judgment in making choices, planning and carrying out plans with pupils and other teachers.   | 0 1 2 3 4<br>SD D U A SA |
| 272. | The teacher applies subject to everyday life.   | 0 1 2 3 4<br>SD D U A SA |

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| 273. | The teacher gauges pupil understanding during lesson as a guide to pacing.   | 0 1 2 3 4<br>SD D U A SA |
| 274. | The teacher provides the opportunity for review and recall of basic learning through a variety of activities.                                      | 0 1 2 3 4<br>SD D U A SA |
| 275. | The teacher makes sure that contributions and efforts of individual pupils are given recognition.  | 0 1 2 3 4<br>SD D U A SA |
| 276. | The teacher encourages students to carefully think out answers to questions.   | 0 1 2 3 4<br>SD D U A SA |
| 277. | The teacher strives to develop social and civic values in students.  | 0 1 2 3 4<br>SD D U A SA |
| 278. | The teacher actively seeks to promote cooperation on all occasions; evidences the ability to work very effectively with student or teacher groups. | 0 1 2 3 4<br>SD D U A SA |
| 279. | The teacher assists pupils in self-evaluation by helping them to understand their own abilities and limitations.                                   | 0 1 2 3 4<br>SD D U A SA |
| 280. | The teacher gives each student a feeling of importance as a person.  | 0 1 2 3 4<br>SD D U A SA |
| 281. | The teacher sets standards for individual and group achievement.   | 0 1 2 3 4<br>SD D U A SA |
| 282. | The teacher gives a student a chance to change a wrong answer before asking someone else for the right answer.                                     | 0 1 2 3 4<br>SD D U A SA |
| 283. | The teacher helps individual students to acquire the skills of effective group membership.   | 0 1 2 3 4<br>SD D U A SA |
| 284. | The teacher tells students when they have done particularly well.  | 0 1 2 3 4<br>SD D U A SA |
| 285. | The teacher explains his/her grading system clearly.   | 0 1 2 3 4<br>SD D U A SA |
| 286. | The teacher encourages students in their development of self-discipline.   | 0 1 2 3 4<br>SD D U A SA |
| 287. | The teacher encourages students by helpful advice or praise on tests.  | 0 1 2 3 4<br>SD D U A SA |
| 288. | The teacher helps pupils with educational problems.  | 0 1 2 3 4<br>SD D U A SA |
| 289. | The teacher provides opportunities for developing creative thinking and problem solving approaches by students.                                    | 0 1 2 3 4<br>SD D U A SA |



290. The teacher assists pupils in defining realistic goals. 0 1 2 3 4  
SD D U A SA
291. The teacher provides for the development of understand- 0 1 2 3 4  
ings, skills and attitudes in accordance with the SD D U A SA  
ability of the student.
292. The teacher provides extra help and enrichment where 0 1 2 3 4  
needed. SD D U A SA
293. The teacher leads discussions in an interesting and 0 1 2 3 4  
intellectually stimulating fashion. SD D U A SA
294. The teacher states test questions clearly. 0 1 2 3 4  
SD D U A SA
295. The teacher knows his subject extremely well. 0 1 2 3 4  
SD D U A SA
296. The teacher bases grades on work done, not personal 0 1 2 3 4  
feeling. SD D U A SA
297. The teacher has the ability to arouse interest in 0 1 2 3 4  
students. SD D U A SA
298. The teacher directs pupils to sources of information 0 1 2 3 4  
on vocational opportunities and careers. SD D U A SA
299. The teacher does not dwell upon the obvious. 0 1 2 3 4  
SD D U A SA
300. The teacher accepts students' viewpoints with an open 0 1 2 3 4  
mind. SD D U A SA
301. The teacher is patient with students. 0 1 2 3 4  
SD D U A SA
302. The teacher is willing to help those slow to learn. 0 1 2 3 4  
SD D U A SA
303. The teacher conducts a classroom in which pupils actively 0 1 2 3 4  
participate in classroom discussion and activities. SD D U A SA
304. The teacher displays positive attitude toward school and 0 1 2 3 4  
other teachers. SD D U A SA
305. The teacher acknowledges all questions to the best of his/ 0 1 2 3 4  
her ability. SD D U A SA
306. The teacher encourages creativeness. 0 1 2 3 4  
SD D U A SA
307. The teacher directs individuals and groups to appro- 0 1 2 3 4  
priate life applications of classroom learning. SD D U A SA

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| 308. | The teacher uses classroom procedures that are well planned and organized.   | 0 1 2 3 4<br>SD D U A SA |
| 309. | The teacher admits when he or she is wrong or does not know an answer.   | 0 1 2 3 4<br>SD D U A SA |
| 310. | The teacher stimulates students by raising interesting questions.  | 0 1 2 3 4<br>SD D U A SA |
| 311. | The teacher has self-control and is not easily upset.  | 0 1 2 3 4<br>SD D U A SA |
| 312. | The teacher arranges for effective classroom heating, ventilation and lighting.  | 0 1 2 3 4<br>SD D U A SA |
| 313. | The teacher is loyal to the school and other faculty members.  | 0 1 2 3 4<br>SD D U A SA |
| 314. | The teacher makes effective use of teaching aids.  | 0 1 2 3 4<br>SD D U A SA |
| 315. | The teacher places value upon each student's contributions.  | 0 1 2 3 4<br>SD D U A SA |
| 316. | The teacher allows students' suggestions and criticisms to influence his plans for class objectives and activities.                    | 0 1 2 3 4<br>SD D U A SA |
| 317. | The teacher uses a variety of materials to supplement the basic program.   | 0 1 2 3 4<br>SD D U A SA |
| 318. | The teacher directs pupils in learning to use those materials from which they will continue to learn after leaving school.             | 0 1 2 3 4<br>SD D U A SA |
| 319. | The teacher remains calm and poised in difficult situations.   | 0 1 2 3 4<br>SD D U A SA |
| 320. | The teacher welcomes contact from parents.   | 0 1 2 3 4<br>SD D U A SA |
| 321. | The teacher recognizes and provides for the individual differences in students.  | 0 1 2 3 4<br>SD D U A SA |
| 322. | The teacher encourages expression of student viewpoint.  | 0 1 2 3 4<br>SD D U A SA |
| 323. | The teacher supports and accepts each student as he is regardless of race, sex, nationality, family background or educational ability. | 0 1 2 3 4<br>SD D U A SA |
| 324. | The teacher uses examinations to help in student learning.   | 0 1 2 3 4<br>SD D U A SA |
| 325. | The teacher has immediate and long-range objectives designed to fit the needs of students.   | 0 1 2 3 4<br>SD D U A SA |

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| 326. | The teacher has accurate grade records available to the student.   | 0 1 2 3 4<br>SD D U A SA |
| 327. | The teacher avoids hostility and sarcasm in the classroom.   | 0 1 2 3 4<br>SD D U A SA |
| 328. | The teacher makes a real effort toward the development of a program in which students may succeed.                                 | 0 1 2 3 4<br>SD D U A SA |
| 329. | The teacher designs classroom activities to develop pupil ability and motivation for finding solutions to current social problems. | 0 1 2 3 4<br>SD D U A SA |
| 330. | The teacher puts ideas across logically and orderly.   | 0 1 2 3 4<br>SD D U A SA |
| 331. | The teacher utilizes varied teaching strategies that stimulate student learning.   | 0 1 2 3 4<br>SD D U A SA |
| 332. | The teacher likes and understands students.  | 0 1 2 3 4<br>SD D U A SA |
| 333. | The teacher never deliberately forces own decisions on the class.  | 0 1 2 3 4<br>SD D U A SA |
| 334. | The teacher is well prepared for class.  | 0 1 2 3 4<br>SD D U A SA |
| 335. | The teacher gives everyone an equal chance.  | 0 1 2 3 4<br>SD D U A SA |
| 336. | The teacher treats students in a way their maturity warrants.  | 0 1 2 3 4<br>SD D U A SA |
| 337. | The teacher moves among pupils; confers individually with students.  | 0 1 2 3 4<br>SD D U A SA |
| 338. | The teacher is well groomed; clothes are neat, clean and in good taste.  | 0 1 2 3 4<br>SD D U A SA |
| 339. | The teacher is able to meet school emergencies and unusual situations.   | 0 1 2 3 4<br>SD D U A SA |
| 340. | The teacher demonstrates a well-defined and reasonable procedure upon which grades are based.                                      | 0 1 2 3 4<br>SD D U A SA |
| 341. | The teacher makes clear what is expected of students.  | 0 1 2 3 4<br>SD D U A SA |
| 342. | The teacher creates an effective educational atmosphere in the classroom.  | 0 1 2 3 4<br>SD D U A SA |
| 343. | The teacher communicates with pupils at a level they can comprehend.   | 0 1 2 3 4<br>SD D U A SA |

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| 344. | The teacher praises, encourages pupils in order to promote cooperation.   | 0 1 2 3 4<br>SD D U A SA |
| 345. | The teacher indicates through actions a working knowledge of, and accompanying skill in, child/pupil growth and development.                  | 0 1 2 3 4<br>SD D U A SA |
| 346. | The teacher understands student and adolescent behavior.  | 0 1 2 3 4<br>SD D U A SA |
| 347. | The teacher is easy to hear and understand.   | 0 1 2 3 4<br>SD D U A SA |
| 348. | The teacher explains assignments thoroughly.  | 0 1 2 3 4<br>SD D U A SA |
| 349. | The teacher is well read.   | 0 1 2 3 4<br>SD D U A SA |
| 350. | The teacher follows proper steps for communication within the school system.  | 0 1 2 3 4<br>SD D U A SA |
| 351. | The teacher demonstrates fairness and consistency in the handling of student problems.  | 0 1 2 3 4<br>SD D U A SA |
| 352. | The teacher carefully considers student suggestions when making decisions.  | 0 1 2 3 4<br>SD D U A SA |
| 353. | The teacher is clear and thorough in giving directions.   | 0 1 2 3 4<br>SD D U A SA |
| 354. | The teacher is mobile within the classroom, moves about to see what students are accomplishing.   | 0 1 2 3 4<br>SD D U A SA |
| 355. | The teacher shows courtesy, tact and kindness toward the pupils.  | 0 1 2 3 4<br>SD D U A SA |
| 356. | The teacher supervises students when and where necessary and appropriate.   | 0 1 2 3 4<br>SD D U A SA |
| 357. | The teacher creates classroom conditions in which pupils develop initiative and assume a personal responsibility for learning.                | 0 1 2 3 4<br>SD D U A SA |
| 358. | The teacher makes sure that students always know what is coming up next class period.   | 0 1 2 3 4<br>SD D U A SA |
| 359. | The teacher respects and contributes to the accomplishments of staff by cooperative planning, sharing plans, ideas, materials and facilities. | 0 1 2 3 4<br>SD D U A SA |
| 360. | The teacher maintains an atmosphere which promotes a consistently courteous behavior among pupils.  | 0 1 2 3 4<br>SD D U A SA |

APPENDIX C: ANALYSIS OF THE DATA FROM FORM 1

CATEGORY I

The teacher is committed - he recognizes that his primary goal is to assist in the growth of students.

Number of Items = 78

		<u>Appropriateness</u>	<u>Rateability</u>
Range	Students	10-29	15-28
	Teachers	30-56	33-52
	Administrators	22-35	23-33
	Total	64-117	74-106
Mean	Students	22.86	22.0
	Teachers	48.86	43.4
	Administrators	29.61	28.7
	Total	101.33	94.1
Std. Dev.	Students	2.99	2.5
	Teachers	4.88	4.2
	Administrators	2.71	2.1
	Total	9.23	6.4

Number of Raters

Students	6
Teachers	12
Administrators	<u>7</u>
Total	25

I. The teacher is committed - he recognizes that his primary goal is to assist in the growth of students.

		Student	Teacher	Admin.	Total
1. The teacher makes the classwork interesting—puts his material across in an interesting way	App.	29	54	34	117
	Rate.	28	48	30	106
2. The teacher is willing to help those slow to learn.	App.	29	56	31	116
	Rate.	23	46	30	99
3. The teacher is constantly seeking to improve teaching skills.	App.	28	54	33	115
	Rate.	23	38	30	91
4. The teacher gives the student experience with a wide range of problems and problem-solving techniques.	App.	26	56	32	114
	Rate.	26	47	29	102
5. The teacher gives help willingly.	App.	27	55	32	114
	Rate.	26	48	30	104
6. The teacher provides for individual differences and needs of pupils.	App.	26	53	35	114
	Rate.	22	42	31	95
7. The teacher has command of the knowledge of the subject being taught.	App.	25	56	32	113
	Rate.	23	50	32	105
8. The teacher makes a real effort toward the development of a program in which students may succeed.	App.	24	56	33	113
	Rate.	23	46	27	98
9. The teacher has respect and understanding for all pupils and is considerate of student needs.	App.	24	54	33	111
	Rate.	22	45	28	95
10. The teacher knows how to explain things so that the students are able to understand.	App.	29	51	31	111
	Rate.	26	43	29	98
11. The teacher provides classroom challenges within the range of ability of the pupils in the class.	App.	26	54	31	111
	Rate.	19	46	28	93
12. The teacher is fair in handling discipline.	App.	24	54	33	111
	Rate.	18	41	30	89
13. The teacher sustains pupil attention and response with use of activities appropriate to pupils' level.	App.	24	52	34	110
	Rate.	24	46	29	99
14. The teacher stimulates pupils by use of interesting materials and techniques.	App.	24	53	32	109
	Rate.	22	46	30	98

		Student	Teacher	Admin.	Total
15. The teacher recognizes and provides for the individual differences in students.	App.	26	49	34	109
	Rate.	21	44	30	95
16. The teacher develops understanding of skills, objectives and appreciations associated with subject areas.	App.	24	52	33	109
	Rate.	20	37	30	87
17. The teacher is readily available to students.	App.	24	54	30	108
	Rate.	23	47	29	99
18. The teacher makes assignments that are clear, reasonable and easy to understand.	App.	24	53	31	108
	Rate.	23	45	29	97
19. The teacher makes the class work exciting.	App.	26	51	30	107
	Rate.	25	43	27	95
20. The teacher utilizes varied teaching strategies that stimulate student learning.	App.	22	54	31	107
	Rate.	25	44	31	100
21. The teacher conducts clear, practical demonstrations and explanations.	App.	22	52	32	106
	Rate.	23	44	31	98
22. The teacher is sincerely interested in the subject being taught.	App.	26	50	30	106
	Rate.	23	40	25	88
23. The teacher provides learning activities that are sufficiently varied so that all pupils participate in learning activities.	App.	23	51	32	106
	Rate.	22	46	28	96
24. The teacher has excellent subject matter background and uses initiative to keep ahead in his/her field.	App.	24	51	30	105
	Rate.	24	44	29	97
25. The teacher provides a variety of learning experiences.	App.	22	51	32	105
	Rate.	23	43	30	96
26. The teacher supervises students when and where necessary and appropriate.	App.	23	50	32	105
	Rate.	21	47	27	95
27. The teacher provides opportunities for natural growth in language ability by encouraging free discussion, conversation, oral reports, etc., under conditions of warmth and acceptance.	App.	23	51	31	105
	Rate.	23	42	29	94
28. The teacher makes differentiated assignments to meet needs and abilities of individual pupils.	App.	23	48	34	105
	Rate.	18	45	31	94



		Student	Teacher	Admin.	Total
29. The teacher encourages students to use a variety of resources in learning.	App.	26	49	30	105
	Rate.	22	40	30	92
30. The teacher continues to keep abreast of current developments in his/her subject matter field.	App.	26	49	30	105
	Rate.	22	38	28	88
31. The teacher adopts the role of a resource person and helper when the need arises.	App.	22	51	31	104
	Rate.	26	45	31	102
32. The teacher employs materials and techniques appropriate to the varying abilities and backgrounds of the pupils.	App.	22	49	33	104
	Rate.	23	38	31	92
33. The teacher expresses himself easily and clearly-- meaning is always clear.	App.	23	50	31	104
	Rate.	23	37	28	88
34. The teacher is regular in attendance and on time for assignments.	App.	23	53	27	103
	Rate.	25	49	32	106
35. The teacher is easy to hear and understand.	App.	21	55	27	103
	Rate.	21	52	30	103
36. The teacher directs class discussions to include participation by all students rather than monopolization by a few.	App.	27	47	29	103
	Rate.	26	44	31	101
37. The teacher knows his subject extremely well.	App.	25	50	28	103
	Rate.	23	45	30	98
38. The teacher keeps course material up to date.	App.	24	49	30	103
	Rate.	22	46	29	97
39. The teacher is knowledgeable of the nature and type of materials that are available in his/her teaching area.	App.	23	50	30	103
	Rate.	17	38	28	83
40. The teacher leads discussions in an interesting and intellectually stimulating fashion.	App.	23	49	30	102
	Rate.	23	46	30	99
41. The teacher assists students to analyze a problem, summarize data, and to draw to conclusions.	App.	23	47	32	102
	Rate.	22	42	29	93
42. The teacher stimulates students by raising interesting questions.	App.	22	51	29	102
	Rate.	23	42	28	93

		Student	Teacher	Admin.	Total
43. The teacher provides an opportunity for his/her students to use a wide variety of source material.	App.	24	48	30	102
	Rate.	23	41	28	92
44. The teacher maintains effective classroom control.	App.	23	50	29	102
	Rate.	21	40	29	90
45. The teacher is willing to talk with students during or after class about any problem which might be bothering them.	App.	27	44	31	102
	Rate.	23	34	29	86
46. The teacher provides opportunities for the pupils to develop leadership and cooperation.	App.	23	48	31	102
	Rate.	21	37	27	85
47. The teacher endeavors to make his/her classroom a physical setting conducive to learning.	App.	21	49	31	101
	Rate.	20	48	33	101
48. The teacher moves among pupils; confers individually with students.	App.	22	49	30	101
	Rate.	23	45	29	97
49. The teacher uses enough examples or illustrations to clarify the material.	App.	24	48	29	101
	Rate.	24	41	31	96
50. The teacher shows adaptability and understanding of techniques in his presentation of new materials.	App.	22	51	28	101
	Rate.	23	43	30	96
51. The teacher guides the pupils into efficient study habits.	App.	23	50	28	101
	Rate.	21	40	25	86
52. The teacher encourages students to carefully think out answers to questions.	App.	23	49	29	101
	Rate.	20	38	27	85
53. The teacher shows the stamina to meet daily obligations of school life.	App.	22	51	26	99
	Rate.	22	48	28	98
54. The teacher provides opportunities and materials for creative work.	App.	22	48	29	99
	Rate.	24	43	27	94
55. The teacher is very sincere when talking with students.	App.	24	46	29	99
	Rate.	23	42	25	90
56. The teacher uses words that the students are able to understand.	App.	23	46	29	98
	Rate.	25	47	32	104
57. The teacher moves among pupils; confers individually with students.	App.	21	48	29	98
	Rate.	21	50	32	103

		Student	Teacher	Admin.	Total
58. The teacher uses good oral and written language.	App.	18	52	28	98
	Rate.	20	50	30	100
59. The teacher makes effective use of teaching aids.	App.	21	48	28	97
	Rate.	20	45	31	96
60. The teacher praises, encourages pupils in order to promote co-operation.	App.	22	46	29	97
	Rate.	23	43	29	95
61. The teacher is alert to physical needs of students.	App.	19	50	28	97
	Rate.	19	44	27	90
62. The teacher spends time helping each student with his or her own special problem.	App.	24	42	30	96
	Rate.	24	33	29	86
63. The teacher does not expect too much nor too little of his students.	App.	21	49	26	96
	Rate.	19	38	23	80
64. The teacher appears vigorous and energetic.	App.	22	46	27	95
	Rate.	19	49	27	95
65. The teacher uses open-ended questions rather than questions with a one "right" answer.	App.	21	44	29	94
	Rate.	24	44	29	97
66. The teacher provides opportunities for natural growth in language ability by employing effective language and thereby providing a model for pupils.	App.	19	48	26	93
	Rate.	15	51	30	96
67. The teacher has a pleasing manner, free from annoying mannerisms.	App.	21	46	26	93
	Rate.	20	43	30	93
68. The teacher is always on time for class.	App.	18	50	23	91
	Rate.	21	50	26	97
69. The teacher displays evidence of being well informed in areas other than the area being taught.	App.	20	46	25	91
	Rate.	23	42	24	89
70. The teacher gives instruction on study techniques, vocabulary, and concepts as a regular part of the lesson.	App.	19	42	29	90
	Rate.	23	45	28	96
71. The teacher has a classroom in which pupils are orderly and businesslike; show pride in achievement; cooperate in group activities.	App.	22	40	28	90
	Rate.	23	42	28	93
72. The teacher strives to help each student to develop oral skills in the classroom.	App.	21	41	28	90
	Rate.	20	40	28	88

		Student	Teacher	Admin.	Total
73. The teacher increases student's vocabulary by own excellent usage.	App.	18	42	26	86
	Rate.	16	44	25	85
74. The teacher possesses a fund of valuable teaching experiences.	App.	18	41	26	85
	Rate.	16	33	25	74
75. The teacher helps pupils grow in speech-articulation abilities.	App.	19	37	26	82
	Rate.	19	36	24	79
76. The teacher likes to have students pay close attention to what he or she says or does.	App.	21	37	22	80
	Rate.	21	42	26	89
77. The teacher keeps room appropriately neat and interesting.	App.	17	37	24	78
	Rate.	25	47	27	99
78. The teacher is poised and refined in actions—sits, stands, and moves about with good posture.	App.	10	30	24	64
	Rate.	18	46	27	91

CATEGORY II

The teacher likes people and has a positive enthusiastic approach to the children he teaches.

Number of Items = 71

	<u>Appropriateness</u>	<u>Rateability</u>
Range		
Students	18-28	17-27
Teachers	31-57	33-53
Administrators	23-34	21-32
Total	75-116	76-108
Mean		
Students	23.4	22.1
Teachers	49.5	43.1
Administrators	29.3	27.3
Total	102.2	92.5
Std. Dev.		
Students	2.4	2.1
Teachers	4.8	4.6
Administrators	2.4	2.3
Total	7.96	7.4
Number of Raters		
Students	6	
Teachers	12	
Administrators	<u>7</u>	
Total	25	

II. The teacher likes people and has a positive enthusiastic approach to the children he teaches.

		Student	Teacher	Admin.	Total
1.	The teacher accepts pupils' handicaps with understanding and sympathy, rather than with ridicule.	App. 27 Rate. 25	57 47	32 30	116 102
2.	The teacher seems to be enthusiastic about teaching.	App. 27 Rate. 27	57 53	30 28	114 108
3.	The teacher supports and accepts each student as he is regardless of race, sex, nationality, family background or educational ability.	App. 28 Rate. 22	54 39	31 26	113 87
4.	The teacher likes and understands students.	App. 26 Rate. 24	56 46	31 27	113 97
5.	The teacher provides a climate in which both pupils and teacher openly and naturally accept and recognize errors of each other, rather than trying to cover, save face or show guilt.	App. 27 Rate. 22	52 44	33 28	112 94
6.	The teacher tells students when they have done particularly well.	App. 27 Rate. 25	54 46	31 29	112 100
7.	The teacher uses positive, encouraging and supportive criticism, rather than discouragement, disapproval, blame or shame.	App. 26 Rate. 25	53 48	33 29	112 102
8.	The teacher recognizes that a student's emotional problems affect his learning potential.	App. 24 Rate. 20	55 36	33 27	112 83
9.	The teacher shows interest and enthusiasm in his/her subject.	App. 25 Rate. 24	54 50	31 30	111 104
10.	The teacher encourages free expression of ideas.	App. 27 Rate. 25	53 44	31 28	111 97
11.	The teacher is friendly and courteous in relations with pupils.	App. 25 Rate. 27	57 50	28 28	110 105
12.	The teacher encourages pupils to try to do their best.	App. 26 Rate. 24	53 41	31 24	110 89
13.	The teacher encourages active participation and recognizes the instructional value of his/her own silence.	App. 21 Rate. 19	55 49	34 30	110 98

		Student	Teacher	Admin.	Total
14.	The teacher doesn't make fun of student's response to questions.	App. 27 Rate. 23	50 49	32 28	109 100
15.	The teacher urges students to accept responsibilities.	App. 25 Rate. 23	56 44	28 26	109 93
16.	The teacher makes an effort to know each pupil as an individual.	App. 25 Rate. 18	52 39	32 27	109 84
17.	The teacher demonstrates a humanistic attitude in dealing with students.	App. 24 Rate. 23	53 42	32 29	109 94
18.	The teacher provides extra help and enrichment where needed.	App. 25 Rate. 23	53 43	31 31	109 97
19.	The teacher shows courtesy, tact and kindness toward the pupils.	App. 25 Rate. 24	52 48	31 32	108 104
20.	The teacher conducts a classroom in which pupils actively participate in classroom discussions and activities.	App. 24 Rate. 23	51 48	33 32	108 103
21.	The teacher communicates with pupils at a level they can comprehend.	App. 25 Rate. 23	51 46	32 28	108 97
22.	The teacher has the ability to arouse interest in students.	App. 25 Rate. 24	53 44	30 28	108 96
23.	The teacher sees that there is a feeling of good-will in the classroom and that there is good rapport between the teacher and students.	App. 22 Rate. 23	54 44	31 26	107 93
24.	The teacher places value upon each student's contributions.	App. 23 Rate. 23	53 41	31 25	107 89
25.	The teacher shows personal interest in student's work.	App. 27 Rate. 22	48 42	32 25	107 89
26.	The teacher is patient with students.	App. 23 Rate. 23	53 47	30 30	106 100
27.	The teacher and pupils share in the enjoyment of humorous situations.	App. 22 Rate. 24	55 46	29 29	106 99
28.	The teacher has the type of attitude that serves as a real inspiration to student achievement.	App. 26 Rate. 23	49 38	30 26	105 87
29.	The teacher sets rules and regulations that are fair.	App. 24 Rate. 19	52 42	29 29	105 90

		Student	Teacher	Admin.	Total
30.	The teacher helps pupils with educational problems.	App. 27	49	29	105
		Rate. 21	41	28	90
31.	The teacher is relaxed, good-natured, cheerful and courteous.	App. 20	55	29	104
		Rate. 23	53	30	106
32.	The teacher shows understanding and sympathy in working with pupils.	App. 20	54	30	104
		Rate. 21	40	28	89
33.	The teacher appreciates accomplishments of students.	App. 23	51	30	104
		Rate. 22	38	27	87
34.	The teacher avoids hostility and sarcasm in the classroom.	App. 21	51	32	104
		Rate. 23	48	29	100
35.	The teacher admits when he or she is wrong or does not know an answer.	App. 23	54	27	104
		Rate. 25	48	27	100
36.	The teacher encourages students in their development of self-discipline.	App. 21	52	31	104
		Rate. 18	41	29	88
37.	The teacher shows contagious enthusiasm for subject.	App. 23	50	30	103
		Rate. 23	51	29	103
38.	The teacher usually controls temper well.	App. 24	50	29	103
		Rate. 24	44	30	98
39.	The teacher provides for extra help and enrichment through planning or allowing the use of extra class time.	App. 28	48	27	103
		Rate. 26	45	26	97
40.	The teacher makes sure that contributions and efforts of individual pupils are given recognition.	App. 23	48	31	102
		Rate. 20	42	29	91
41.	The teacher maintains an effective balance of freedom and security in the classroom.	App. 23	50	29	102
		Rate. 23	44	27	94
42.	The teacher provides for the development of mutual respect and tolerance among the students.	App. 24	49	29	102
		Rate. 20	42	25	87
43.	The teacher demonstrates an understanding of student problems.	App. 25	46	31	102
		Rate. 22	35	27	84
44.	The teacher has self-control and is not easily upset.	App. 22	51	28	101
		Rate. 20	45	31	96
45.	The teacher creates an effective classroom atmosphere.	App. 21	50	30	101
		Rate. 20	41	26	87
46.	The teacher treats students in a way their maturity warrants.	App. 24	48	29	101
		Rate. 22	39	26	87



		Student	Teacher	Admin.	Total
47.	The teacher acknowledges all questions to the best of his/her ability.	App. 23 Rate. 22	50 40	27 23	100 85
48.	The teacher has the respect and admiration of the students.	App. 24 Rate. 22	46 43	29 25	99 90
49.	The teacher indicates through actions a working knowledge of, and accompanying skill in, child/pupil growth and development.	App. 20 Rate. 21	49 40	30 27	99 88
50.	The teacher always considers the other person's point of view.	App. 26 Rate. 22	45 36	28 27	99 85
51.	The teacher helps students to develop willingness and ability to cooperate in the solution of problems.	App. 23 Rate. 17	47 37	29 23	99 77
52.	The teacher wins cooperation of pupils remarkably well.	App. 24 Rate. 21	45 42	29 25	98 88
53.	The teacher is able to meet school emergencies and unusual situations.	App. 21 Rate. 19	50 40	27 26	98 85
54.	The teacher is cheerful and optimistic.	App. 23 Rate. 23	49 49	25 29	97 101
55.	The teacher disciplines in a quiet, dignified, and positive manner.	App. 21 Rate. 21	46 48	29 30	96 99
56.	The teacher is conscientious and hard-working.	App. 21 Rate. 21	46 45	29 28	96 94
57.	The teacher has a classroom in which pupils are eager, prompt, and willing to make voluntary contributions to the class.	App. 23 Rate. 20	46 43	26 26	95 89
58.	The teacher is friendly outside the classroom.	App. 20 Rate. 19	45 40	30 27	95 86
59.	The teacher knows and uses pupils' first names.	App. 21	49	24	94
60.	The teacher maintains an atmosphere which promotes a consistently courteous behavior among pupils.	App. 21 Rate. 20	45 37	28 28	94 85
61.	The teacher is exceptionally fair and square.	App. 22 Rate. 19	46 40	26 25	94 84
62.	The teacher exhibits great self-confidence and inspires confidence in daily contacts.	App. 23 Rate. 24	45 41	25 26	93 91

		Student	Teacher	Admin.	Total	
63.	The teacher gives a student a chance to change a wrong answer before asking someone else for the right answer.	App.	24	43	25	92
		Rate.	25	45	23	93
64.	The teacher helps pupils with personal problems if asked to do so by the pupils.	App.	23	41	28	92
		Rate.	21	33	22	76
65.	The teacher avoids giving too many directions following the introduction of a given task.	App.	18	46	26	90
		Rate.	23	37	25	85
66.	The teacher foresees and attempts to resolve potential difficulties.	App.	20	41	29	90
		Rate.	23	36	24	83
67.	The teacher has a sense of humor, is willing to laugh at things students think funny.	App.	19	43	27	89
		Rate.	20	48	26	94
68.	The teacher uses democratic techniques and skills in teaching.	App.	20	40	28	88
		Rate.	20	41	30	91
69.	The teacher emphasizes adherence to standards of conduct that have been established in the classroom.	App.	20	41	26	87
		Rate.	21	37	29	87
70.	The teacher encourages students to be friendly and kind to one another.	App.	21	42	23	86
		Rate.	20	40	21	81
71.	The teacher treats students as "grown ups".	App.	21	31	23	75
		Rate.	21	36	25	82

CATEGORY III

The teacher is sensitive to the individual needs of children and tries to have empathy with them. The teacher respects the integrity of children even when their goals differ from his.

Number of Items = 76

	<u>Appropriateness</u>	<u>Rateability</u>
Range		
Students	12-29	16-26
Teachers	27-58	33-52
Administrators	20-34	23-34
Total	60-118	75-106
Mean		
Students	23.87	22.1
Teachers	48.8	41.8
Administrators	29.8	27.5
Total	102.47	91.4
Std. Dev.		
Students	2.65	2.1
Teachers	5.6	4.3
Administrators	2.8	2.5
Total	9.4	6.6
Number of Raters		
Students	6	
Teachers	12	
Administrators	<u>7</u>	
Total	25	

III. The teacher is sensitive to the individual needs of children and tries to have empathy with them. The teacher respects the integrity of children even when their goals differ from his.

		Student	Teacher	Admin.	Total
1.	The teacher makes his students feel free to ask questions, disagree, and express their ideas.	App. 29 Rate. 25	56 48	33 28	118 101
2.	The teacher appears to be sensitive to students' feelings and problems; shows respect for the students.	App. 25 Rate. 24	58 52	34 27	117 103
3.	The teacher provides opportunities for successful learning experiences for each pupil at his ability level.	App. 29 Rate. 24	55 41	33 30	117 95
4.	The teacher encourages students to think.	App. 28 Rate. 24	56 36	32 30	116 90
5.	The teacher communicates realistic expectations of achievement for each pupil.	App. 26 Rate. 18	55 46	34 28	115 92
6.	The teacher <u>does not</u> belittle students.	App. 27 Rate. 25	55 52	32 25	114 102
7.	The teacher is a good listener.	App. 26 Rate. 22	55 44	32 29	113 95
8.	The teacher is fair, impartial, and objective in treatment of pupils.	App. 25 Rate. 20	56 46	32 26	113 92
9.	The teacher provides opportunities for all pupils to experience success.	App. 25 Rate. 23	54 44	33 30	112 97
10.	The teacher maintains an open, friendly rapport with students.	App. 23 Rate. 24	56 51	32 31	111 106
11.	The teacher uses the results of classroom tests to improve classroom instruction.	App. 27 Rate. 22	52 36	32 28	111 86
12.	The teacher is fair and reasonable to students in the grading procedure.	App. 25 Rate. 24	53 41	32 33	110 98
13.	The teacher is helpful to students having difficulty with the subject.	App. 27 Rate. 21	53 48	30 27	110 96
14.	The teacher respects students who have ideas which are different from his or her own ideas.	App. 28 Rate. 25	50 40	32 28	110 93

		Student	Teacher	Admin.	Total
15.	The teacher is truly interested in the pupils in the class and in classroom activities.	App. 26	53	31	110
		Rate. 21	42	23	86
16.	The teacher provides the opportunity for and encourages pupils' expression.	App. 26	50	33	109
		Rate. 24	46	29	99
17.	The teacher provides opportunities for developing creative thinking and problem solving approaches by students.	App. 25	52	32	109
		Rate. 23	43	30	96
18.	The teacher inspires students to independent effort; creates desire for investigation.	App. 24	52	33	109
		Rate. 24	38	29	91
19.	The teacher handles his/her own discipline problems, is firm but friendly, is consistent in policy, and self-confident in management of pupils.	App. 25	52	31	108
		Rate. 25	49	29	103
20.	The teacher encourages expression of student viewpoint.	App. 27	51	30	108
		Rate. 26	46	26	98
21.	The teacher recognizes and admits own mistakes.	App. 25	54	29	108
		Rate. 24	43	28	95
22.	The teacher is fair and impartial in his dealings with the students.	App. 23	54	31	108
		Rate. 20	47	26	93
23.	The teacher stimulates students to do free and independent thinking.	App. 25	51	32	108
		Rate. 23	40	25	88
24.	The teacher accepts students' viewpoints with an open mind.	App. 27	51	29	107
		Rate. 24	44	26	94
25.	The teacher makes clear what is expected of students.	App. 23	52	32	107
		Rate. 23	42	28	93
26.	The teacher demonstrates a genuine personal interest in students.	App. 24	53	30	107
		Rate. 22	43	27	92
27.	The teacher is careful of the feelings of the students.	App. 24	52	31	107
		Rate. 20	43	25	88
28.	The teacher understands student and adolescent behavior.	App. 24	53	30	107
		Rate. 20	41	27	88
29.	The teacher uses evaluative evidence to improve teaching-learning experiences.	App. 21	52	34	107
		Rate. 16	40	27	83
30.	The teacher employs varied teaching techniques including the use of pre-test for purposes of determining instructional levels.	App. 23	49	34	106
		Rate. 23	47	34	104

		Student	Teacher	Admin.	Total
31.	The teacher encourages and accepts suggestions from the students.	App. 26 Rate. 25	48 42	32 29	106 96
32.	The teacher welcomes differences of opinion by the students.	App. 26 Rate. 25	49 44	30 28	105 97
33.	The teacher has personal convictions but tries to present both sides of the story.	App. 25 Rate. 24	51 43	29 28	105 95
34.	The teacher avoids making public comparisons between pupils.	App. 25 Rate. 23	52 40	28 28	105 91
35.	The teacher gives everyone an equal chance.	App. 26 Rate. 23	49 42	30 26	105 91
36.	The teacher helps pupils believe that they should try harder to achieve.	App. 24 Rate. 21	37 34	23 23	84 78
37.	The teacher is mobile within the classroom, moves about to see what students are accomplishing.	App. 25 Rate. 24	47 45	32 30	104 99
38.	The teacher provides the opportunity for review and recall of basic learning through a variety of activities.	App. 23 Rate. 22	50 44	31 29	104 95
39.	The teacher organizes and summarizes data for meaningful interpretation.	App. 23 Rate. 20	50 44	31 29	104 93
40.	The teacher states test questions clearly.	App. 24 Rate. 22	50 44	29 31	103 97
41.	The teacher takes time to listen to and to accept a pupil's point of view.	App. 26 Rate. 25	47 41	30 30	103 96
42.	The teacher uses a variety of appropriate ways of measuring student's achievement and/or progress toward instructional goals.	App. 23 Rate. 22	47 42	33 32	103 96
43.	The teacher uses a variety of instruments and techniques for evaluation and keeping pupils informed of their progress.	App. 21 Rate. 21	50 44	32 30	103 95
44.	The teacher encourages free expression of ideas.	App. 27 Rate. 23	48 41	28 28	103 92
45.	The teacher presents all sides of a point in question when there are conflicting theories in a field.	App. 26 Rate. 22	47 39	30 29	103 90

		Student	Teacher	Admin.	Total
46.	The teacher allows students' suggestions and criticisms to influence his plans for class objectives and activities.	App. 24 Rate. 23	48 37	30 28	102 88
47.	The teacher leads the learner to assume an important role in the evaluation of his own growth and development.	App. 21 Rate. 20	49 39	32 26	102 85
48.	The teacher bases grades on work done, not personal feelings.	App. 24 Rate. 20	51 37	27 27	102 84
49.	The teacher helps pupils feel a part of the academic achieving group.	App. 26 Rate. 21	48 39	28 23	102 83
50.	The teacher knows each pupil as an individual.	App. 25 Rate. 17	48 36	29 24	102 77
51.	The teacher encourages pupils to make judgment of own work.	App. 20 Rate. 21	51 41	30 30	101 92
52.	The teacher encourages creativeness.	App. 24 Rate. 22	47 42	30 26	101 90
53.	The teacher controls conflict situations skilfully and easily, without undue tension.	App. 22 Rate. 20	47 42	31 28	100 90
54.	The teacher communicates individually as may be needed with pupils singly or in small groups instead of sending out oral messages to "whom it may concern."	App. 23 Rate. 21	44 37	33 30	100 88
55.	The teacher meets pupils on their level and is not withdrawn, aloof, distant, or superior.	App. 23 Rate. 22	46 42	30 30	99 94
56.	The teacher tries to find things that students are "good at" instead of things they are "poor at".	App. 24 Rate. 24	50 44	25 25	99 93
57.	The teacher encourages social acceptance of minority-group pupils.	App. 25 Rate. 22	46 38	28 26	99 86
58.	The teacher helps students develop critical attitudes.	App. 22 Rate. 19	52 39	25 25	99 83
59.	The teacher keeps track of the learning progress of each student and keeps appropriate records.	App. 25 Rate. 23	44 45	29 32	98 100

		Student	Teacher	Admin.	Total	
60.	The teacher uses examinations to help in student learning.	App.	24	45	27	98
		Rate.	20	45	29	94
61.	The teacher explains his/her grading system clearly.	App.	22	52	24	98
		Rate.	23	46	24	93
62.	The teacher encourages students by helpful advice or praise on tests.	App.	22	49	27	98
		Rate.	23	42	26	91
63.	The teacher demonstrates a well-defined and reasonable procedure upon which grades are based.	App.	20	49	28	97
		Rate.	21	43	30	94
64.	The teacher has accurate grade records available to the student.	App.	23	47	27	97
		Rate.	23	42	27	92
65.	The teacher creates an effective educational atmosphere in the classroom.	App.	22	45	30	97
		Rate.	22	39	30	91
66.	The teacher sets standards for individual and group achievement.	App.	24	43	29	96
		Rate.	23	41	27	91
67.	The teacher accepts the pupils' efforts as sincere.	App.	24	44	27	95
		Rate.	22	33	25	80
68.	The teacher does <u>not</u> care if a student is different from other pupils.	App.	19	45	30	94
		Rate.	19	43	24	86
69.	The teacher clearly explains how the class grades are determined.	App.	21	47	24	92
		Rate.	22	47	24	93
70.	The teacher helps pupils believe that achievement at a higher level is possible.	App.	22	43	27	92
		Rate.	23	36	24	83
71.	The teacher gives support to pupils experiencing social stress due to late or early physical maturation.	App.	21	41	29	91
		Rate.	18	34	23	75
72.	The teacher constructs tests as learning experiences and involves students in evaluation of tests as learning activity.	App.	20	41	28	89
		Rate.	21	39	27	87
73.	The teacher interacts, guides, and controls reaction to student's responses.	App.	20	39	29	88
		Rate.	20	33	28	81
74.	The teacher never deliberately forces own decisions on the class.	App.	25	35	23	83
		Rate.	23	35	23	81
75.	The teacher directs comments to individuals, not to group.	App.	20	27	26	73
		Rate.	24	36	26	86



		Student	Teacher	Admin.	Total
76.	The teacher arranges for effective classroom heating, ventilation and lighting.	App. 12	28	20	60
		Rate. 18	35	25	78
*58A.	The teacher encourages pupils to work through their own problems and evaluate their accomplishments.	App. 21	49	29	99
		Rate. 17	39	26	82

CATEGORY IV

The teacher keeps the course objectives in sight: he is persistent in working towards these goals while retaining perspective of the total educational program.

Number of Items = 55

	<u>Appropriateness</u>	<u>Rateability</u>
Range		
Students	10-27	16-25
Teachers	25-57	34-53
Administrators	17-34	22-33
Total	61-112	78-108
Mean		
Students	22.2	21.9
Teachers	47.49	42.1
Administrators	29.6	28.5
Total	99.3	92.6
Std. Dev.		
Students	3.2	1.9
Teachers	5.9	3.9
Administrators	2.9	2.4
Total	9.95	5.9

Number of Raters

Students	6
Teachers	12
Administrators	<u>7</u>
Total	25

IV. The teacher keeps the course objectives in sight: he is persistent in working towards these goals while retaining perspective of the total educational program.

		Student	Teacher	Admin.	Total
1.	The teacher encourages open-ended inquiry and discussion when consistent with the instructional goals of the class.	App. 25 Rate. 22	54 44	33 31	112 97
2.	The teacher makes it clear what is expected of students.	App. 23 Rate. 23	57 48	31 26	111 97
3.	The teacher adapts to situations which arise in class; is flexible.	App. 25 Rate. 22	51 46	34 28	111 96
4.	The teacher communicates effectively to the students what classroom procedures will be followed - pupils understand objectives toward which they are working.	App. 25 Rate. 24	51 43	34 31	110 98
5.	The teacher makes realistic assignments and student appraisals.	App. 23 Rate. 21	55 45	32 30	110 96
6.	The teacher gives each student a feeling of importance as a person.	App. 25 Rate. 20	53 41	31 30	109 91
7.	The teacher has classroom procedures that are flexible within an over-all plan.	App. 23 Rate. 20	53 45	32 31	108 96
8.	The teacher plans learning activities so as to encourage pupil initiative and leadership.	App. 25 Rate. 22	51 46	32 28	108 96
9.	The teacher has immediate and long-range objectives designed to fit the needs of students.	App. 24 Rate. 25	53 39	31 29	108 93
10.	The teacher is clear and thorough in giving directions.	App. 25 Rate. 24	54 48	28 29	107 101
11.	The teacher employs a variety of approaches in presenting new materials.	App. 25 Rate. 25	51 47	31 29	107 101
12.	The teacher sets educational objectives in terms of student's level of development.	App. 24 Rate. 23	48 42	34 30	106 95
13.	The teacher explains assignments thoroughly.	App. 24 Rate. 24	53 48	28 29	105 101
14.	The teacher puts ideas across logically and orderly.	App. 24 Rate. 22	52 48	29 28	105 98

		Student	Teacher	Admin.	Total	
15.	The teacher demonstrates initiative and adaptability in adjusting pre-determined plans to circumstances and individuals.	App.	21	54	30	105
		Rate.	22	44	30	96
16.	The teacher makes clear what is expected of students.	App.	23	53	29	105
		Rate.	21	44	28	93
17.	The teacher makes effective use of materials, media, and supplies.	App.	22	53	29	104
		Rate.	21	46	28	95
18.	The teacher provides for the development of understandings, skills and attitudes in accordance with the ability of the student.	App.	23	49	32	104
		Rate.	21	44	30	95
19.	The teacher is well prepared for class.	App.	21	53	30	104
		Rate.	22	40	31	93
20.	The teacher has materials readily available to the students.	App.	22	50	31	103
		Rate.	22	53	33	108
21.	The teacher uses a variety of resource materials in class.	App.	23	50	30	103
		Rate.	24	43	32	99
22.	The teacher presents material in a well-organized fashion.	App.	24	49	30	103
		Rate.	24	43	29	96
23.	The teacher expresses himself clearly and interestingly on those occasions when he must communicate objectives, present information, or provide demonstrations.	App.	26	51	26	103
		Rate.	25	41	28	94
24.	The teacher varies assignments and procedures in terms of student's individual abilities.	App.	23	46	34	103
		Rate.	22	41	31	94
25.	The teacher gauges pupil understanding during lesson as a guide to pacing.	App.	21	51	31	103
		Rate.	20	42	30	92
26.	The teacher provides opportunities for pupils to develop qualities of leadership and self-direction.	App.	25	47	31	103
		Rate.	20	38	30	88
27.	The teacher uses a variety of materials to supplement the basic program.	App.	22	49	31	102
		Rate.	23	44	30	97
28.	The teacher makes clear cut assignments.	App.	22	51	29	102
29.	The teacher provides numerous and varied opportunities for individual and group expression in creative fields.	App.	23	47	31	101
		Rate.	25	40	28	93

			Student	Teacher	Admin.	Total
30.	The teacher does not fill up class time with unimportant material.	App. Rate.	24 22	48 37	28 30	100 89
31.	The teacher interests and motivates the students' desire to become involved in the learning process.	App. Rate.	22 23	46 35	32 26	100 85
32.	The teacher always has class materials ready.	App. Rate.	18 19	50 46	31 32	99 97
33.	The teacher asks questions that vary in type and difficulty for different pupils to help make sure that each pupil understands.	App. Rate.	22 22	47 44	30 30	99 96
34.	The teacher is logical in thinking.	App. Rate.	26 18	45 38	28 22	99 78
35.	The teacher tailors worthwhile and realistic goals to the student's interests and abilities.	App. Rate.	22 23	43 41	33 28	98 92
36.	The teacher provides for the development of effective discussion practices.	App. Rate.	21 21	48 41	29 28	98 90
37.	The teacher seizes opportunities to encourage all pupils to enter into group activities; evidences awareness of personal temperaments.	App. Rate.	18 20	52 41	28 25	98 86
38.	The teacher covers subject well.	App. Rate.	27 22	41 34	30 27	98 83
39.	The teacher keeps accurate and meaningful records.	App. Rate.	21 20	47 48	29 31	97 99
40.	The teacher encourages student participation in planning and organizing class objectives and activities.	App. Rate.	25 21	43 39	29 25	97 85
41.	The teacher uses classroom procedures that are well planned and organized.	App. Rate.	19 24	47 43	30 32	96 99
42.	The teacher avoids presenting too much new material at one time.	App. Rate.	23 23	44 36	29 29	96 88
43.	The teacher organizes the course in logical fashion.	App. Rate.	26 24	44 35	26 27	96 86
44.	The teacher encourages and expects all students to contribute to class activities.	App. Rate.	22 22	45 44	28 26	95 92

		Student	Teacher	Admin.	Total	
45.	The teacher suggests variety of resources for various pupils.	App.	21	44	30	95
		Rate.	20	40	31	91
46.	The teacher assists students in setting up personal objectives.	App.	21	43	31	95
		Rate.	21	36	27	84
47.	The teacher provides for the development of effective committee and small group participation.	App.	16	49	28	93
		Rate.	22	45	27	94
48.	The teacher always has well-organized daily plans.	App.	21	40	32	93
		Rate.	22	44	28	94
49.	The teacher does not dwell upon the obvious.	App.	22	43	26	91
		Rate.	22	39	24	85
50.	The teacher develops objectives for large units of study, daily class work and special activities in cooperation with pupils.	App.	23	38	28	89
		Rate.	24	39	27	90
51.	The teacher outlines in writing objectives upon which students, teacher, parents, or administrators can evaluate progress.	App.	20	37	29	86
		Rate.	20	39	30	89
52.	The teacher plans activities to meet the personal and social needs of the pupils.	App.	17	38	28	83
		Rate.	16	38	27	81
53.	The teacher spaces assignments evenly.	App.	18	38	24	80
		Rate.	23	40	24	87
54.	The teacher writes difficult words on the blackboard and explains them.	App.	10	37	17	64
		Rate.	19	42	26	87
55.	The teacher makes sure that students always know what is coming up next class period.	App.	13	25	23	61
		Rate.	22	37	23	82

CATEGORY V

The teacher helps students synthesize individual learning with the total learning experience in and out of school.

Number of Items = 33

	<u>Appropriateness</u>	<u>Rateability</u>
<b>Range</b>		
Students	15-27	18-25
Teachers	32-59	30-46
Administrators	20-35	17-31
Total	68-115	70-99
<b>Mean</b>		
Students	22.5	21.5
Teachers	46.97	39.6
Administrators	28.8	26.3
Total	98.24	87.3
<b>Std. Dev.</b>		
Students	2.76	2.2
Teachers	5.67	3.6
Administrators	3.2	3.3
Total	9.9	7.3
<b>Number of Raters</b>		
Students	6	
Teachers	12	
Administrators	<u>7</u>	
Total	25	

V. The teacher helps students synthesize individual learning with the total learning experience in and out of school.

		Student	Teacher	Admin.	Total
1.	The teacher encourages critical thinking.	App. 24 Rate. 21	59 43	32 29	115 93
2.	The teacher is teaching the students to develop independent study skills.	App. 26 Rate. 20	53 41	33 29	112 90
3.	The teacher creates classroom conditions in which pupils develop initiative and assume a personal responsibility for learning.	App. 26 Rate. 23	54 36	32 25	112 84
4.	The teacher provides students with opportunities to make decisions.	App. 25 Rate. 24	55 45	30 29	110 98
5.	The teacher utilizes current events and unexpected situations for their educative value when appropriate to subject area and/or to the needs of the students.	App. 27 Rate. 23	55 44	27 27	109 94
6.	The teacher leads or directs pupils to generalizations, application, and/or to see inter-relatedness of knowledge - stimulates thought.	App. 25 Rate. 19	53 43	29 24	107 86
7.	The teacher carefully considers student suggestions when making decisions.	App. 25 Rate. 21	51 43	31 29	107 93
8.	The teacher teaches for concept development rather than for memorization of specific facts.	App. 24 Rate. 23	48 46	33 30	105 99
9.	The teacher provides opportunities in which students can exercise self-direction in terms of the instructional program.	App. 23 Rate. 22	48 44	34 30	105 96
10.	The teacher presents problems to the students in a manner which stimulates pupils to contribute to the solution.	App. 25 Rate. 24	50 42	30 27	105 93
11.	The teacher assists pupils in self-evaluation by helping them to understand their own abilities and limitations.	App. 21 Rate. 24	49 37	35 31	105 92
12.	The teacher directs pupils in learning to use those materials from which they will continue to learn after leaving school.	App. 24 Rate. 21	51 40	29 24	104 85



			Student	Teacher	Admin.	Total
13.	The teacher relates current lessons to previous learning.	App.	24	48	31	103
		Rate.	25	43	29	97
14.	The teacher assists pupils in defining realistic goals.	App.	22	49	29	100
		Rate.	23	38	28	89
15.	The teacher inspires students to seek more knowledge on the subject.	App.	22	47	31	100
		Rate.	19	35	26	80
16.	The teacher helps the student see that the subject matter and school achievement are relevant to his life outside the school.	App.	23	49	27	99
		Rate.	19	38	26	83
17.	The teacher involves students in evaluating the learning process.	App.	20	47	31	98
		Rate.	21	37	29	87
18.	The teacher involves students in planning objectives and activities.	App.	23	45	29	97
		Rate.	22	42	29	93
19.	The teacher designs classroom activities to develop pupil ability and motivation for finding solutions to current social problems.	App.	24	44	29	97
		Rate.	23	36	27	86
20.	The teacher teaches pupils to locate information on current problems.	App.	24	43	29	96
		Rate.	23	41	29	93
21.	The teacher frequently relates course to other fields and to present-day problems.	App.	22	46	28	96
		Rate.	22	42	27	91
22.	The teacher utilizes pupils' experiences in order to motivate interest.	App.	22	45	29	96
		Rate.	20	39	30	89
23.	The teacher helps pupils engage in self-directed study outside the demands of the classroom.	App.	21	45	30	96
		Rate.	18	35	22	75
24.	The teacher involves students in discussion among themselves.	App.	20	47	26	93
		Rate.	20	42	26	90
25.	The teacher refers and relates his/her lessons to other subjects.	App.	23	44	26	93
		Rate.	23	42	22	87
26.	The teacher applies subject to everyday life.	App.	22	44	25	91
		Rate.	22	41	25	88
27.	The teacher directs individuals and groups to appropriate life applications of classroom learning.	App.	23	43	25	91
		Rate.	23	37	22	82
28.	The teacher usually presents new learning that is related to previously mastered materials.	App.	23	40	27	90
		Rate.	25	36	27	88

		Student	Teacher	Admin.	Total	
29.	The teacher is well read.	App.	15	50	24	89
		Rate.	18	39	22	78
30.	The teacher assists pupils in making application of his experience to many situations.	App.	20	39	28	87
		Rate.	18	30	22	70
31.	The teacher shows the relationship between his classroom program and the school curriculum.	App.	17	38	28	83
		Rate.	18	38	27	83
32.	The teacher directs pupils to sources of information on vocational opportunities and careers.	App.	20	39	24	83
		Rate.	21	36	22	79
33.	The teacher can talk intelligently on almost any topic.	App.	16	32	20	68
		Rate.	18	35	17	70

CATEGORY VI

The teacher has a strong sense of direction but recognizes the value of propriety.

Number of Items = 25

	<u>Appropriatness</u>	<u>Rateability</u>
<b>Range</b>		
Students	15-24	13-22
Teachers	39-54	33-54
Administrators	26-34	25-32
Total	86-112	77-101
<b>Mean</b>		
Students	19.96	18.3
Teachers	47.56	44.4
Administrators	29.3	28.6
Total	96.84	91.36
<b>Std. Dev.</b>		
Students	2.65	2.7
Teachers	4.4	4.8
Administrators	2.01	2.0
Total	7.2	5.9
<b>Number of Raters</b>		
Students	6	
Teachers	12	
Administrators	<u>7</u>	
Total	25	

VI. The teacher has a strong sense of direction but recognizes the value of propriety.

		Student	Teacher	Admin.	Total
1.	The teacher uses discretion in handling confidential information and difficult situations.	App. 24 Rate. 21	54 47	34 30	112 98
2.	The teacher provides for an atmosphere of mutually shared respect among pupils and teachers.	App. 24 Rate. 20	54 47	33 32	111 99
3.	The teacher demonstrates fairness and consistency in the handling of student problems.	App. 24 Rate. 22	54 46	32 30	110 98
4.	The teacher shares ideas and techniques with other teachers.	App. 22 Rate. 18	54 48	28 29	104 95
5.	The teacher works well with other teachers and the administration.	App. 20 Rate. 15	51 54	31 32	102 101
6.	The teacher remains calm and poised in difficult situations.	App. 21 Rate. 19	51 48	29 27	101 94
7.	The teacher seeks and accepts guidance from other teachers, supervisory and specialized personnel.	App. 20 Rate. 18	51 47	29 30	100 95
8.	The teacher accepts suggestions and is willing to try them.	App. 24 Rate. 21	46 41	30 29	100 91
9.	The teacher respects and contributes to the accomplishments of staff by cooperative planning, sharing plans, ideas, materials and facilities.	App. 20 Rate. 18	49 44	31 29	100 91
10.	The teacher strives for improvement through positive participation in professional growth activities.	App. 22 Rate. 16	47 44	30 25	99 85
11.	The teacher exhibits standards of conduct that indicate a pride in the teaching profession.	App. 21 Rate. 21	47 43	30 28	98 92
12.	The teacher cooperates with fellow staff members and the school administration.	App. 17 Rate. 17	50 48	29 29	96 94
13.	The teacher is a good team worker.	App. 18 Rate. 16	48 42	30 30	96 88
14.	The teacher assumes responsibility in team or committee work.	App. 19 Rate. 16	44 51	31 32	94 99

		Student	Teacher	Admin.	Total	
15.	The teacher relates positively with other teachers.	App.	17	48	29	94
		Rate.	15	48	30	93
16.	The teacher maintains an open, friendly rapport with other teachers.	App.	15	50	29	94
		Rate.	13	49	29	91
17.	The teacher exhibits wise judgment in making choices, planning and carrying out plans with pupils and other teachers.	App.	21	43	30	94
		Rate.	22	38	26	86
18.	The teacher actively seeks to promote cooperation on all occasions; evidences the ability to work very effectively with student or teacher groups.	App.	23	42	28	93
		Rate.	21	41	26	88
19.	The teacher performs the required administrative duties in an acceptable manner.	App.	19	47	26	92
		Rate.	15	47	29	91
20.	The teacher relates in a professional manner with colleagues.	App.	15	48	28	91
		Rate.	16	46	28	90
21.	The teacher demonstrates proper use and care of equipment and materials.	App.	18	46	26	90
		Rate.	22	43	29	94
22.	The teacher demonstrates a commitment to teaching as a career.	App.	19	45	26	90
		Rate.	20	41	25	86
23.	The teacher supports the school in words and deeds; exhibits confidence in his/her fellow teachers and the administration.	App.	19	40	28	87
		Rate.	22	40	28	90
24.	The teacher contributes to the honor and prestige of the profession by his personal conduct.	App.	18	41	28	87
		Rate.	17	35	26	78
25.	The teacher communicates effectively with the public as well as with the members of the teaching profession.	App.	19	39	28	86
		Rate.	16	33	28	77

CATEGORY VII

The teacher recognizes the value of positive school-community relations.

Number of Items = 20

	<u>Appropriateness</u>	<u>Rateability</u>
<b>Range</b>		
Students	14-25	14-23
Teachers	32-51	29-53
Administrators	20-31	22-30
Total	73-107	74-100
<b>Mean</b>		
Students	18.9	19.2
Teachers	42.2	41.7
Administrators	27.1	26.3
Total	88.2	87.2
<b>Std. Dev.</b>		
Students	2.8	2.5
Teachers	5.96	5.8
Administrators	2.7	2.0
Total	10	7.0
<b>Number of Raters</b>		
Students	6	
Teachers	12	
Administrators	<u>7</u>	
Total	25	

## VII. The teacher recognizes the value of positive school-community relations.

		Student	Teacher	Admin.	Total
1.	The teacher responds promptly to parental concerns.	App. 25 Rate. 18	51 43	31 26	107 87
2.	The teacher lets parents know of problems relating to a student's progress and attendance.	App. 23 Rate. 19	51 40	31 28	105 87
3.	The teacher reports pupil progress to parents in an effective manner.	App. 22 Rate. 17	49 47	30 27	101 91
4.	The teacher displays positive attitude toward school and other teachers.	App. 20 Rate. 24	49 46	29 30	98 100
5.	The teacher uses discretion in discussing school affairs.	App. 19 Rate. 19	49 44	29 27	97 90
6.	The teacher welcomes contact from parents.	App. 22 Rate. 21	46 39	28 22	96 82
7.	The teacher strives to develop social and civic values in students.	App. 18 Rate. 21	47 37	29 26	94 84
8.	The teacher points up the relationship of school learning and out-of-school life whenever possible.	App. 19 Rate. 22	47 41	27 26	93 89
9.	The teacher follows proper steps for communication within the school system.	App. 20 Rate. 17	43 44	28 30	91 91
10.	The teacher utilizes available educational resources of the community in classroom procedures.	App. 21 Rate. 23	41 44	27 27	89 94
11.	The teacher assumes responsibilities outside of the classroom as they relate to school.	App. 18 Rate. 18	45 46	26 26	89 90
12.	The teacher utilizes field trips to draw on community resources, if and when applicable.	App. 20 Rate. 19	40 47	28 29	88 95
13.	The teacher has generally positive responses from parents.	App. 15 Rate. 14	42 45	25 25	82 84
14.	The teacher participates in P.T.A., curriculum development, in-service programs, and faculty meetings.	App. 17 Rate. 19	37 48	27 30	81 97
15.	The teacher works effectively with the public to define school aims.	App. 18 Rate. 21	34 37	29 25	81 83
16.	The teacher is well groomed; clothes are neat, clean and in good taste.	App. 14 Rate. 20	39 53	25 27	78 100

		Student	Teacher	Admin.	Total	
17.	The teacher is loyal to the school and other faculty members.	App.	18	35	25	78
		Rate.	19	32	26	77
18.	The teacher reveals to the public the significance of the school program through activities in classroom, school, and community projects.	App.	17	36	24	77
		Rate.	22	38	25	85
19.	The teacher encourages parents to visit regular classes and special events.	App.	18	32	26	76
		Rate.	21	29	24	74
20.	The teacher does <u>not</u> discuss other teachers or administrators with students or parents.	App.	15	38	20	73
		Rate.	14	38	24	76



**APPENDIX D: FORM 2 - ITEM DISCRIMINATION SURVEY**



- |   |   |   |   |   |   |
|---|---|---|---|---|---|
| 1. The teacher makes the classwork interesting--puts his material across in an interesting way.               | 1 | 2 | 3 | 4 | 5 |
| 2. The teacher is constantly seeking to improve teaching skills.  | 1 | 2 | 3 | 4 | 5 |
| 3. The teacher gives the student experience with a wide range of problems and problem-solving techniques.     | 1 | 2 | 3 | 4 | 5 |
| 4. The teacher gives help willingly.  | 1 | 2 | 3 | 4 | 5 |
| 5. The teacher provides for individual differences and needs of pupils.                                       | 1 | 2 | 3 | 4 | 5 |
| 6. The teacher has command of the knowledge of the subject being taught.                                      | 1 | 2 | 3 | 4 | 5 |
| 7. The teacher makes a real effort toward the development of a program in which students may succeed.         | 1 | 2 | 3 | 4 | 5 |
| 8. The teacher has respect and understanding for all pupils and is considerate of student needs.              | 1 | 2 | 3 | 4 | 5 |
| 9. The teacher knows how to explain things so that the students are able to understand.                       | 1 | 2 | 3 | 4 | 5 |
| 10. The teacher provides classroom challenges within the range of ability of the pupils in the class.         | 1 | 2 | 3 | 4 | 5 |
| 11. The teacher is fair in handling discipline.   | 1 | 2 | 3 | 4 | 5 |
| 12. The teacher sustains pupil attention and response with use of activities appropriate to pupils' level.    | 1 | 2 | 3 | 4 | 5 |
| 13. The teacher stimulates pupils by use of interesting materials and techniques.                             | 1 | 2 | 3 | 4 | 5 |
| 14. The teacher recognizes and provides for the individual differences in students.                           | 1 | 2 | 3 | 4 | 5 |
| 15. The teacher develops understanding of skills, objectives and appreciations associated with subject areas. | 1 | 2 | 3 | 4 | 5 |
| 16. The teacher is readily available to students.   | 1 | 2 | 3 | 4 | 5 |
| 17. The teacher makes assignments that are clear, reasonable and easy to understand.                          | 1 | 2 | 3 | 4 | 5 |
| 18. The teacher makes the class work exciting.  | 1 | 2 | 3 | 4 | 5 |
| 19. The teacher utilizes varied teaching strategies that stimulate student learning.                          | 1 | 2 | 3 | 4 | 5 |
| 20. The teacher conducts clear, practical demonstrations and explanations.                                    | 1 | 2 | 3 | 4 | 5 |

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|---|---|---|---|---|---|
| 21. The teacher is sincerely interested in the subject being taught.  | 1 | 2 | 3 | 4 | 5 |
| 22. The teacher provides learning activities that are sufficiently varied so that all pupils participate in learning activities.  | 1 | 2 | 3 | 4 | 5 |
| 23. The teacher has excellent subject matter background and uses initiative to keep ahead in his/her field.   | 1 | 2 | 3 | 4 | 5 |
| 24. The teacher provides a variety of learning experiences.   | 1 | 2 | 3 | 4 | 5 |
| 25. The teacher supervises students when and where necessary and appropriate.   | 1 | 2 | 3 | 4 | 5 |
| 26. The teacher is easy to hear and understand.   | 1 | 2 | 3 | 4 | 5 |
| 27. The teacher accepts pupils' handicaps with understanding and sympathy, rather than with ridicule.   | 1 | 2 | 3 | 4 | 5 |
| 28. The teacher seems to be enthusiastic about teaching.  | 1 | 2 | 3 | 4 | 5 |
| 29. The teacher supports and accepts each student as he is regardless of race, sex, nationality, family background or educational ability.  | 1 | 2 | 3 | 4 | 5 |
| 30. The teacher likes and understands students.   | 1 | 2 | 3 | 4 | 5 |
| 31. The teacher provides a climate in which both pupils and teacher openly and naturally accept and recognize errors of each other, rather than trying to cover, save face or show guilt. | 1 | 2 | 3 | 4 | 5 |
| 32. The teacher tells students when they have done particularly well.   | 1 | 2 | 3 | 4 | 5 |
| 33. The teacher uses positive, encouraging and supportive criticism, rather than discouragement, disapproval, blame or shame.   | 1 | 2 | 3 | 4 | 5 |
| 34. The teacher recognizes that a student's emotional problems affect his learning potential.   | 1 | 2 | 3 | 4 | 5 |
| 35. The teacher communicates with pupils at a level they can comprehend.  | 1 | 2 | 3 | 4 | 5 |
| 36. The teacher shows interest and enthusiasm in his/her subject.   | 1 | 2 | 3 | 4 | 5 |
| 37. The teacher encourages questions and discussions during class time.   | 1 | 2 | 3 | 4 | 5 |
| 38. The teacher is friendly and courteous in relations with pupils.   | 1 | 2 | 3 | 4 | 5 |
| 39. The teacher encourages pupils to try to do their best.  | 1 | 2 | 3 | 4 | 5 |

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|-----|---|---|---|---|---|---|
| 40. | The teacher encourages active participation and recognizes the instructional value of his/her own silence.                              | 1 | 2 | 3 | 4 | 5 |
| 41. | The teacher doesn't make fun of student's response to questions.  | 1 | 2 | 3 | 4 | 5 |
| 42. | The teacher urges students to accept responsibilities.  | 1 | 2 | 3 | 4 | 5 |
| 43. | The teacher makes an effort to know each pupil as an individual.  | 1 | 2 | 3 | 4 | 5 |
| 44. | The teacher provides extra help and enrichment where needed.  | 1 | 2 | 3 | 4 | 5 |
| 45. | The teacher shows courtesy, tact and kindness toward the pupils.  | 1 | 2 | 3 | 4 | 5 |
| 46. | The teacher conducts a classroom in which pupils actively participate in classroom discussions and activities.                          | 1 | 2 | 3 | 4 | 5 |
| 47. | The teacher has the ability to arouse interest in students.   | 1 | 2 | 3 | 4 | 5 |
| 48. | The teacher sees that there is a feeling of good-will in the classroom and that there is good rapport between the teacher and students. | 1 | 2 | 3 | 4 | 5 |
| 49. | The teacher places value upon each student's contributions.   | 1 | 2 | 3 | 4 | 5 |
| 50. | The teacher shows personal interest in student's work.  | 1 | 2 | 3 | 4 | 5 |
| 51. | The teacher and pupils share in the enjoyment of humorous situations.   | 1 | 2 | 3 | 4 | 5 |
| 52. | The teacher makes his students feel free to ask questions, disagree, and express their ideas.   | 1 | 2 | 3 | 4 | 5 |
| 53. | The teacher appears to be sensitive to students' feelings and problems; shows respect for the students.                                 | 1 | 2 | 3 | 4 | 5 |
| 54. | The teacher provides opportunities for successful learning experiences for each pupil at his ability level.                             | 1 | 2 | 3 | 4 | 5 |
| 55. | The teacher encourages students to think.   | 1 | 2 | 3 | 4 | 5 |
| 56. | The teacher communicates realistic expectations of achievement for each pupil.  | 1 | 2 | 3 | 4 | 5 |
| 57. | The teacher <u>does not</u> belittle students.  | 1 | 2 | 3 | 4 | 5 |
| 58. | The teacher is a good listener.   | 1 | 2 | 3 | 4 | 5 |
| 59. | The teacher is fair, impartial, and objective in treatment of pupils.   | 1 | 2 | 3 | 4 | 5 |
| 60. | The teacher provides opportunities for all pupils to experience success.  | 1 | 2 | 3 | 4 | 5 |

- |  |   |   |   |   |   |
|--|---|---|---|---|---|
| 61. The teacher maintains an open, friendly rapport with students.   | 1 | 2 | 3 | 4 | 5 |
| 62. The teacher uses the results of classroom tests to improve classroom instruction.  | 1 | 2 | 3 | 4 | 5 |
| 63. The teacher is fair and reasonable to students in the grading procedure.   | 1 | 2 | 3 | 4 | 5 |
| 64. The teacher is helpful to students having difficulty with the subject.   | 1 | 2 | 3 | 4 | 5 |
| 65. The teacher respects students who have ideas which are different from his or her own ideas.  | 1 | 2 | 3 | 4 | 5 |
| 66. The teacher is truly interested in the pupils in the class and in classroom activities.  | 1 | 2 | 3 | 4 | 5 |
| 67. The teacher treats students with respect.  | 1 | 2 | 3 | 4 | 5 |
| 68. The teacher provides opportunities for developing creative thinking and problem solving approaches by students.  | 1 | 2 | 3 | 4 | 5 |
| 69. The teacher inspires students to independent effort; creates desire for investigation.   | 1 | 2 | 3 | 4 | 5 |
| 70. The teacher handles his/her own discipline problems, is firm but friendly, is consistent in policy, and self-confident in management of pupils.              | 1 | 2 | 3 | 4 | 5 |
| 71. The teacher encourages expression of student viewpoint.  | 1 | 2 | 3 | 4 | 5 |
| 72. The teacher recognizes and admits own mistakes.  | 1 | 2 | 3 | 4 | 5 |
| 73. The teacher is fair and impartial in his dealings with the students.   | 1 | 2 | 3 | 4 | 5 |
| 74. The teacher stimulates students to do free and independent thinking.   | 1 | 2 | 3 | 4 | 5 |
| 75. The teacher is careful of the feelings of the students.  | 1 | 2 | 3 | 4 | 5 |
| 76. The teacher encourages open-ended inquiry and discussion when consistent with the instructional goals of the class.  | 1 | 2 | 3 | 4 | 5 |
| 77. The teacher makes it clear what is expected of students.   | 1 | 2 | 3 | 4 | 5 |
| 78. The teacher adapts to situations which arise in class; is flexible.  | 1 | 2 | 3 | 4 | 5 |
| 79. The teacher communicates effectively to the students what classroom procedures will be followed--pupils understand objectives toward which they are working. | 1 | 2 | 3 | 4 | 5 |
| 80. The teacher makes realistic assignments and student appraisals.  | 1 | 2 | 3 | 4 | 5 |

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|------|---|---|---|---|---|---|
| 81.  | The teacher gives each student a feeling of importance as a person.   | 1 | 2 | 3 | 4 | 5 |
| 82.  | The teacher has classroom procedures that are flexible within an over-all plan.   | 1 | 2 | 3 | 4 | 5 |
| 83.  | The teacher plans learning activities so as to encourage pupil initiative and leadership.   | 1 | 2 | 3 | 4 | 5 |
| 84.  | The teacher has immediate and long-range objectives designed to fit the needs of students.  | 1 | 2 | 3 | 4 | 5 |
| 85.  | The teacher is clear and thorough in giving directions.   | 1 | 2 | 3 | 4 | 5 |
| 86.  | The teacher employs a variety of approaches in presenting new materials.  | 1 | 2 | 3 | 4 | 5 |
| 87.  | The teacher sets educational objectives in terms of student's level of development.   | 1 | 2 | 3 | 4 | 5 |
| 88.  | The teacher explains assignments thoroughly.  | 1 | 2 | 3 | 4 | 5 |
| 89.  | The teacher puts ideas across logically and orderly.  | 1 | 2 | 3 | 4 | 5 |
| 90.  | The teacher demonstrates initiative and adaptability in adjusting predetermined plans to circumstances and individuals.   | 1 | 2 | 3 | 4 | 5 |
| 91.  | The teacher makes effective use of materials, media, and supplies.  | 1 | 2 | 3 | 4 | 5 |
| 92.  | The teacher provides for the development of understandings, skills and attitudes in accordance with the ability of the student.                                 | 1 | 2 | 3 | 4 | 5 |
| 93.  | The teacher is well prepared for class.   | 1 | 2 | 3 | 4 | 5 |
| 94.  | The teacher has materials readily available to the students.  | 1 | 2 | 3 | 4 | 5 |
| 95.  | The teacher presents material in a well-organized fashion.  | 1 | 2 | 3 | 4 | 5 |
| 96.  | The teacher expresses himself clearly and interestingly on those occasions when he must communicate objectives, present information, or provide demonstrations. | 1 | 2 | 3 | 4 | 5 |
| 97.  | The teacher gauges pupil understanding during lesson as a guide to pacing.  | 1 | 2 | 3 | 4 | 5 |
| 98.  | The teacher provides opportunities for pupils to develop qualities of leadership and self-direction.  | 1 | 2 | 3 | 4 | 5 |
| 99.  | The teacher uses a variety of materials to supplement the basic program.  | 1 | 2 | 3 | 4 | 5 |
| 100. | The teacher makes clear cut assignments.  | 1 | 2 | 3 | 4 | 5 |

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|------|---|---|---|---|---|---|
| 101. | The teacher encourages critical thinking.   | 1 | 2 | 3 | 4 | 5 |
| 102. | The teacher is teaching the students to develop independent study skills.   | 1 | 2 | 3 | 4 | 5 |
| 103. | The teacher creates classroom conditions in which pupils develop initiative and assume a personal responsibility for learning.                                | 1 | 2 | 3 | 4 | 5 |
| 104. | The teacher provides students with opportunities to make decisions.   | 1 | 2 | 3 | 4 | 5 |
| 105. | The teacher utilizes current events and unexpected situations for their educative value when appropriate to subject area and/or to the needs of the students. | 1 | 2 | 3 | 4 | 5 |
| 106. | The teacher leads or directs pupils to generalizations, application, and/or to see inter-relatedness of knowledge--stimulates thought.                        | 1 | 2 | 3 | 4 | 5 |
| 107. | The teacher carefully considers student suggestions when making decisions.  | 1 | 2 | 3 | 4 | 5 |
| 108. | The teacher teaches for concept development rather than for memorization of specific facts.   | 1 | 2 | 3 | 4 | 5 |
| 109. | The teacher provides opportunities in which students can exercise self-direction in terms of the instructional program.                                       | 1 | 2 | 3 | 4 | 5 |
| 110. | The teacher presents problems to the students in a manner which stimulates pupils to contribute to the solution.  | 1 | 2 | 3 | 4 | 5 |
| 111. | The teacher assists pupils in self-evaluation by helping them to understand their own abilities and limitations.  | 1 | 2 | 3 | 4 | 5 |
| 112. | The teacher directs pupils in learning to use those materials from which they will continue to learn after leaving school.                                    | 1 | 2 | 3 | 4 | 5 |
| 113. | The teacher relates current lessons to previous learning.   | 1 | 2 | 3 | 4 | 5 |
| 114. | The teacher assists pupils in defining realistic goals.   | 1 | 2 | 3 | 4 | 5 |
| 115. | The teacher inspires students to seek more knowledge on the subject.  | 1 | 2 | 3 | 4 | 5 |
| 116. | The teacher uses discretion in handling confidential information and difficult situations.  | 1 | 2 | 3 | 4 | 5 |
| 117. | The teacher provides for an atmosphere of mutually shared respect among pupils and teachers.  | 1 | 2 | 3 | 4 | 5 |
| 118. | The teacher demonstrates fairness and consistency in the handling of student problems.  | 1 | 2 | 3 | 4 | 5 |
| 119. | The teacher shares ideas and techniques with other teachers.  | 1 | 2 | 3 | 4 | 5 |



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|------|---|---|---|---|---|---|
| 120. | The teacher works well with other teachers and the administration.  | 1 | 2 | 3 | 4 | 5 |
| 121. | The teacher remains calm and poised in difficult situations.  | 1 | 2 | 3 | 4 | 5 |
| 122. | The teacher seeks and accepts guidance from other teachers, supervisory and specialized personnel.  | 1 | 2 | 3 | 4 | 5 |
| 123. | The teacher accepts suggestions and is willing to try them.   | 1 | 2 | 3 | 4 | 5 |
| 124. | The teacher respects and contributes to the accomplishments of staff by cooperative planning, sharing plans, ideas, materials and facilities. | 1 | 2 | 3 | 4 | 5 |
| 125. | The teacher strives for improvement through positive participation in professional growth activities.   | 1 | 2 | 3 | 4 | 5 |
| 126. | The teacher cooperates with fellow staff members and the school administration.   | 1 | 2 | 3 | 4 | 5 |
| 127. | The teacher is a good team worker.  |   |   |   |   |   |
| 128. | The teacher responds promptly to parental concerns.   | 1 | 2 | 3 | 4 | 5 |
| 129. | The teacher lets parents know of problems relating to a student's progress and attendance.  | 1 | 2 | 3 | 4 | 5 |
| 130. | The teacher reports pupil progress to parents in an effective manner.   | 1 | 2 | 3 | 4 | 5 |
| 131. | The teacher displays positive attitude toward school and other teachers.  | 1 | 2 | 3 | 4 | 5 |
| 132. | The teacher uses discretion in discussing school affairs.   | 1 | 2 | 3 | 4 | 5 |
| 133. | The teacher welcomes contact from parents.  | 1 | 2 | 3 | 4 | 5 |
| 134. | The teacher strives to develop social and civic values in students.   | 1 | 2 | 3 | 4 | 5 |
| 135. | The teacher points up the relationship of school learning and out-of-school life whenever possible.   | 1 | 2 | 3 | 4 | 5 |
| 136. | The teacher follows proper steps for communication within the school system.  | 1 | 2 | 3 | 4 | 5 |
| 137. | The teacher utilizes available educational resources of the community in classroom procedures.  | 1 | 2 | 3 | 4 | 5 |
| 138. | The teacher assumes responsibilities outside of the classroom as they relate to school.   | 1 | 2 | 3 | 4 | 5 |
| 139. | The teacher utilizes field trips to draw on community resources if and when applicable.   | 1 | 2 | 3 | 4 | 5 |
| 140. | The teacher is committed; he recognizes that his primary goal is to assist the growth of students.  | 1 | 2 | 3 | 4 | 5 |

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|------|---|---|---|---|---|---|
| 141. | The teacher likes people and has a positive enthusiastic approach to the children he teaches.   | 1 | 2 | 3 | 4 | 5 |
| 142. | The teacher shows respect for students--even when their goals differ from his.  | 1 | 2 | 3 | 4 | 5 |
| 143. | The teacher keeps the course objectives clearly in mind and works towards these goals while retaining perspective of the total educational program. | 1 | 2 | 3 | 4 | 5 |
| 144. | The teacher helps students synthesize individual learning with the total learning experience in and out of school.                                  | 1 | 2 | 3 | 4 | 5 |
| 145. | The teacher has a strong sense of direction but recognizes the value of propriety.  | 1 | 2 | 3 | 4 | 5 |
| 146. | The teacher actively works for positive school-community relations.   | 1 | 2 | 3 | 4 | 5 |

APPENDIX E: ANALYSIS OF VARIANCE OF RATINGS OF 38 SECONDARY TEACHERS  
BY 935 STUDENTS

## ANALYSIS BASED ON 935 SUBJECTS IN 38 GROUPS.

ITEM	N	SS TOTAL	SS WITHIN	SS BETWEEN	ITEM DIS.
1	933	995.30053	761.86970	233.43084	23%
2	926	986.99893	764.43201	222.56692	23%
3	929	1134.47059	841.02451	293.44608	26%
4	932	1102.57326	861.87810	240.69516	22%
5	924	1148.28235	905.44300	242.83936	21%
6	928	816.87701	544.56264	272.31436	33%
7	926	1067.23984	798.74533	268.54451	25%
8	930	1306.93690	995.00946	311.92744	24%
9	932	1024.99037	826.26330	198.72707	19%
10	927	1202.16471	983.27174	218.89296	18%
11	927	1297.82246	911.15925	386.66321	30%
12	917	1210.47701	815.08585	395.39116	33%
13	927	1266.63743	911.43136	355.20607	28%
14	926	1149.15936	918.48038	230.67898	20%
15	919	998.87701	689.38167	309.49534	31%
16	928	1214.08128	939.91663	274.16465	23%
17	931	1288.19893	1070.22947	217.96946	17%
18	930	1466.22032	1104.24463	361.97569	25%
19	920	1119.43743	793.72082	325.71662	29%
20	928	1177.73690	927.19901	250.53789	21%
21	927	1123.02032	819.68154	303.33878	27%
22	922	1183.53583	881.00250	302.53333	26%
23	917	1162.99893	746.44977	416.54916	36%
24	929	1193.58289	913.72492	279.85797	23%
25	927	1086.61390	835.45042	251.16349	23%
26	930	948.92620	729.19238	219.73383	23%
27	924	1482.92620	1078.92403	404.00217	27%
28	928	1168.14332	857.19377	310.94955	27%
29	925	1388.54973	1082.64529	305.90445	22%
30	930	1097.61925	829.53437	268.08488	24%
31	922	1275.84599	890.21498	385.63101	30%
32	930	1284.10053	1005.36697	278.73357	22%
33	927	1260.80856	964.33245	296.47611	24%
34	908	1342.14332	922.92976	419.21356	31%
35	923	1178.98396	857.63848	321.34548	27%
36	926	1060.21818	753.77991	306.43827	29%
37	930	1290.47701	944.33770	346.13931	27%
38	927	1111.98289	783.10653	328.87636	30%
39	930	1017.25561	818.64725	198.60836	20%
40	915	1129.42246	775.96914	353.45332	31%
41	928	1507.03743	1216.87065	290.16678	19%
42	926	1037.85455	801.96280	235.89175	23%
43	926	1344.11337	1057.11614	286.99723	21%
44	928	1179.10802	913.72030	265.38772	23%
45	927	1122.99893	770.13598	352.86295	31%
46	925	1242.10053	899.91952	342.18102	28%
47	924	1339.63209	941.88788	397.74421	30%
48	910	1276.91337	758.04033	518.87304	41%

49	925	1158.21390	883.09101	275.12289	24%
50	926	1156.68877	890.09924	266.58953	23%
51	928	1321.93155	934.06804	387.86352	29%
52	930	1214.14332	938.15496	275.98836	23%
53	923	1160.68877	849.84312	310.84565	27%
54	922	1117.20856	826.97593	290.23263	26%
55	929	1029.27701	778.02410	251.25291	24%
56	913	1165.49305	796.96784	368.52520	32%
57	921	1654.63743	1242.73054	411.90689	25%
58	933	1005.34118	802.27578	203.06539	20%
59	931	1195.17219	931.96230	263.20989	22%
60	927	1144.99893	889.12235	255.87658	22%
61	915	1227.42246	730.47723	496.94523	40%
62	923	1353.70053	1008.37080	345.32974	26%
63	929	1163.83529	925.30110	238.53419	20%
64	930	1208.35936	958.29711	250.06225	21%
65	926	1188.32513	874.90899	313.41615	26%
66	926	1080.14332	788.63855	291.50477	27%
67	930	1117.92513	872.32619	245.59894	22%
68	919	1159.02032	818.43494	340.58538	29%
69	926	1122.40000	872.27082	250.12918	22%
70	923	1299.96150	882.56509	417.39641	32%
71	923	1193.88877	795.74395	398.14482	33%
72	923	1291.68984	884.02024	407.66960	32%
73	925	1136.23529	796.43384	339.80146	30%
74	924	1232.94759	912.32731	320.62028	26%
75	925	1303.63209	1008.78496	294.84713	23%
76	912	1222.94118	779.16682	443.77436	36%
77	930	1067.82246	839.99347	227.82899	21%
78	923	1120.92620	804.43947	316.48673	28%
79	929	979.60000	732.17631	247.42369	25%
80	925	1259.34332	967.33186	292.01145	23%
81	925	1224.40214	941.16095	283.24118	23%
82	925	1100.11337	804.70057	295.41280	27%
83	917	1256.58396	884.97651	371.60745	30%
84	913	1218.94118	825.50083	393.44035	32%
85	925	1158.87059	849.65549	309.21510	27%
86	924	1275.25561	961.98948	313.26614	25%
87	913	1111.55508	727.54813	384.00695	35%
88	924	1242.51765	902.48945	340.02820	27%
89	925	1107.82246	804.29770	303.52476	27%
90	903	1257.05455	743.81670	513.23784	41%
91	922	1137.15508	798.70066	338.45442	30%
92	912	1148.32513	743.35143	404.97370	35%
93	925	1107.96150	769.10693	338.85456	31%
94	920	1250.08984	851.50845	398.58139	32%
95	923	1054.97326	728.89684	326.07642	31%
96	918	1160.28235	765.33434	394.94801	34%
97	907	1163.55508	710.61265	452.94243	39%
98	918	1201.34332	863.99566	337.34766	28%
99	921	1280.97326	873.29524	407.67802	32%

100	920	1295.33690	920.56559	374.77131	29%
101	918	1263.38396	913.85892	349.52504	29%
102	924	1132.93690	852.87776	280.05914	25%
103	915	1102.87701	720.33133	382.54568	35%
104	920	1268.88128	902.23975	366.64154	29%
105	910	1323.18289	853.84883	469.33406	35%
106	904	1234.94118	694.38602	540.55515	44%
107	914	1250.43422	823.14548	427.28875	34%
108	910	1425.43743	916.81478	508.62266	36%
109	909	1261.52513	787.59443	473.93071	38%
110	915	1244.92620	825.45860	419.46760	34%
111	914	1301.49091	907.89677	393.59414	30%
112	915	1357.32620	934.21133	423.11487	31%
113	909	1260.80214	774.97217	485.82997	39%
114	907	1306.29305	860.64440	445.64865	34%
115	914	1394.87701	972.76538	422.11163	30%
116	890	1452.88128	758.71934	694.16194	48%
117	914	1229.43743	782.21026	447.22717	36%
118	918	1225.60856	842.04459	383.56397	31%
119	895	1413.34332	783.54923	629.79408	45%
120	875	1620.31925	685.77771	935.04154	58%
121	910	1400.87701	876.83722	524.03979	37%
122	869	1534.45348	661.93849	872.51499	57%
123	908	1281.37326	793.05778	488.31548	38%
124	878	1507.93155	698.83043	809.10112	54%
125	881	1439.12941	669.36606	769.76335	53%
126	882	1583.49091	733.95591	849.53500	54%
127	875	1625.58289	696.12140	929.46149	57%
128	876	1556.21390	692.07610	864.13781	56%
129	902	1470.54973	860.35268	610.19705	41%
130	891	1545.55508	845.03780	700.51728	45%
131	903	1326.85561	705.30992	621.54570	47%
132	877	1614.73155	785.47957	829.25198	51%
133	893	1476.59893	767.57935	709.01958	48%
134	901	1258.08128	716.29357	541.78772	43%
135	903	1398.22032	903.69602	494.52430	35%
136	887	1476.08128	710.26107	765.82021	52%
137	898	1327.55508	712.87500	614.68008	46%
138	885	1503.16150	756.64326	746.51824	50%
139	895	2043.45455	1370.32496	673.12959	33%
140	905	1444.90481	856.36712	588.53770	41%
141	900	1482.88128	793.48534	689.39595	46%
142	900	1410.93690	761.92854	649.00835	46%
143	888	1446.79572	650.10056	796.69516	55%
144	874	1567.88877	712.29827	855.59050	55%
145	874	1605.99572	699.20013	906.79559	56%
146	865	1815.53583	840.79925	974.73658	54%

APPENDIX F: ANALYSIS OF VARIANCE OF RATINGS OF 69 TEACHERS BY 341  
PEER TEACHERS AND ADMINISTRATORS

## ANALYSIS BASED ON 341 SUBJECTS IN 69 GROUPS.

ITEM	N	SS TOTAL	SS WITHIN	SS BETWEEN	ITEM DIS.
1	335	280.99707	100.51667	180.48040	64%
2	338	279.76540	147.83333	131.93206	47%
3	330	388.07038	137.10000	250.97038	65%
4	338	229.03812	109.55000	119.48812	52%
5	335	294.92669	130.88333	164.04335	56%
6	339	179.21408	89.23333	89.98074	50%
7	336	293.61290	138.53333	155.07957	53%
8	338	275.63050	147.60000	128.03050	46%
9	333	318.31085	112.51667	205.79418	65%
10	334	288.99707	113.73333	175.26373	61%
11	336	292.79765	146.06667	146.73099	50%
12	328	399.76540	120.10000	279.66540	70%
13	332	368.85630	120.28333	248.57297	67%
14	336	261.98827	115.80000	146.18827	56%
15	332	321.42522	114.96667	206.45855	64%
16	338	270.86804	138.33333	132.53470	49%
17	326	445.95308	125.86667	320.08641	72%
18	332	376.51613	145.28333	231.23280	61%
19	335	304.60997	120.56667	184.04330	60%
20	330	362.97361	114.80000	248.17361	68%
21	339	237.76540	138.18333	99.58206	42%
22	331	350.98534	121.46667	229.51867	65%
23	334	363.24340	156.23333	207.01007	57%
24	334	307.89443	120.80000	187.09443	61%
25	339	247.77126	120.68333	127.08793	51%
26	338	238.90323	116.55000	122.35323	51%
27	338	261.95308	141.95000	120.00308	46%
28	340	236.35191	127.56667	108.78524	46%
29	338	240.45161	125.25000	115.20161	48%
30	338	237.21408	108.55000	128.66408	54%
31	330	419.81232	146.18333	273.62898	65%
32	336	274.69795	115.73333	158.96461	58%
33	332	342.82698	120.31667	222.51031	65%
34	339	219.17889	114.96667	104.21222	48%
35	333	309.44868	112.46667	196.98201	64%
36	339	231.17889	116.91667	114.26222	49%
37	329	401.81232	123.80000	278.01232	69%
38	340	188.24633	100.73333	87.51300	46%
39	333	299.55425	95.33333	204.22092	68%
40	327	425.22581	130.48333	294.74247	69%
41	329	420.13490	134.00000	286.13490	68%
42	335	278.15836	122.61667	155.54169	56%
43	336	305.94135	126.45000	179.49135	59%
44	334	306.82698	118.46667	188.36031	61%
45	338	236.97361	110.60000	126.37361	53%
46	329	400.86217	122.38333	278.47884	69%
47	330	403.42522	131.01667	272.40855	68%
48	334	319.79472	113.71667	206.07805	64%



49	334	305.06158	109.10000	195.96158	64%
50	338	213.40762	102.91667	110.49096	52%
51	334	325.44868	112.30000	213.14868	65%
52	329	420.97361	126.63333	294.34027	70%
53	338	243.40762	113.73333	129.67429	53%
54	332	315.40762	109.30000	206.10762	65%
55	334	322.07038	112.53333	209.53705	65%
56	329	368.86217	110.70000	258.16217	70%
57	334	344.69795	142.25000	202.44795	59%
58	332	382.34018	140.85000	241.49018	63%
59	332	355.76540	125.68333	230.08206	65%
60	331	335.57771	109.60000	225.97771	67%
61	336	283.23167	105.01667	178.21500	63%
62	322	478.19941	129.23333	348.96608	73%
63	331	345.30792	108.15000	237.15792	69%
64	337	254.69795	123.33333	131.36461	52%
65	324	491.22581	146.11667	345.10914	70%
66	340	210.90909	118.40000	92.50909	44%
67	337	233.77126	98.95000	134.82126	58%
68	328	414.21701	113.50000	300.71701	73%
69	327	413.29032	127.85000	285.44032	69%
70	337	341.98827	140.71667	201.27160	59%
71	327	418.12903	122.01667	296.11237	71%
72	335	374.97361	169.41667	205.55694	55%
73	335	308.13490	132.55000	175.58490	57%
74	327	413.77126	115.01667	298.75459	72%
75	335	318.82698	115.18333	203.64365	64%
76	326	458.13490	146.00000	312.13490	68%
77	333	358.12903	129.45000	228.67903	64%
78	333	367.04985	135.75000	231.29985	63%
79	329	429.95308	136.73333	293.21975	68%
80	330	360.58065	111.50000	249.08065	69%
81	333	331.24927	113.83333	217.41593	66%
82	333	360.99707	140.03333	220.96373	61%
83	329	381.06158	129.23333	251.82825	66%
84	330	371.70674	130.78333	240.92341	65%
85	331	370.52199	118.03333	252.48866	68%
86	330	359.95894	107.18333	252.77561	70%
87	332	336.31085	130.48333	205.82752	61%
88	326	451.24927	122.03333	329.21593	73%
89	328	415.70088	117.86667	297.83421	72%
90	330	379.16716	131.40000	247.76716	65%
91	335	303.95894	111.85000	192.10894	63%
92	328	384.98534	104.63333	280.35200	73%
93	337	252.90323	110.06667	142.83656	56%
94	335	275.77126	105.28333	170.48793	62%
95	328	422.76246	110.88333	311.87913	74%
96	325	471.16716	115.00000	356.16716	76%
97	326	422.31085	119.80000	302.51085	72%
98	327	430.08798	121.45000	308.63798	72%
99	333	355.95308	136.96667	218.98641	62%

100	329	401.76540	113.58333	288.18206	72%
101	323	487.75953	114.28333	373.47620	77%
102	334	351.70674	134.55000	217.15674	62%
103	332	364.34018	136.35000	227.99018	63%
104	329	400.18182	134.51667	265.66515	66%
105	328	427.37243	143.28333	284.08910	66%
106	323	472.71554	126.76667	345.94888	73%
107	325	446.19941	148.21667	297.98275	67%
108	329	433.70674	161.73333	271.97341	63%
109	324	474.43988	143.45000	330.98988	70%
110	329	384.79179	128.78333	256.00846	67%
111	323	480.35191	145.65000	334.70191	70%
112	329	406.07038	149.86667	256.20371	63%
113	327	410.53372	116.11667	294.41706	72%
114	321	479.44282	129.68333	349.75948	73%
115	327	424.50440	131.58333	292.92107	69%
116	336	290.35191	131.60000	158.75191	55%
117	335	350.60997	143.90000	206.70997	59%
118	337	292.28152	136.56667	155.71486	53%
119	337	362.08798	174.53333	187.55464	52%
120	338	332.85630	122.10000	210.75630	63%
121	339	306.99707	160.58333	146.41373	48%
122	335	388.58065	170.08333	218.49731	56%
123	335	349.98827	150.18333	199.80494	57%
124	336	346.25806	140.98333	205.27473	59%
125	331	415.94135	155.15000	260.79135	63%
126	337	298.86804	106.06667	192.80137	65%
127	335	410.15836	163.35000	246.80836	60%
128	333	360.71554	153.95000	206.76554	57%
129	328	427.70674	125.65000	302.05674	71%
130	326	461.42522	120.76667	340.65855	74%
131	337	293.44282	116.85000	176.59282	60%
132	337	286.21701	152.58333	133.63368	47%
133	334	337.80645	157.18333	180.62312	53%
134	328	420.31085	127.31667	292.99418	70%
135	326	438.66862	136.83333	301.83529	69%
136	335	295.42522	130.10000	165.32522	56%
137	328	422.60997	143.96667	278.64330	66%
138	331	424.08798	155.98333	268.10464	63%
139	328	535.47214	179.38333	356.08881	66%
140	335	301.16716	119.83333	181.33382	60%
141	332	380.79765	130.55000	250.24765	66%
142	325	467.70674	129.31667	338.39008	72%
143	326	436.99707	109.15000	327.84707	75%
144	317	530.90909	124.05000	406.85909	77%
145	321	532.31085	128.15000	404.16085	76%
146	326	510.01760	178.56667	331.45093	65%