The Professional Improvement of Teachers Through Positive Appraisal Techniques

Anthony J. Shinkfield
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The Professional Improvement of Teachers Through Positive Appraisal Techniques

by

Anthony J. Shinkfield

A Dissertation
Submitted to the
Faculty of The Graduate College
in partial fulfillment
of the
Degree of Doctor of Education

College of Education
Western Michigan University
Kalamazoo, Michigan
April 1977
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Anthony J. Shinkfield
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THROUGH POSITIVE APPRAISAL TECHNIQUES.

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Graph of Response Rate by Daily Return
CHAPTER I

STATEMENT OF THE PROBLEM

The purpose of this study was to investigate whether teachers and principals perceived that the professional development of teachers could be an outcome of appraisal aspects and processes which they judged to be positive. The study was designed to obtain information about teacher and principal self-reported perceptions of the appraisal function.

The main question, therefore, to which answers were sought in this study was whether extant appraisal systems were useful, and the extent to which emphasis upon their positive components might create a process designed for teacher development.

This question gave rise to others. For instance, if the coincidence of agreement between teachers and principals about elements of the appraisal process which allow teacher development was low, what useful purpose was the process serving? Should it be employed only as an instrument to discriminate between the employment potential of teachers? A response was also sought, inter alia to questions like the following. Does the gaining of tenure increase or decrease the feeling of threat associated with appraisals? Does length of experience as a principal affect perceptions about the appraisal function? Do teachers who hold favorable attitudes towards their abilities as teachers accept appraisals more willingly than those who hold unfavorable attitudes towards their abilities? Who should be implicated in the process? Do teachers and principals hold different perceptions about objections commonly held
against the appraisal function? And which teacher performance competencies are highly rated by teachers and principals? These questions, and attempts to answer them, have formed the links between various sections of this study.

Although much of the literature on performance appraisal is theoretical, and practical application of theory has not yet reached the point where there is agreement on methodology, an attempt was made to formulate a general conceptual framework for teacher performance appraisal based on teacher and principal perceptions. The basis for such a framework was the coincidence of underlying concepts perceived by teachers and principals.

Explanation of Terms Used

The words "perceptions" and "perceived" are used in this study to refer to self-reported opinions held by teachers and principals about aspects of the appraisal function. The definition of the word "appraisal" as used in this study is to estimate or evaluate the worth, significance or status (of a teacher) by an expert judgment. There are thus two main connected aspects: the act of judgment and the availability of an expert to make the judgment effective.

The oft-occurring phrase "improvement of teacher performance" is not explained simply. In particular, the term "teacher performance" is complex. Many variables contribute to the total output of any teacher at any one time. For this reason, a multi-dimensional approach, encompassing fifteen attributes (but reduced, it is hoped, to underlying concepts)
will be considered in this study as composing teacher performance. Improvement of teacher performance will then be a matter of professional judgment; approaches will be sought to make the judgments acceptably valid and reliable.

An attempt must also be made to define the term "appraisal process". The term is given the meaning of assigning a value to the behavior of teachers on the basis of professional judgment. Thus the appraisal process is an act arising from a relationship among colleagues and based on commonly held and highly esteemed values. One purpose of this study was to isolate such values. The position taken in this study was that systematic teacher appraisal procedures help to improve learning conditions of students. It must nevertheless be stressed that the definition of appraisal process as including only a measurement of the relationship between quality of teaching and student achievement was rejected. While it was not denied that such a relationship might exist, some doubts remained about its substantiation in empirical research. This matter is taken up again in Chapter II when related literature is discussed.

Existing Objectives for Appraisal

A great deal of literature, much of it outside the sphere of education, has increasingly sought reasons for the purpose of appraising the performance of personnel (NEA, 1970). For example, in business and industry where much has been written on the subject, it has been emphasized that accuracy of appraisal is needed for salary and promotion purposes. In
education, however, there is a growing belief (Castetter, 1971) that appraisal may do more harm than good in terms of productivity and morale if the primary goal is not to improve performance. It follows that appraisal rationales, methods and procedures should be directed towards positive outcomes in teacher performance.

The discussion of related literature in Chapter II indicates that appraisal of teachers is not made with the main objective of salary determinations. These appear to be the main objectives:

1. To prevent the unsatisfactory probationer from gaining tenure.
2. To provide an accountability measure for public expenditure.
3. To ascertain the potential of the individual to perform various kinds of tasks and subsequently to place that person where he/she can render effective service for the organization.
4. To transfer, demote or dismiss teachers.

Actual improvement of performance of teachers receives minor consideration as a desired outcome of the appraisal process. By imputation, (and assuming a nexus, however tenuous, between increased teacher skills and amount and quality of student learning), the provision of better learning skills for students has not been featured prominently as a prime reason for teacher appraisal. Emphasis, it appears, is given to appraisal methods in school systems which facilitate such personnel functions as determining retention, job differentiation, dismissal and, less frequently, salary increases.
Nation-Wide Teacher Appraisal Systems

At least five States have laws or regulations making it mandatory to appraise teachers annually (NEA, 1972). Oregon's Fair Dismissal Law requires Superintendents of Districts with 500 or more pupils to appraise teacher performance "at least annually" (teachers being defined in the law as any person who holds a teaching certificate and is employed as an instructor or administrator). Similarly, in Florida, Hawaii and the State of Washington, State regulations direct all school boards to establish criteria and procedures for annual appraisal of teachers. More precisely, the 1971 Stull Act in California, as pointed out by Gage (1973, p. 14), has made it mandatory for each school board to accept a uniform set of written objectives to be used as a basis for appraising the professional competency of all certified personnel within that school district.

In most other States, appraisal of teachers is a varying process, at least in procedures adopted, if not in purpose. Prevailing practices, however, are not viewed favorably by teachers. As Castetter (1973) puts it, "mere mention of the word (appraisal) suggests a device to determine the financial worth of employees' service to the school system. This has tended to obscure the broader meaning of performance appraisal" (p. 234). It is seen as performing limited and rigid functions only. The stance taken in this study is that appraisal of teacher performance should have outcomes which extend beyond determining only the employees' financial value to a school district.
Reasons for Teachers Losing Faith in the Appraisal Function

There are organizational reasons which have engendered lack of faith by teachers in the appraisal function. According to Castetter (1973) and Bolton (1973) suspicions and uncertainties have arisen for reasons like the following:

1. Appraisals have focused on personality rather than performance judged against criterion measures.
2. Results of appraisals have not been used to assist individual development but rather to gauge "merit" (often undefined) arbitrarily.
3. Appraisal instruments lack validity and criterion measures lack reliability.
4. Teachers have not been able to understand nor accept criteria against which their performance is appraised.
5. Traditional procedures, in which there is unilateral appraisal by the appraiser, often prohibit effective communications between the appraiser (generally the principal) and the teacher being appraised; this has resulted in the process being construed as threatening by the teacher who then becomes defensive.
6. Appraisal methodology presently used has not encouraged the high level needs of individuals, such as self-expression, creativity and individuality.

The position taken in this study (which may be supported by research undertaken) is that teachers need not perceive appraisal of performance as
a depressing, negative function. At present, however, teachers have little cause for enthusiasm.

Opportunity for Improvement in Appraisal Processes

There has been growth of interest during the second half of this century in performance appraisal of teachers, especially in the direction of improved methodology and intended outcomes (Castetter, 1971). Moreover, social change has contributed considerably to recent trends in the theory and practice of performance appraisal. For example, statutory regulations and union contracts preclude the concept of determining the major proportion of a teacher's salary solely on the basis of performance appraisals. Consequently, some of the justifiable fears of teachers about merit ratings which prevailed in pre-war years have been minimized by salary laws, tenure, civil service regulations and union contracts to guarantee salary and position security for teachers. Considering these basic securities, there would appear much to be gained by both teachers and administrators if teacher appraisals were to result in improved teaching performance.

Nevertheless, the following kinds of questions are seldom seriously addressed by school administrators:

1. Is the primary purpose of teacher performance appraisal to facilitate change in an individual's behavior in order to achieve personal and organizational goals?
2. Do both the teacher and the principal participate in determining performance expectations and assessments of the degree to which those expectations have been reached in the light of agreed upon criteria and, indeed, should they both participate?

3. Does the appraisal process lay the foundation for professional development of teachers through a review of their progress--that is, are results of performance appraisal used to discuss performance and progress of teachers in relationship to mutually revised goals and their related performance standards?

4. Is it possible for teacher appraisal to serve the dual function of providing the grounds for dismissal of unsatisfactory untenured teachers and of assisting in strengthening the skills of the potentially competent teacher who has initial difficulties to overcome?

Research-based answers to these questions could give teacher appraisal processes a much needed re-orientation of purpose.

Any methodology of teacher appraisal that results in improvement of teacher performance enhances the worth of schools as institutions for learning. The problem, of course, is to convince those most intimately concerned with appraisal--teachers and principals--that the process can have such positive outcomes. Unfortunately, the historical inertia against such an enlightened attitude is very strong. Moreover, it is
difficult to minimize the perennial problem raised by critics who maintain that teacher appraisal is essentially subjective in methodological approach and therefore open to human bias and error.
CHAPTER II

THE CONTEXT OF THE PROBLEM

Publications on the subject of the personnel appraisal function within public schools are replete with opinion based literature and lacking in research supported by empirical data. Nevertheless, both the literature and research indicate that there is growing consensus on some major aspects and purposes of teacher appraisal. The futility of pursuing strategies that lead only to ill feeling has been largely realized. This realization has forced administrators to seek improved appraisal methods. Most important, perhaps, is the growing belief that the entire system must gain from improved teacher performance arising from a widely acceptable appraisal process.

Bolton (1973) maintained that, whether or not formal appraisal processes take place, teachers are evaluated continuously. They are evaluated by students, parents, other teachers, administrators, supervisors, and the public. The question is not whether teachers should be evaluated, since this cannot be avoided, but rather how systematic the evaluation should be in order to be most effective. (p. 23)

He also considered that teachers have an intrinsic desire to improve their performance. By contrast, Wolf (1973) contended that teachers are extremely reluctant to engage in evaluation exercises, although he readily admitted that there should be productive outcomes such as professional skill improvement, responsiveness to change and accountability to constituencies which must be kept informed. On this and other salient
aspects of teacher appraisal, opinions differ in the literature.

The purpose of this chapter is to review literature related to the investigation of teacher appraisal and the possibility of the function resulting in teacher development. While the literature does not dwell on this subject in any sustained fashion, it does relate to some aspects either directly or indirectly. Those aspects which relate to the questions raised in Chapter I and anticipated in Chapter III, compose the review: (1) systematic accountability of teachers, (2) teacher attitudes to the appraisal process, (3) student learning as the basis for the appraisal function, (4) teacher competencies, (5) who appraises? (6) the relationship of teacher attitude of personal ability and the appraisal function, and (7) the formative emphasis.

Glasman (1974) referred to the specificity of teacher appraisal domain chosen by researchers "neglecting to relate (the domain) to overall responsibilities" (p. 29). A search of the literature substantiates Glasman's criticism. The main direction of the present study, however, was to discover general and related perceptions of the appraisal function and to reach conclusions on this basis.

Systematic Accountability of Teachers

Respondents in a national survey conducted by NEA in 1964 indicated that only half the school systems followed formal procedures in the appraisal of their teachers, and that written ratings were required in three out of four of the schools for probationary teachers and in two out of three for continuing teachers. Almost invariably the principal was
responsible for the appraisal process but occasionally shared that responsibility with other officials (NEA, 1964). Stemnock (1969) not only found, as the 1964 survey had discovered, that principals are almost always responsible for appraisals, but also was able to conclude that teachers strongly agreed that principals should be responsible for their professional accountability.

Later surveys have indicated that there has been a strong movement within the last decade for all school systems to have formal appraisal procedures. Stemnock (1969) found that over 90 percent of schools surveyed nationally had formal appraisal procedures. Another national survey conducted in 1971 by NEA (NEA, 1972) discovered that over 93 percent were using a formal procedure for teacher appraisal. It is significant to note that 55 percent of the systems have revised teacher evaluation procedures during the previous three years.

That teachers consider themselves to be accountable for their professional conduct is strongly supported in the literature. Lessinger (1971), Stocker (1971), and Bhaerman (1971) concur in this regard. Stemnock (1969) found that 90 percent of teacher respondents to a survey instrument indicated approval of regular appraisals for professional accountability. A recent survey (Perrone, 1976) of all teachers in the Kalamazoo (Michigan) School District revealed an interesting outcome concerning teacher opinions about accountability. Although the majority of respondent teachers strongly objected to the form of accountability adopted by the school system, 95 percent "made it clear that they did not oppose accountability" (p. 20).
If teachers consider themselves accountable, or are considered accountable by others, it follows that the teacher appraisal process must have recognized purposes. Three studies within the last decade have shown large areas of agreement about the purposes of the appraisal function.

Ingils (1970) analyzed samples of teacher appraisal programs from 70 school districts in 38 states. He discovered the following commonality of procedure and purpose:

1. To improve quality of instruction
2. To assist the teacher in areas that need improvement
3. To protect the competent teachers and eliminate the incompetent

Stemnock's (1969) investigation revealed that nearly 93 percent of responses from teachers favored undertaking appraisals for the purpose of assisting the teacher to improve competency. Fifty-four percent of the responses also favored appraisals for the purpose of dismissing incompetent teachers. Only 17 percent, however, were in favor of using the process to determine advancement on the salary scale.

An analysis of the 1971 NEA survey (NEA, 1972, p. 1) indicated the following responses of administrators from 109 systems to the question, "What uses are made of the evaluations?". It may be noted that the frequency of each particular purpose has been expressed as a percentage of 109 possible occurrences.
<table>
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<tr>
<th>Purpose</th>
<th>Frequency (Maximum 109)</th>
<th>Percentage</th>
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<tr>
<td>To stimulate improvement of teacher performance</td>
<td>102</td>
<td>94</td>
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<td>To decide on reappointment of probationary teachers</td>
<td>94</td>
<td>86</td>
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<td>To recommend probationary teachers for permanent status</td>
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<td>To establish evidence where dismissal from service is an issue</td>
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<td>To select teachers for promotion</td>
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<td>To qualify teachers for regular salary increments</td>
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<td>15</td>
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<tr>
<td>To qualify teachers for longevity pay increments</td>
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<td>4</td>
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<tr>
<td>To qualify teachers for acceleration on salary schedule</td>
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<td>3</td>
</tr>
<tr>
<td>To establish qualifications for merit pay</td>
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All three surveys, therefore, clearly displayed a marked desire by both school districts and individual teachers to give the highest priority to the improvement of teacher quality. Nevertheless, the gap existing between purposes and practices is very real. McNeil and Popham (1973) offered one reason why purpose and practice fail to coincide.

So long as investigators equate "good teacher" with "good person", the problems associated with teacher effectiveness are unmanageable and efforts addressed to the subject are likely to be unproductive. (p. 219)
Teacher Attitudes to the Appraisal Process

There is voluminous rhetoric about teacher attitudes to the appraisal process. For this reason, the only purpose in this section is to examine literature which explores dilemmas held by individual teachers about appraisal. Most importantly, research has shown that teachers are willing to accept the principle of appraisal, while, at the same time, rejecting methods adopted by their school or school system.

One of the dilemmas facing teachers is their belief that, on the one hand, the appraisal function should lead to professional growth while, on the other hand, it provides a ready weapon for manipulation by administrators. What potentially should be good is seen as functionally insidious. Gage (1973) provided a further dimension when he separated teacher optimism and administrative manipulation as aspects of teacher appraisal.

I have vague, private feelings that accountability reflects a fundamental struggle between those who possess some degree of trust in the developmental regularity of social and human organisms and those who trust only their own power to manage other people's comings and goings. (p. 95)

A recent study by Zelanak and Snider (1974) demonstrated that the perceptions of teachers about the appraisal process cannot be ignored. Their attitudes are important to the success of the process. The study compared the attitudes of teachers who believed the intention of appraisal was for administrative purposes with those of teachers who believed that the purpose of appraisal was aimed at improving instruction. This study
strongly indicated that participating teachers who felt that the appraisals were means for instructional purposes were supportive of the process. By contrast, teachers who felt that appraisals were meant for administrative purposes—dismissal, tenure considerations, compilation of permanent record files, assignment modification—viewed the process in a very negative manner.

The results of the Zelenak and Snider study are in general accord with views expressed often in the literature. If teachers are convinced that the evaluation process will reduce their status or in some manner act to their detriment in relation to their job function, it is logical that a negative reaction will result. It is equally reasonable to expect that teachers who are sincerely convinced that the principal's prime intention during appraisals is the improvement of instructional skills will be less intransigent to suggested changes in their approach to instruction.

One of the persistent conflicts held by teachers is that between their desire to be open to suggested change for improvement and their doubts about standards of effective teaching which can be usefully employed in an appraisal program. As Castetter (1971), Rosenshine and McGaw (1972), House (1973) and McFadden (1970) pointed out, there has been a tendency for appraisers to focus on teacher traits and personal characteristics instead of behaviors directed at the effective management of learning conditions within a classroom.

This limited emphasis on behavioral indicators appears to have contributed to the failure of the appraisal function to identify relevant
and appraisable teacher competencies. To define effective teaching, research studies have utilized traits like "creativity", "intelligence" and "cooperation". Concerning this matter, McFadden (1970) stated:

> The utility of such findings in advancing the state of the art has been minimal because of the vagueness of the terms defining the traits and characteristics and because of the failure to relate these traits and characteristics to changes in student behavior—i.e. learning and enculturation. (p. 2)

One obvious problem arising from the use of traits and characteristics, and one affecting teacher attitudes, is that it is highly improbable that any two appraisers could reach agreement on what it was that an effective teacher did when he was thought to possess particular traits. The implications are clear. An appraiser could make judgments about a teacher's performance on the basis of what he considered an effective teacher should be like rather than on the basis of external standards whose credibility had been substantiated by behavioral meanings widely accepted by both appraisers and appraisees.

A related problem is concerned with teacher attitudes towards the validity and reliability of the appraisal instrumentation. There is strong consensus among writers (Castetter, 1971; House, 1973; Glasman, 1974; Bolton, 1974) that teachers have little faith in either the validity or reliability of appraisal instrumentation. Research gives limited support to the opinions of these writers. For example, investigations by Eysenck (1953), Kleinman (1966), Marsh and Wilder (1954), Popham (1971a) and Ryans (1960) found that administrators most often judged
teacher competence on the basis of (1) teaching ability, (2) disciplinary ability, (3) scholarship, and (4) personality, and demonstrated in their studies that teacher rating instruments and raters' assessments, commonly employed in school systems, were unreliable. Studies concerned with the validity (whether content, correlational or construct) of teacher appraisal instrumentation are both rare—apart from those dealing with student assessment of teacher competency—and inconclusive. The reason is not difficult to discover. The validity of an instrument depends upon the situation in which it is used; an instrument judged to be valid in one situation may be invalid if used in another situation for a different purpose.

In the more specific appraisal area of student ratings of teacher performance, research gives considerable support to both the reliability and validity of instrumentation. Remmers (1959) concluded that "if twenty-five or more student ratings are averaged, they have as much reliability as do the better educational and mental tests at present available" (p. 21). Similarly, Kohlan (1973) and Costin et al. (1971) could substantiate the reliability of instruments employed by students to rate teachers. Support for the validity of such instrumentation is also evident. The internal structure or "factorial validity" (Helmstadter, 1964) of appraisals has often been studied by factor analysis (for example, Crannell, 1953; Finkbeiner, Lathrop, & Schuerger, 1973). Isaacson et al. (1964) concluded that their selected factors—skill, overload, structure, feedback, group interaction, student-teacher rapport—generally confirmed factors identified in other studies. Some caution, however, is needed in

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considering this conclusion. The factor analyses referred to include several different types of items and consequently the analyses (according to the different factor structures) identified not only similar but often different factors by comparison with the Isaacson study.

Despite research which might suggest that teachers' negative attitudes towards aspects of the appraisal function cannot always be justified, apprehensions persist. New approaches and changed emphases may produce more positive teacher attitudes. One purpose of this study was to discover whether this was possible.

Student Learning as the Basis for the Appraisal Function

In the area of teacher appraisal, there is no topic on which opinion varies so markedly as that of the validity of basing teacher effectiveness on student learning. Ironically, there appears to be growing agreement that there may be a nexus between particular teacher behaviors and student learning. However, opinion is one thing and research is another. Donny (1972) provided an extensive profile of 51 articles reporting research findings and analytic studies of teaching competencies. He could only conclude that there was little or no valid research cited that showed which of the behaviors produced change in student learning.

The Argument Against

Having made an extensive review of the research on the impact of teacher behaviors on student outcomes, Rosenshine and Furst (1971) concluded that there is little knowledge of the relationship between teacher behavior
and student growth. Nevertheless, they did propose 11 teacher behavior variables affecting student learning that appear, from the perspective of previous research, to be the most promising of the variables studied to that time.

Heath and Nielson (1974) also summarized the findings of previous reviewers of the research conducted on the relationships between teacher characteristics and student achievement over the past 50 years. These earlier reviewers also generally concluded that educationally significant relationships have not been demonstrated. Heath and Nielson stated that a relationship between teacher behavior and student achievement had not been established

...not because of minor flaws in the statistical analyses, but because of sterile operational definitions of both teaching and achievement, and because of fundamentally weak research designs. (p. 481)

Any discussion of student achievement brings in its wake a difficult criterion problem. This problem relates to the stability of various criteria and the reliability of their measurement. For instance, Glass (1974) has criticized the use of standardized achievement tests to measure teacher effectiveness precisely because such tests do not reliably measure teacher effects on pupil gains in knowledge across a period of time. After reviewing research in this area, Glass pointed out that

...in a 1922 study of teaching behaviors, A. S. Barr concluded that instability of teachers' behavior from one lesson to another is the dominant source of unreliability in the effect of teachers' actions on student learning. The contemporary studies reviewed above prove Barr's conclusion beyond reasonable doubt. (p. 26)
Gage (1972) has stressed that one of the major problems of previous criterion (competency) research in teacher appraisal has been the over-attention to a single criterion or, at the most, two or three criteria of effectiveness. This has resulted in ignoring many important classroom process variables. This problem of how to conceptualize appropriate criteria of effectiveness was one of the main focuses of this study.

Rosenshine and McGaw (1972) stated unequivocally that teachers cannot be held responsible for student growth. They contended that knowledge about the processes of teaching and learning is so insubstantial that rational conclusions cannot easily be drawn. As an example, consensus has not been reached about basic skills. Nevertheless, appraisal programs have traditionally assumed a relationship between teaching behavior and educational outcomes. Attempts to establish an empirical link between the two variables have been "equivocal and disappointing" (p. 642). They added:

We hope that those who still choose to set such transaction standards (others use the term "teaching performance criteria") do not delude themselves into claiming educational truth where there is so little information. (p. 643)

Rosenshine and McGaw did not deny that teachers may be appraised on the basis of competencies chosen for their validity as professional entities. What they did deny, however, was that accountability may be based on educational outcomes that cannot be accurately measured. These authors considered it feasible for emphasis in the appraisal process to be placed on the development of teacher skills and be perceived positively by both teachers and administrators. In their process-product studies...
review referred to above (p. 20), Rosenshine and Furst (1971) listed five variables which show a strong relationship with measures of student achievement: clarity, variability, enthusiasm, task orientation and student opportunity to learn.

The Argument For

From the perspective of many writers and some researchers, the assumption underlying teacher effectiveness is that the displaying of particular behaviors by a teacher results in particular student outcomes.

During the period from 1900 to 1960, the focus of investigators was on various aspects of teacher behavior, but the study of outcomes of instruction (i.e. student achievement) as a correlate of teacher effectiveness was neglected (Lucio, 1973).

From about 1960, following the lead of industry which has utilized performance objectives as the basis for judging personnel effectiveness (Adams, 1959; Glanagan & Burns, 1955; Meyers, Kay, & French, 1965), various educational researchers, seeking solutions to the criterion problem, have shifted from studying primarily what the teacher does (i.e. means of instruction) to examining changes in learner behavior as a result of instruction (i.e. outcomes of instruction). The criterion for appraising teacher performance thereby becomes perceived change in student learning behavior. Leading theorists of teacher appraisal who subscribed to this view were Hastings (1952), March, Burgess and Smith (1958), McNeil, (1966, 1967) and Popham, 1971b).

Some research has been carried out which has tended to support the use
of performance criterion measures as a basis for teacher appraisal. It must be noted, however, that almost without exception, researchers reached conclusions from comparatively small samples manipulated under conditions more controlled than natural settings.

The effectiveness of two groups of student teachers was compared by Moffett (1966); one group was appraised on the basis of reaching certain instructional objectives while the other was appraised by means of rating instruments. Data were obtained from subjects, (secondary school students) based on extent of student attainment of instructional objectives, attitude towards subject matter, teachers' attitudes towards supervisory help, satisfaction with mid-term grades, and preference for types of performance rating. Having been randomly assigned to one of two groups, student teachers in the experimental group effected preinstructional contracts with their supervisors concerning instructional objectives to be achieved; their teaching performance was then appraised in terms of student achievement. While informed about students' pretest deficiencies and the need to correct these, the student teachers in the control group were not instructed to pay particular heed to the deficiencies; their performance was appraised by means of rating scale measures.

Moffett reported these findings: (1) students in the experimental group performed significantly better in subject skill development than students of teachers placed in the control group; (2) student teachers in the experimental group were more confident about supervisory help; and (3) of all student teachers, regardless of placement in the experimental or control groups, 94 percent express preference for an appraisal method.
based on student achievement resulting from instruction rather than that based on a rating scale measure.

McNeil (1967) carried out an experiment with 72 student teachers on similar lines to the Moffett (1966) study. Those student teachers whose development was appraised by supervisors on the basis of student learning behavior change were judged more successful than those student teachers whose development was appraised by a rating scheme. Moreover, those student teachers who contracted with supervisors to achieve particular changes in student learning outcomes, were judged to be more successful in applying learning principles.

Lucio and McNeil (1969) formulated two assumptions germane to the student learning-teacher appraisal argument: (1) learning is evidenced by a change in behavior, and (2) teaching is successful only when the teacher's predetermined and intentional changes sought in the learner actually occur. Smithman (1970) carried out a study predicated by the Lucio and McNeil assumptions. He attempted to find: (1) the extent to which agreement on instructional objectives stated in behavioral terms by supervisor and teacher prior to teaching would increase student learning and, (2) whether the strategy of supervision by objectives would result in appraisal of teaching more closely related to instructional (skills) performance.

Using a stratified random sampling technique, 20 teachers and 558 students from nine schools were selected by Smithman (1970). Together with their principals, those teachers assigned to the experimental group agreed upon criteria to judge change in student learning; they were
appraised accordingly. The 10 teachers in the control group, adopting the same general instructional objectives as the experimental group but not stating these in explicit student learning outcomes, were appraised by means of a rating scale. Following student testing, it was concluded that students whose teachers were appraised by objectives achieved more than those students whose teachers were appraised on a rating scale.

Concerning teacher attitude towards appraisal (measured by an attitudinal questionnaire), significant differences were not found between the experimental and control groups.

In an attempt to isolate a valid indicator to appraise teachers' instructional skills based on a measurement of students' attainment of instructional objectives, Popham (1971a) developed a teaching performance test. Popham believed that the only important function of a classroom teacher is to promote beneficial changes in each learner. Each of his three teaching performance tests contains a set of specific instructional objectives measured by a posttest, the items of which vary between subject fields.

A Balanced Conclusion of the Argument For and Against

Researchers such as McNeil (1966, 1967), and Popham (1971a, 1971b), in particular, have shown that by specifying changes in learners, arranging instructional events to produce the desired changes and appraising the learners' attainment of instructional objectives, selective indices of teacher performance, based on student achievement, can be obtained.

What Popham, McNeil and others have done, however, is to place
complete credibility and meaningfulness of the teaching act upon one criterion. Researchers such as Rosenshine and Furst (1971) and Heath and Neilson (1974) have strongly opposed such a view. Their contention is that no one criterion is complete, and moreover, a preference for one as opposed to another involves value judgment by the appraiser.

Those studies reviewed in this chapter favoring teacher appraisal based on student performance tend to be repetitive, narrow in scope (e.g. size of sample, experimental conditions), based on untenable assumptions on occasions (e.g. that teacher and student teacher behaviors can be equated) and weak in external validity (samples too small and conditions too experimentally specific).

In Chapter I of this study (p. 3) when an attempt was made to define the term "appraisal process" the following statement was made: "...the definition of appraisal process as including only a measurement of the relationship between quality of teaching and student achievement was rejected. While it was not denied that such a relationship might exist, some doubts remained about its substantiation in empirical research". On balance, it was not found possible to accept the Popham-McNeil theories. These appeared too circumstance-specific and too inconclusive. The stance taken in this study was that there may be many cogent and valid criteria (i.e. competencies) upon which teacher appraisal should be based. The problem was to discover how extensive was teacher and principal agreement about these competencies. Without such agreement, it was conjectured, the appraisal function could not result in development of teacher performance.
Teacher Competencies

The term "teacher competency", as used in this study, is defined as any action taken, or stance adopted, by a teacher which contributes to the cognitive, affective or motor-skill development of a student. Emphasis, therefore, is primarily placed on student growth according to this definition.

Despite lack of definitive research linking teacher effectiveness to student (learning) outcomes, there is professional consensus about the competencies an effective teacher should have. Thomas (1973) reported on a study using two systems for determining judgment of professional educators concerning the priorities of specific teacher competencies in seven categories. The result of this study showed that teachers and supervisors tended to agree on the value of specified teacher competencies. For instance, they consistently ranked human relation skills first and evaluation last. Moreover, rankings by beginning and experienced teachers showed a remarkable similarity. In general terms, the results indicated that teachers are expected to be competent in subject matter, instructional methodology and on several levels of interpersonal relations and community involvement.

Much of the consensus about the kinds of competencies an effective teacher should possess have been identified by the use of the expert opinions of professional educators. On occasions, a factor analysis technique has been employed to bring to the surface the principal underlying concepts. Two of the more important teacher competency taxonomies,
developed in this country from a process of extensive logical task
analyses of teaching by principals, teachers, superintendents and
university educators were explored (below).

A reasonably close analysis of these documents was relevant and
important to the present study. First, the developed conceptual
framework was based on teacher competencies considered important by
both teachers and principals. Second, one of the documents (the
Pennsylvania program) was selected as a model for the most important
component of the survey instrument used to collect data related to
teachers' and principals' perceptions of the appraisal function. And
third, by implication if not by direct statement, the documents indicate
that teacher development must be based upon clearly explicated teacher
competencies.

Houston Need Assessment System

Published in April 1973, the Houston Needs Assessment System (Bain,
1973) accepted, as its basic assumption, that effective teaching requires
particular professional skills, attitudes and knowledge. Translated
into objectives described in explicit, observable terms, these skills,
attitudes and knowledges would need to be demonstrated in four ways:
(1) as knowledge and intellectual abilities (cognitive objectives), (2)
as task performance under stipulated conditions (performance objectives),
(3) as an ability to effect change in others (consequence objectives),
and (4) as a demonstration of particular attitudes or values of a
professional nature (affective objectives).
Two premises underlay the Houston study: (1) that different teachers demonstrate varying levels of competencies, and (2) that teachers as professionals are responsible for their own improvement. The purpose of the study was to report the self-assessed perceptions of teachers relative to a set of 33 professional competencies in such a way that they could provide the basis for self-improvement and in-service education.

Teachers rated themselves using the Teacher Competency Inventory (TCI). This consisted of three parts: (1) a list of 33 competencies, (2) lists of sub-competencies which provided detailed information on each competency so that respondents could more adequately rate themselves, and (3) self-assessment scales which ranged from adequate to expert performance for each competency. The listed competencies focused on designing and evaluating, interaction, and professional behavior.

To determine which competencies would be included in the TCI, researchers investigated the literature and research studies relating to teaching behavior, style and methodology. A logical task analysis of teaching was effected by 40 classroom teachers, principals, and university teacher educators. Specified objectives were then edited and scaled by a team from the University of Georgia and the University of Houston.

Results of the survey in which teachers rated themselves were presented for the entire school district and for individual schools separately. Four types of analysis of the TCI were used: (1) emphasis on the competencies perceived to be the weakest, (2) emphasis on
competencies given the highest rating, (3) emphasis on the competencies with the greatest mean difference between current and desired competency levels, and (4) emphasis on the competencies which had the greatest change in rank as determined by rankings of current and desired levels based on current and desired means for each competency.

Analysis of these results provided the information required to make decisions regarding in-service education for teachers and the professional development of teachers during appraisals.

**Pennsylvania Competency Based Teacher Education Program**

The Pennsylvania Department of Education, during 1970 and 1971, developed a highly sophisticated, and expertly formulated, taxonomy of teacher competencies (Craig, 1974). Designed as an instrument for teacher self-examination and development, the taxonomy could also be used by those who prepare programs for teachers in training. It was also anticipated that the competency inventory might serve both the purposes of coordinating research into appraisal criteria and procedures.

Originally consisting of 66 items (known as the **Generic 66**), the taxonomy was reduced to 22 competency statements (**Generic 22**) by examination and rewriting. The **Generic 22** were not considered to be prescriptive for teacher development and teacher education programs. Instead, advice was contained within the handbook that only through "critical examination and adoption to local philosophy, resources and strengths (could) an institution develop its own dynamic, unique
CBTE program" (Craig, 1974, p. 5).

Concerning teacher appraisal specifically, the handbook advised that criteria should be publicly stated and known to the candidate in advance of the process. The process should focus upon the teacher's behavior which illustrates knowledge and understanding, skills, and attitudes directly related to a defined role. In this respect, the Pennsylvania system is very similar to the Houston. Advice was also offered concerning the importance of appraisal process similarity for all teachers—using equivalent criteria and comparable procedures.

It is of interest to note that the data generated by 586 professional educators' ratings of the importance of the Generic 66 were submitted to a principal components factor analysis followed by a varimax rotation. This analysis revealed five factors. When the competency statements within each factor were considered, Factors IV and V were not clearly defined. Consequently, the principal components factor analysis was repeated, calling for only three factors. The results of this analysis provided three clearly defined factors which were entitled principal terminal competencies (Craig, 1974, p. 38).

1. The teacher will design and implement strategies which facilitate pupil learning.
2. The teacher will coordinate school and community features to sustain favorable learning conditions.
3. The teacher will diagnose educational needs and prescribe appropriate instructional steps.
Both the Generic 66 and Generic 22 appear to have very real potentialities for teacher appraisal programs. The Generic 22 was used (in a modified form) as the basis for the most important component of the survey instrument used to gather data about educators' perceptions of the appraisal function. A more complete description of this matter is given in Chapter III (below).

Who Appraises?

There would seem to be wide agreement among teachers that principals should have the responsibility for teacher appraisals. The national surveys carried out in the 1960's (NEA, 1964; Stemnock, 1969) lent considerable weight to this contention.

In a study of appraisal practices in selected Texan public high schools, Reavis (1975) investigated the perennial problem of teacher and principal perceptions differing about aspects of the appraisal function. From his findings, Reavis reported that teachers and principals must necessarily reach agreement about appraisal criteria and practices if anything of a worthwhile nature is to eventuate from the process.

Resulting from a quite different approach, Baltus (1974) reached much the same conclusion as Reavis. In his study, Baltus found that teacher improvement could result from professionally constructive alternatives, proffered by the principal, and accepted in good faith by the teacher as necessary to his professional growth.

Flanders (1970) proposed that teachers and administrators should
institute competency contracts by which particular skills to be appraised might be identified jointly. Base-line data on teacher performance could be gathered by some objective means mutually agreed upon. Performance criteria that represent skill development in a particular direction could then be specified. Training and developmental materials to meet objectives would be made available to teachers. The final appraisal would be based upon attainment of a specified performance level.

If there is growing consensus about the place of principals in the appraisal function, such is not the case about other possible appraisers.

Peer Appraisal

The literature dealing with peer assessment by teachers is fragmentary and unsustained. Having surveyed the available literature on this topic, Popham and McNeil (1973) commented:

Most teachers have been reluctant to make, as a matter of public record, evaluation statements about the instructional effectiveness of peers.  
(p. 230)

Perrone (1976) supports this contention. Popham and McNeil went on to state that teachers would nevertheless assist in the collection of evidence that both describes a colleague's procedures and measures the results of these procedures. The assumption underlying such actions is that professional benefits will result. Outcomes need not necessarily be reported to the principal for appraisal purposes. Popham and
McNeil pointed out that

...for purposes of teacher improvement, it is better when teachers feel free to reveal their weaknesses and to try to achieve objectives in areas where they have strong doubt about their competency. Freedom to fail with impunity will permit the teacher to strive more imaginatively for improved teaching tactics. (p. 230)

While Glasman (1974) sees the necessity for an administrator to delegate some aspects of the appraisal function from time to time, the necessity for objectivity in reporting is emphasized.

**Self Appraisal**

On the surface, at least, it would appear that self appraisal (at least as one dimension of the total process) should reduce threat and increase the likelihood that the process will aid teacher development.

Bodine (1973) viewed self-appraisal as a powerful means for a teacher to be master of his own professional growth. If a teacher is motivated to appraise himself on the basis of discrepancies between his ideal and his real development, professional growth should occur. For this process to eventuate, Bodine suggested that the teacher learn to use the researcher's instruments and apply the measures to his own teaching performance. Among components of his strategy, Bodine proposed that the availability of research on empirical relationships should be given in terms of the instruments used to measure the teaching behavior, availability of models of different behavior and the possibility of regular practice of new behavior. Such a strategy would tend to
answer critics such as Ryans (1957) who contended that the chief
disadvantage of self appraisal is that the approach does not readily
relate to outside criterion measures.

Self appraisal by teachers has been the subject of a number of
studies. Some were based on total self-analysis by the teacher (Jensen,
1968) while others included an individual or group in the appraisal
process (Thoreson, 1966; Bush & Allen, 1964). Reported findings have
shown, however, that there are two disadvantages: teachers often
cannot accurately analyze specific aspects of their behavior because
they lack a conceptual framework for observation; and teachers lack
the technical competence necessary to operate such resources as video
equipment to capture their behavior for analysis.

Student Appraisal

Whether or not students should evaluate teachers has been a vexing
question. Some teachers contend that students, lacking the skills and
training in instructional techniques and evaluation, should have no
part in the process. As a Wisconsin administrator indicated in a poll
conducted in October, 1970, by Nation's Schools, "The whole idea makes
about as much sense as asking an acidhead to rate his local police
department".

Nevertheless, a growing body of research and literature has begun
to change early scepticism to confidence in the ability of students--
at least from intermediate grades to graduate school--to make reliable
and valid judgments of teaching performance. Dalton (1971)
stated that published results of studies of teacher ratings by students indicate an uncanny ability by pupils to describe teacher effectiveness in much the same way as knowledgeable adults.

Bryan (1959) maintained that student-reaction reports help teachers to:

1. determine the degree to which desirable characteristics exist,
2. discover unsuspected weaknesses and strengths,
3. maintain good public relations,
4. discover gaps between theory and practice,
5. get the proper balance in emphasis on competing factors in the teaching situation, and
6. get recognition for excellent teaching.

Bryan's statements are supported by Murdoch (1969) who reported that research indicates that informational feedback is an effective means of influencing teaching behavior. In fact, student feedback, it is reported, can sometimes be more effective in changing teacher behavior than supervisory feedback. While generally agreeing with this statement, Ryan (1966), having studied the halo effect in student ratings of teachers, noted that a reliable instrument that rates teachers' skills on a scale would restrict the influence of any halo effect.

The Educational Research Service of the NEA (1970) found that almost one out of four school districts surveyed had some form of student evaluation of teachers. There is reason to believe that a contemporary survey would indicate an even higher incidence of this practice. For instance, a 1973 survey conducted among school districts in Oregon (Halbert, 1975) found that one out of three school districts had a form
of student appraisal of teachers.

The Relationship of Teacher Attitude of Personal Ability and the Appraisal Function

It seems that attitudes that teachers have about the appraisal of their teaching performance will strongly influence their ability to gain from the process. Two well organized studies related to this hypothesis have been carried out.

Wagoner and O'Hanlon (1968) found that those teachers who hold favorable attitudes to appraisals are more likely to benefit than those who do not. A questionnaire was sent to 800 randomly selected Arizona public school teachers. This contained seven questions, so constructed that it was possible to evoke responses about feelings concerning appraisals as applied to others and to themselves. Teachers were also requested to rate themselves "better than average", "average", or "below average" on teaching ability. Teachers who rated themselves in the "better than average" or "average" categories were significantly more in favor of appraisals than those who rated themselves "below average". Those in the first two categories viewed the process as potentially rewarding and therefore held it in positive regard.

Wolf (1971) found that teachers who allowed broad definitions of evaluation--i.e. perceived the process as important for decisions regarding both teacher and learning effectiveness--tended to value student appraisals for decision-making about teaching and learning. By contrast, teachers who held narrow definitions of evaluation--i.e.
perceived appraisals as important only for decisions related directly to student learning--tended not to value students' judgements. It is interesting to note, also, that teachers holding a narrow view of evaluation considered administrators their most important audience.

The research of Wagoner and O'Hanlon (1968) and Wolf (1971) invites conjecture concerning the influence of teacher attitudes towards the appraisal function despite sound and carefully chosen criteria and procedures. It would appear that the most damaging attitude militating against success of the appraisal function is that teachers cannot see how it can serve their best interests, rather than be a vehicle to fulfill administrators' expectations.

The present study sought answers to some of the problems resulting from teacher attitudes towards appraisals. The question whether positive encouragement by principals to introduce an on-going assessment process would be beneficial was also addressed.

The Formative Emphasis

The concepts of formative and summative evaluation were introduced by Scriven (1967). While the summative evaluation implies measuring the outcomes attained, formative evaluation consists of collecting appropriate information for systematic and continuous revision.

There is little doubt that appraisal of teacher performance has traditionally been of the summative type of evaluation (Glasman, 1974). Such an appraisal is a final and, by inference, complete statement of a teacher's effectiveness and worth to the system. Clearly, this
approach is one of the chief reasons for teacher discontent. Commenting on this, Wolf (1973) stated:

...when a teacher is evaluated by a principal or supervisor, a judgment is made on the quality of his teaching. There is usually little feedback to the teacher, and the criteria are seldom explicated. (p. 158)

What Wolf does advocate is formative evaluation which allows continuity of information, including feedback from principal to teacher, which enables a monitoring of the type and direction of teacher activities. This process would afford the opportunity to a teacher who has the potential for professional growth to improve performance.

Taken to its broadest limit, formative evaluation would allow a teacher to be appraised "on his effectiveness and its relation to the collective enterprise" (Wolf, 1973, p. 159).

Wolf (1973), Bolton (1973), Glasman (1975) and House (1973) are unanimous in their conclusion that the only effective kind of teacher appraisal process will show teachers how they can change or develop. These same writers generally agree (by implication if not by statement) that if teachers are to engage in a more systematic appraisal process, in which they would share in rule-making, their perceptions of the entire function must first be revised. Most importantly, perhaps, implication of teachers in the various aspects of their formative evaluation would result in a reduction in threat.

The importance of effective feedback as an integral part of formative evaluation, must be stressed. Within the literature, very
little emphasis is given to this aspect of the appraisal function, and when it does occur, differentiation between normative and non-normative forms is seldom clarified. Moreover, studies in this area appear to have little substance and generalizability. For all its apparent potential worth for teacher development and improvement, feedback from administrator to teacher has not been seriously addressed by research. Studies of types of administrator-teacher feedback, their implications for differing appraisal situations, procedures, motivational needs and specific demands, could profitably be pursued.

Extensive studies have been effected in the area of teacher reaction to feedback from student ratings. In their review of the literature Costin, Greenough and Menges (1971, p. 530) concluded that "feedback in the form of student ratings may improve the teacher's performance (as evaluated by students)". However, in his review, Miller (1974) suggested a need for further investigation before conclusions could be drawn.

_Development of Individual Program_

After a school system has developed plans for the goals, organization, criteria for performance, and methods for the appraisal function, consideration must be given to individualizing resultant processes and procedures. Such processes and procedures, according to Castetter (1971) should include provision for immediate discussion of appraisal results with the teacher, formulation of an individual action program (including definite objectives) developed on the basis of the appraisal of
performance and an on-going review of the progress made by the teacher towards meeting agreed upon objectives.

Carried a step further, it is possible to envisage Castetter's scheme becoming an integral part of decisions regarding the personal development of teachers. It would include provisions for allowing individual teachers an opportunity to help identify their own weaknesses and areas where professional growth should occur. Teachers might then direct behavior constructively towards the removal of these weaknesses.

One purpose of this present study was to investigate ways in which teacher appraisal might become less of a process designed to judge a teacher and more a process designed to help a teacher improve performance. NEA (1972) stated that the appraisal process should "help the teacher help himself to improve his performance and the quality of education in his school" (p. 7).

Summary

Although studies in the literature have focused upon some aspects of the teacher appraisal function, none has attempted to draw general conclusions about teacher development as a result of positive appraisal techniques. Neither has research explored teacher and principal perceptions with a purpose of discovering whether areas of agreement exist about the function. The aim of this study was to draw conclusions about these two important components of the appraisal function, and their possible connection.
CHAPTER III

DESIGN AND METHODOLOGY

This chapter focuses on the design of the study and gives a description of the methodology used to conduct it. Specifically discussed are the review of the problem, development of an appropriate instrument, the population and sample, and the procedures adopted for data collection and analysis.

Review of the Problem

It was the intention of the present study to investigate and report similarities and differences in teachers' and principals' self-reported perceptions about the appraisal process so that the possibility of developing a positive process leading towards teacher development could be explored. In order that data relevant to the problem could be obtained for analysis and discussion, research questions were posed. It was conjectured that answers to these questions would give substantial weight to the proposed conceptual framework for the teacher appraisal function. The main questions and subquestions (cited specifically for data collection and analysis purposes) are listed below:

1. Do teachers and principals perceive that professional improvement of teachers can be an outcome of positive appraisal rationales and techniques?

   1a. Do teachers and principals have different opinions concerning whether there is a place
(within the system) for the appraisal of teacher performance?

1b. Do teachers from school districts without formal appraisal systems differ in their perceptions concerning teacher accountability from teachers from districts with formal appraisal systems?

1c. Do principals from school districts without formal appraisal systems differ in their perceptions concerning teacher accountability from principals from districts with formal appraisal systems?

1d. Do teachers and principals perceive that professional development should be the outcome of teacher appraisal?

1e. Do teachers and principals hold differing perceptions concerning the purpose of the appraisal function?

1f. Should the written performance objectives of teacher appraisal be decided by principals alone or by both principals and teachers?

1g. Which teacher competencies are held in high esteem by teachers and by principals?

1h. What is the relationship between teachers and principals in their rating of the importance of teacher competencies and what is the relationship between the five competencies rated most important by each group?

2. Do teachers and principals differ in the nature of their objections to the appraisal function?

2a. What are the main reasons for objections to the appraisal function?

2b. Do teachers and principals differ in the nature of their objections?

3. Do untenured teachers see appraisals as less of a threat than tenured teachers?
3a. Is there a difference in the opinions of tenured and untenured teachers concerning the place of the appraisal of teacher performance?

4. Does length of experience as a principal affect perceptions about the appraisal function?

4a. Does length of experience (dichotomized to more or less than five years) affect different perceptions about the appraisal function?

5. Is there a difference between academic status and perceptions about the necessity of the appraisal function?

5a. Do teachers with bachelors' and masters' degrees hold different perceptions about the necessity for the appraisal function than those with specialists' and doctorate degrees?

5b. Do principals with bachelors' and masters' degrees hold different perceptions about the necessity for the appraisal function than those with specialists' and doctorate degrees?

6. Do teachers who hold favorable attitudes towards their abilities as teachers accept appraisals more willingly than those who hold mediocre or unfavorable attitudes towards their abilities?

6a. Do teachers who hold favorable attitudes towards their abilities as teachers hold different perceptions about appraisals by comparison with those who hold mediocre or unfavorable attitudes towards their abilities?

7. Who should appraise teacher performance and do teachers and principals differ in their opinion concerning this matter?

7a. Who should appraise teacher performance?

7b. Do teachers and principals differ in their
opinions concerning who should effect teacher appraisals?

8. Should teachers be appraised solely on the basis of what students learn in class?

8a. Do teachers and principals hold different views about whether teachers should be appraised solely on the basis of what students learn in class?

9. Can an appraisal system serve the dual function of developing teacher competencies and of dismissing incompetent teachers?

9a. Do teachers and principals hold different views about whether an appraisal system can serve the dual function of developing teacher competencies and of dismissing incompetent teachers?

10. Do teachers and principals agree that the appraisal process should be formative rather than summative, developmental (for teachers) rather than aloofly critical?

10a. Do teachers and principals hold different perceptions about whether the appraisal process should be continuous and should entail conferences after each formal appraisal observation?

Instrumentation

An early undertaking was the development, through a pilot study, of an instrument, which could appropriately correspond to the questions listed above and from which relevant data could be obtained. Since no existing instrument covered the questions to be answered, it was necessary to develop one without the support of precedent. Nevertheless, conceptual support for a data-gathering instrument was available from
two sources. First, the literature concerning teacher appraisal proffered, recurrently, statements (albeit unsubstantiated) concerning teacher improvement being related to a positive appraisal function. Second, the Pennsylvania Competency-Based Teacher Education (PaCBTE) Program referred to below was extremely useful as a basis for the inclusion of professionally considered, and recognized, teacher competencies.

Chosen mainly because of the large sample size (see Population and Sample, below), a mailed questionnaire was used to collect data. This was forwarded to selected teachers and principals. The questionnaire was reasonably short, comprehensible and uncomplicated. Apart from two demographic items (length of service in the principal position and tenure status of teachers) and one attitudinal question directed at teachers (perception of teaching skills development), the teacher and principal forms of the questionnaire were identical. Color coding was used for easy identification. For all questions where an opinion had to be expressed, a Likert-type scale was used. This permitted a straightforward recording of opinions by respondents. Emphasis was therefore given to attractiveness of format and ease of response. In this regard, Mouly (1970) offered the following comment:

> The validity of questionnaire data... depends in a crucial way on the ability and willingness of the respondent to provide the information requested. (p. 243)

Items composing the two forms of the questionnaire are contained in Appendix A.
Criticism has been leveled at mailed questionnaires because of the problems inherent in a low return rate. One of the main problems, as Kerlinger (1964) noted is that the nonrespondents may differ in important respects from the rest of the population. Nevertheless, Moser and Kalton (1972) have observed that this problem can be overcome to a marked degree if an estimate can be made of the effect of the nonresponse. Should the situation have arisen in this study where the response rate was low, sufficient demographic data were available from the sample sources to judge some of the effects of nonresponse. It was considered that there were sufficient demographic data available from the sample sources at least to estimate whether the nonrespondents differed on the basis of particular variables from the population. For example, the Michigan Education Director and Buyer's Guide 1975-1976 provided the following information for principals sampled:

- sex
- address
- title
- name, size, and location of school district
- name and address of school building
- type of school: elementary, middle, junior high or senior high grades in each school
- number of students in each school building
- number of teachers in each school building.

Concerning what would constitute a lower than acceptable and better than adequate response rates, Babbie (1973) offered the following rough guides:
a response rate of at least 50 percent is adequate for analysis and reporting. A response rate of at least 60 percent is good. And a response rate of 70 percent or more is very good. (p. 165)

The questionnaire was designed as an instrument of data collection in the following main areas of teacher and principal perceptions about the appraisal function: (1) the professional accountability of teachers, (2) student learning as the basis for teacher appraisal, (3) the formative emphasis, (4) who should be implicated, (5) imperfections of extant systems, and (6) teacher competencies. In addition, respondents were invited to give comments concerning imperfections in present appraisal practices and concerning changes which might make the process more positive and acceptable. Based on the research questions, an organizational chart (Appendix B) was compiled. Placed alongside each research question was the information needed to answer the question (and test the implied hypothesis), the reference point of this information to the questionnaire(s), the relevant data analysis method(s) and the rationale for the type of analytic technique selected. This procedure ensured that statements on the questionnaire were meaningfully formulated and that questions were stated so that data would be in the appropriate form for the various data analysis techniques. It also ensured that exact methods of data analysis were determined in advance of data collection. As questions were written and arranged to form the questionnaire, guidance was sought on wording and arrangement from the literature (Moses & Kalton, 1972; Mouly, 1970; Babbie, 1973).

A main question to which an answer was sought by means of the
questionnaire concerned teacher and principal perceptions about teacher competencies. A search of the literature through the ERIC system revealed two highly reputable, professionally formulated and tested teacher competency taxonomies. These were the Houston Needs Assessment System (Bain, 1973) and the Pennsylvania Competency Based Teacher Education Program (PaCBTE) (Craig, 1974). Both documents have been described in some detail in Chapter II (above) and both evolved from extensive logical task analyses of teaching by teachers, principals, superintendents and university educators. After considerable analysis of both documents, it was decided that a version of the PaCBTE's Generic 22 would be used as the basis for the section of the questionnaire dealing with teacher competencies. Those items pertaining more specifically to teacher education rather than teacher development in the field situation were omitted, leaving 15 teacher competencies. These 15 competencies contained a balanced emphasis between a teacher's professional skills, attitudes and knowledge.

To test the reliability of the initial instrument, the questionnaire was administered to four teachers and four principals on two occasions, separated by a two week interval, without any intermediate feedback. The correlations between the two administrations for the four teachers over all opinion-type responses were .92, .91, .87 and .79; and for the four principals, .92, .90, .87 and .85. Because the instrument was designed to provide data relevant to six main areas of the teacher appraisal function, internal consistency measures were taken on each of these six critical areas over both teacher and principal responses. These alpha...
coefficients (Cronbach, 1970) resulted: (1) professional accountability of teachers, .94; (2) student learning as the basis of teacher appraisal, .94; (3) the formative emphasis, .91; (4) who should be implicated, .79; (5) imperfections of extant systems, .89; and (6) teacher competencies, .88.

Although validity is neither absolute nor, therefore, ever finally established, attempts were made to ascertain the face validity of the instrument. Those requested to perform this task--two experienced teachers, three principals and two assistant superintendents--also gave comments about the appropriateness of wording, arrangement of items and importance of aspects of the instrument. Following comments from these professional judges about the representativeness of the items and relevance to the research questions, five items were reworded to give acceptable clarity and relevance to the hypotheses implied in the research questions.

Population and Sample

The populations for this investigation were composed of public school principals and teachers employed by Michigan school districts. Both groups consisted of persons from the three school levels--i.e. elementary, junior high and senior high school. For financial reasons, the study was limited to Michigan alone. Michigan was chosen for the study because the State included a reasonably diversified population of schools in terms of school and community size, complexity, and urban and rural components. Teachers and principals, in general, had the
same basic preparation as those in most American States according to records contained in the Division of Teacher Preparation and Professional Development Services, Michigan Department of Education. Moreover, the population of schools was not dissimilar to many other American States, particularly those in the mid-west. For this reason, it was anticipated that the outcomes of the study, within rationalized parameters, would have external validity.

The principal population consisted of 3334 persons whose names were contained in the Public Schools section of the *Michigan Education Directory and Buyer's Guide, 1975-1976*. An extant (1976-1977) publication was not due for release until early 1977. However, the publishers of the *Directory* confirmed that the publication was at least 95 percent accurate. A systematic sampling technique (with every eleventh name accepted) was used to select 300 principals. The sample consisted of 172 elementary, 79 junior high and 49 senior high school principals. Bearing in mind the incomplete nature of the *Directory*, a decision was reached that the sample size of 300 would be reduced by the number of returned, unopened envelopes containing the questionnaire and related material.

The teacher population consisted of 101,539 persons whose names were contained in the *1975-1976 Professional and Personnel Report* of the Division of Teacher Preparation and Professional Development Services, Michigan Department of Education. This list also was incomplete. Although an updating of records was an on-going process, the master list was never complete because of the very large number of personnel in the State
public schools. Like the principal lists in the Directory, the State Department's records were considered to be at least 95 percent accurate. A systematic sampling technique (with every one hundred and sixty ninth name accepted) was used to select 600 teachers. The sample consisted of 329 elementary, 155 junior high and 116 senior high school teachers. Again, bearing in mind the incomplete nature of the Department's master list, a decision was reached that the sample size of 600 would be reduced by the number of returned, unopened envelopes containing the questionnaire and related material.

Procedures

On November 8, 1976, materials were forwarded to the 600 teachers and 300 principals who constituted the samples. Each person was sent the following: a cover letter (Appendix C), the appropriate form of the questionnaire and a return, self-addressed envelope, stamped for the convenience of respondents. Letterhead stationary from the College of Education, Western Michigan University, was used for the cover letter which was signed by the investigator and endorsed by the Associate Dean. The letter outlined the area to be investigated and stressed that confidentiality would be strictly observed.

An identifying code number was written on each questionnaire for follow-up purposes. To ensure confidentiality, as questionnaires were returned, names and the corresponding identification code numbers were destroyed. A separate list was compiled of respondents who had requested a summary of the results of the study. Procedures used to protect the
respondents' confidentiality were explained at the beginning of the questionnaire. Finally, certification of measures adopted to protect respondents' confidentiality was lodged both with the Michigan Department of Education and the Department of Educational Leadership, Western Michigan University. The certification lodged with the Michigan Department of Education was in response to the Department's recommended guidelines for access to professional personnel and certificate records; and the certification lodged with the Department of Educational Leadership was in response to that Department's request for assurance of confidentiality and protection when human subjects are implicated in research.

On November 29, 1976, follow-up materials were forwarded to nonrespondents. These materials consisted of a covering letter (Appendix C), again seeking cooperation, a questionnaire, and a self-addressed, stamped envelope. On December 10, 1976, the decision was reached to accept no further responses as the return rate had diminished to one or two responses daily. The survey response is reported at the beginning of Chapter IV.

Data Analysis

A decision was reached to exclude, as unuseable, nine of the responses, two from principals and seven from teachers. In each case, sections (usually more than half) of the questionnaires remained uncompleted. All other respondents completed all questionnaire items.

All information on each questionnaire was coded to facilitate
key-taping. A key-tape operator transferred this coded data to two computer discs (one for principals and another for teachers) so that recorded data was in a form which could be analyzed on Western Michigan University's PDP 10 computer.

The data analysis techniques, determined when the questionnaire was developed (Appendix B) were now utilized to respond to research questions (and to test their implied hypotheses). Chapter IV records details of data analysis results. Whenever a decision had to be reached whether a statistically significant difference existed between teachers' and principals' perceptions about a single item or combined items, a one-way analysis of variance was used. The chi-square test was used for inferences about the independence of classifications in a contingency table. For example, a comparison was made between respondents in a school district with, and those without, a formal appraisal system and their perceptions (dichotomized into agree/disagree classifications by combining categories of the Likert scale) about the professional accountability of teachers. The Pearson product-moment correlation was used to show the relationship (treated separately for teachers and principals) between perceptions concerning whether principals alone, or principals and teachers, should set written performance objectives for the appraisal function. Differences between the two correlations (i.e. teachers' and principals') were tested for significance.

To seek a response to the research question "which teacher competencies are held in high esteem by teachers and principals?" a factor analysis (teachers and principals treated separately) was carried out.
using the rotational varimax (orthogonal) technique. Subsequently, the relationship between teachers' and principals' perceptions about these competencies was found using Kendall's Tau after each competency was rank ordered according to teacher and principal perceptions about the importance of each.

A perusal of the organizational chart (Appendix B) indicates that variables in addition to those contained in the numbered sections of the questionnaire had either to be reformed or created so that responses to particular questions could be obtained. The reforming or creation of these additional variables was achieved by computer manipulation. Additional variables were of two types.

First, variables were reformed by combining Likert scale categories of individual questionnaire items. This strategy was used when the five Likert scale categories (of individual items) were dichotomized into agree/disagree categories only, with the central (i.e. "uncertain") category omitted. This maximized the possibility of a difference being found statistically. This strategy was used on two occasions:

1. categories in Teacher Questionnaire item 5.1 were dichotomized when perceptions about accountability were sought from teachers from school districts with and without formal appraisal systems (Research question 1b), and

2. categories in Principal Questionnaire item 4.1 were dichotomized when perceptions about accountability were sought from principals from school districts with and without formal appraisal systems.
Individual questionnaire item variables containing demographic data were also reformed for computational purposes. This strategy was used in the Teacher and Principal Questionnaire item 2 where the bachelors' and masters' degrees formed one group and the higher degrees another. This dichotomizing was necessary to respond to Research question 5, which investigated academic status and perceptions of accountability. The strategy was also used in Teacher Questionnaire item 3 where above average ratings of stage of development as a teacher were separated from average and below average ratings. This dichotomy was necessary to respond to Research question 6 which investigated teacher attitudes to performance and perceptions of accountability. Finally, the strategy was used in the Principal Questionnaire item 1 where length of experience was dichotomized into more or less than five years. This dichotomy was necessary to respond to Research question 4 which investigated principal perceptions of teacher accountability based on length of experience.

Second, variables were created by combining different questionnaire items. This strategy was appropriate when items of a similar nature could be combined to give a general impression in response to a research question. This strategy was used in the Teacher and Principal Questionnaires in the following instances:

1. To gauge principal perceptions about the appraisal function in which principals are closely involved (Research question 4), Principal Questionnaire items 4.1, 4.2, 4.6, 4.7 and 4.8 were combined to create a new variable (viz. principal perceptions).
2. To assess teacher and principal perceptions about who should appraise teacher performance (Research question 7), Teacher Questionnaire items 5.8 - 5.12 were combined to create a new variable (viz. teacher who) and Principal Questionnaire items 4.8 - 4.12 were also combined to create a new variable (viz. principal who).

3. To discover teacher and principal perceptions about main reasons for objections to the appraisal function, Teacher Questionnaire items 6.1 - 6.5 were combined to make a new variable (viz. teacher objections) and Principal Questionnaire items 5.1 - 5.5 were also combined to make a new variable (viz. principal objections).

Content Analysis of Respondents' Comments

Fox (1969, p. 646) defines content analysis as "a procedure for the categorization of verbal or behavioral data, for purposes of classification, summarization, and tabulation". Any researcher having gathered data through observational, measuring or questioning techniques like open-ended questions is faced with the difficult problem of data analysis. The present study made use of such a data analysis technique on two occasions. First, voluntary comments were requested concerning the list of (implied) reasons for failure of the appraisal function (Teacher Questionnaire, 6.1 - 6.6; Principal Questionnaire, 5.1 - 5.6).
And second, respondents were requested to write comments, in addition to those in the questionnaire, concerning the appraisal of teacher performance, particularly in respect to changes which might make the process more positive and acceptable (Teacher Questionnaire, 8; Principal Questionnaire, 7). In both instances it was considered appropriate to use the process of content analysis.

Fox (1969, p. 649) outlines three stages basic to the process of content analysis: (1) deciding what the unit of content to be analyzed will be, (2) developing the set of categories, and (3) developing a rationale to guide the placement of responses in categories. Accordingly, a decision was reached that any comment, however brief or lengthy, would be accepted provided it was a relevant response to a selected category item,—i.e. items 6.6 and 8 of the Teacher Questionnaire, and items 5.6 and 7 of the Principal Questionnaire. The categories were selected after a lengthy search of the literature and comments offered by educators who carried out the validation and reliability measures on the Teacher and Principal Questionnaires. It was further decided to place frequencies of particular responses under the categories of teachers and principals. Sub-categories would indicate whether responses indicated strongly or mildly held opinions. By this method it was considered possible (bearing in mind the greater potential number of teacher respondents) to compare teacher and principal perceptions about aspects of the teacher appraisal function not included in the questionnaire but important to respondents.

The following categories were selected for content analysis; the
first group (section A) refers to comments following Teacher Questionnaire item 5.6, and the second group (section B) refers to comments following Teacher Questionnaire item 8 and Principal Questionnaire item 7:

Section A

1. Principal determines how an instrument is used—creatively or critically
2. Appraisals discourage rather than encourage a teacher
3. Evaluation depends on the personality of the principal and the teacher
4. Appraisals can be used by principals to intimidate teachers who disagree with principals' philosophies
5. The process is too school district specific and many worthwhile teacher competencies are never assessed
6. Some appraisal instruments contain so many items (relating to teacher competencies) that the importance of main issues is obscured
7. Appraisals are too infrequent
8. To improve all teachers and not only those with problems, appraisals should be held on a regular basis
9. Parents cannot evaluate teachers objectively
10. Full potential of teachers cannot be easily realized under poor administration
11. Self-appraisal, the strongest inducement for change, is seldom a part of the process
12. Principals are often ignorant of a teacher's philosophies, methods, classroom structure, area of special expertise and goals, rendering a fair appraisal impossible

13. Appraisal can be inconsistent with factors such as the varying economic and political climate of a school district influencing outcomes

14. The whole educational process and those involved with it should be evaluated and not just teacher competency

15. Emphasis on appraisals being a joint effort—principal and teacher—is too infrequent

16. Collective bargaining and tenure laws have reduced the opportunity for open communication in the process

17. Formal appraisals discontinue after tenure has been granted.

Section B

1. The open, non-threatening and honest climate, and a sharing in the process by teachers and principals, will enable teachers readily to perceive strengths and weaknesses

2. If appraisals are used to develop rather than punish, sound counseling and human relationships follow

3. Short, frequent and reasonably informal classroom visits by principals lead to a more complete grasp of a teacher's work

4. Follow-up sessions must be programmed after every
appraisal to offer constructive criticism and new (or modified) individual goal-settings for performance improvement

5. School systems will need to work closely with teacher unions to gain support for enlightened appraisal procedures

6. Special criteria should be developed as a basis for judgments in special areas such as Industrial Arts, Business and Art

7. A good appraisal process will take regard of the quality of students

8. Principals should receive training in appraisal techniques (including objectivity)

9. Appraisals should implicate principals, students, peers and the teachers concerned

10. Sound appraisals are an essential component of continuing teacher education

11. Effective communication is an essential adjunct to effective appraisals

12. Let the teacher know in advance the criteria to be used, instrument(s) and procedures

13. Any instrument used must be brief and explicit

14. The process should include both subjective and objective evaluations

15. Base appraisals on extensive observations
16. Similarity of main concepts should prevail in all school districts

17. Teachers must be given the right to comment freely on appraisal outcomes

18. The appraisal process should clearly distinguish between the competent and incompetent teacher.

Summary

This chapter reviewed the problem and introduced a complete list of questions and subquestions (cited specifically for data collection and analysis purposes). An outline was given of the development of an instrument to discover teacher and principal self-reported perceptions about aspects of the teacher appraisal function. It was reported that subsequently a questionnaire was forwarded to a systematic sample of 600 public school teachers and 300 principals in the State of Michigan. Finally, procedures adopted for the analysis of data were discussed.

This chapter delineated the procedures of the study from its inception—including a reiteration of the problem—to the data collection stage. Chapter IV reports the survey response rate and an analysis of the findings.
CHAPTER IV

RESULTS

The presentation of results falls into two main categories. First, the survey response is reported. And second, the presentation of the research findings is organized around the ten research questions (and their attendant sub-questions) with their implied hypotheses listed at the beginning of Chapter III.

Survey Response

During the period November 9 through November 29, 1976, 549 useable responses (i.e. 61 percent of the 900 questionnaires posted) were received. Follow-up letters and questionnaires posted on November 28, 1976, elicited a further 180 useable responses, (i.e. a further 20 percent of the 900 questionnaires posted). Following the initial mailing, a very high return rate was noted during the first three or four days; after five days the rate fell away markedly. A somewhat similar pattern obtained in response to the follow-up package. Figure 1 displays graphically the response rate by daily return of useable responses.

Table 1 gives a summary of returns for the teacher and principal samples. It may be noted that when unuseable responses and returned (unopened) envelopes were taken into account, the total response rate increased to 84 percent. However, for all analytical purposes, only the 729 useable questionnaires were considered. Table 1 indicates two interesting patterns. First, the principal response rate was greater
Notes (1) Teacher and principal responses have been combined
(2) Useable responses only have been included
(3) Follow-up letters and questionnaires were posted on November 28th
(4) W/E (horizontal axis) represents a weekend period (no mail delivery)

FIGURE 1
Graph of Response Rate by Daily Return


### TABLE 1

Characteristics of Returned Questionnaires

<table>
<thead>
<tr>
<th>Group</th>
<th>Total Number Sent</th>
<th>Returned Unopened</th>
<th>Returned Unusable</th>
<th>Returned Usable</th>
<th>Percent Returned Usable</th>
<th>Percent Total Returned</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Elementary School</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Principals</td>
<td>172</td>
<td>4</td>
<td>1</td>
<td>158</td>
<td>92</td>
<td>95</td>
</tr>
<tr>
<td><strong>Junior High School</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Principals</td>
<td>79</td>
<td>2</td>
<td>1</td>
<td>74</td>
<td>94</td>
<td>97</td>
</tr>
<tr>
<td><strong>Senior High School</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Principals</td>
<td>49</td>
<td>1</td>
<td>-</td>
<td>46</td>
<td>94</td>
<td>96</td>
</tr>
<tr>
<td><strong>Elementary School</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teachers</td>
<td>329</td>
<td>8</td>
<td>6</td>
<td>245</td>
<td>74</td>
<td>79</td>
</tr>
<tr>
<td><strong>Junior High School</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teachers</td>
<td>155</td>
<td>3</td>
<td>1</td>
<td>115</td>
<td>74</td>
<td>77</td>
</tr>
<tr>
<td><strong>Senior High School</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teachers</td>
<td>116</td>
<td>3</td>
<td>-</td>
<td>91</td>
<td>78</td>
<td>81</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>900</td>
<td>21</td>
<td>9</td>
<td>729</td>
<td>81</td>
<td>84</td>
</tr>
</tbody>
</table>
than the teacher response rate by more than ten percent. Second, the response rate within each of the two samples, irrespective of type of school (elementary, junior high or senior high), showed a marked consistency.

The exceptionally high response rate according to Babbie's scale (Babbie, 1973, p. 165) could possibly have been attributed to strong interest by educators in the areas of teacher appraisal and teacher accountability. In particular, NEA surveys and the Perrone Report referred to in Chapter II provided ample evidence of very real concern about appraisal and accountability issues. Support for this factor contributing to the high return rate could be gauged by the number and type of respondents' comments. Four hundred and sixty two (i.e. 63 percent) of responses contained some form of written comment; of this number, 369 (i.e. 80 percent) offered remarks which indicated an obvious concern for an aspect of the teacher appraisal function (general or particular).

Appendix D consists of two maps of the State of Michigan which identify school districts in which teachers and principals, respectively, completed and returned the survey instruments. It should be noted that the dots on each map do not reflect the numbers of questionnaires returned from each school district; it is assumed that these numbers varied as a function of the population density in any given locality. Both maps indicate an exceptionally even spread of respondents throughout the State. Accordingly, the results presented in this study were considered to be representative of perceptions about the appraisal function by
teachers and principals State-wide.

The Findings

Each research question and sub-question is formally stated. It should be noted that each sub-question implies a hypothesis. The following organizational scheme is utilized for each implied hypothesis related to respective research sub-questions:

1. Data utilized for testing the implied hypothesis and the result of analytical procedures applied to the data are presented.

2. Discussion of these results, limited to their statistical significance, follows.

A probability of .05 was accepted to determine level of significance in every instance. Although the power of tests was greatly increased by the large sample size (thus increasing the probability of obtaining statistically significant results) surveys and opinions in the literature tended to indicate that teacher and principal perceptions about some important components of the appraisal function may not differ widely. The selection, therefore, of a probability of .05 was a compromise between these practical considerations and the probability of committing a type I error.

Research question 1: Do teachers and principals perceive that professional improvement of teachers can be an outcome of positive appraisal rationales and techniques?

1a Do teachers and principals have different opinions concerning whether there is a place (within the system) for the appraisal of teacher performance?
A one-way analysis of variance was performed to determine whether there was agreement between teacher and principal perceptions concerning the accountability of teachers for their professional conduct. The results of this analysis are contained in Table 2.

**TABLE 2**

One-way Analysis of Variance Determining the Difference Between Teacher and Principal Perceptions of Teacher Accountability

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers</td>
<td>450</td>
<td>1.49</td>
<td>.571</td>
</tr>
<tr>
<td>Principals</td>
<td>278</td>
<td>1.21</td>
<td>.413</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between groups</td>
<td>14.06</td>
<td>1</td>
<td>14.06</td>
<td>52.69</td>
<td>.001</td>
</tr>
<tr>
<td>Within groups</td>
<td>193.78</td>
<td>726</td>
<td>.27</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>207.84</td>
<td>727</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Although Table 2 indicates proximity of both means (1.49 and 1.21) and standard deviations (.57 and .41), the large sample size contributed strongly to a statistically significant difference. Inferences about the point-biserial correlation between the two groups confirmed this statement. Both teachers and principals agreed that teachers should be held accountable for their professional conduct, but this opinion was more strongly held by principals (mean of 1.21) than by teachers.
(mean of 1.49); the Likert scale had a range from 1 (low) to 5 (high).

1b Do teachers from school districts without formal appraisal systems differ in their perceptions concerning teacher accountability from teachers from districts with formal appraisal systems?

and 1c Do principals from school districts without formal appraisal systems differ in their perceptions concerning teacher accountability from principals from districts with formal appraisal systems?

Chapter III indicated that it was planned to use a chi-square test for two independent samples to gain answers to the above questions. However, the nature of both teacher and principal responses concerning teacher accountability (Teacher Questionnaire, 5.1; Principal Questionnaire, 4.1) precluded this planned method which was based on combining Likert scale categories 1 and 2, and 4 and 5, with category 3 omitted. The teacher response showed a frequency of one in category 4 of the Likert scale and nil in category 5; the principal response failed to record frequencies in either of these "disagree" categories. Thus no statistical test could be performed.

Nevertheless, it is worth noting that the teachers' response recorded frequencies of 246 and 190 in categories 1 and 2 respectively (i.e. 436 out of a possible 451). And the principal response recorded frequencies of 272 and 55 in the same categories (i.e. 277 out of a possible 278). Therefore, as dichotomized into two categories--agree and disagree--teacher accountability as the dependent variable could not be affected by the independent variable (in this case, the presence
or not of a formal appraisal system).

It is also worth noting the extent to which teachers and principals perceived that their school district has a formal appraisal system. Almost the same result eventuated; 78 percent of teachers and 82 percent of principals judged their appraisal system to be formal.

1d Do teachers and principals perceive that professional development should be the outcome of teacher appraisal?

An examination of means of teacher and principal responses appropriate to this question (Teacher Questionnaire, 5.2; Principal Questionnaire, 4.2) is given in Table 3. The same table also records percentages of responses falling into question categories 1 and 2 (combined) and 4 and 5 (combined). Results on the Likert scale were dichotomized (and category 3 omitted) to indicate differences between those teachers or principals who hold definite opinions either for or against the issue in point.

TABLE 3
Teacher and Principal Perceptions Concerning the Appraisal Function Leading to Teacher Competency Development

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>Percent in Categories 1 and 2</th>
<th>Percent in Categories 4 and 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers</td>
<td>451</td>
<td>2.04</td>
<td>75.8</td>
<td>4.8</td>
</tr>
<tr>
<td>Principals</td>
<td>278</td>
<td>1.58</td>
<td>93.9</td>
<td>1.1</td>
</tr>
</tbody>
</table>
Although these results showed that both teachers and principals perceive that the appraisal process should lead towards the development of teacher competencies, principals held considerably stronger views on the subject. The principals' 93.9 percent response in categories 1 and 2 in conclusive evidence about their desire to see teachers improve as a result of appraisals.

Do teachers and principals hold differing perceptions concerning the purpose of the appraisal function?

This question was connected to the previous one (1d) and referred to the same questionnaire section. A one-way analysis of variance was performed to determine whether there was agreement between teachers and principals concerning the purpose of the appraisal function. The results of this analysis are contained in Table 4.

| TABLE 4 |
|-------------------|-----------------|-----------------|-----------------|
| **Group**         | **N**           | **Mean**        | **SD**          |
| Teachers          | 451             | 2.04            | .813            |
| Principals        | 278             | 1.57            | .641            |
| **Source**        | **SS**          | **df**          | **MS**          | **F**        | **p**    |
| Between groups    | 37.78           | 1               | 37.78           | 66.74        | .001     |
| Within groups     | 411.02          | 726             | .57             |              |          |
| **Total**         | 448.80          | 727             |                 |              |          |
Although the large sample size contributed to the statistically significant difference, it was concluded that principals held the opinion more strongly than teachers that the appraisal function should be a means of teacher development.

If Should the written performance objectives of teacher appraisal be decided by principals alone or by both principals and teachers?

To examine this question, teacher and principal responses to questionnaire sections dealing with objectives set by principals alone, or by principals and teachers together, were analyzed (Teacher Questionnaire, 5.6 and 5.7; Principal Questionnaire, 4.6 and 4.7). Table 5 presents the results of the following analyses: means of questionnaire sectional responses (designated T 5.6, T 5.7, P 4.6 and P 4.7), Pearson product-moment correlation coefficients showing relationships between responses to the two questionnaire sections (treated separately for teachers and principals) and the inference about the difference between these correlations.

The means of teacher and principal responses to the two questionnaire sections were similar. Both groups showed a marked distaste for teacher appraisals being based on written performance objectives selected by principals, (means of 4.2 and 3.9), whereas both groups strongly felt that these objectives should be mutually agreed upon by teachers and principals (means of 1.9 and 1.8).
**TABLE 5**

Teacher and Principal Perceptions Concerning Principal Dominance in Selection of Objectives for the Appraisal Function

<table>
<thead>
<tr>
<th>Group</th>
<th>Questionnaire Item</th>
<th>Mean</th>
<th>Correlation</th>
<th>Inference about the Difference Between Correlations†</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers</td>
<td>T 5.6</td>
<td>4.2</td>
<td>.07</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T 5.7</td>
<td>1.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Principals</td>
<td>P 4.6</td>
<td>3.9</td>
<td>.18</td>
<td></td>
</tr>
<tr>
<td></td>
<td>P 4.7</td>
<td>1.8</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

† Test statistic used: 
\[
z = \frac{Z_{Y_1} - Z_{Y_2}}{\sqrt{\frac{1}{n_1 - 3} + \frac{1}{n_2 - 3}}}
\]

* p<0.05

As anticipated from the means of responses, neither teacher nor principal responses to the two questionnaire sections showed any degree of correlation. Despite the fact that the result had little meaning (bearing in mind the Pearson product-moment coefficients), an inference about the difference between correlations was calculated as planned; this proved statistically significant, principally because of the sample size.

In general terms it could be concluded that both teachers and principals perceived the goal-setting function of the appraisal process as a shared task.
Which teacher competencies are held in high esteem by teachers and by principals?

This question depended on teacher and principal ratings of 15 teacher competencies on a scale from extremely important to quite unimportant (Teacher Questionnaire 7.1 to 7.15; Principal Questionnaire, 6.1 to 6.15). Tables 6 and 7 contain an ordering of these competencies according to ranking of means by teachers and principals respectively. The wording of each competency as it appears in the questionnaire has been abbreviated for convenience.

There was a marked consistency between teacher and principal rankings. It was noted that both groups esteemed the same four competencies most highly (although the ranking order differed slightly). These competencies were:

1. To diagnose student needs and take appropriate action (including alternative teaching procedures)
2. To promote development of healthy self-image in interacting with others
3. To design instruction and provide learning opportunities consistent with student achievement level and learning style
4. To create an environment which promotes inquiry and process skills.

Both groups also selected the same four competencies as the least important. These were:

1. To assess and utilize the unique characteristics of others
<table>
<thead>
<tr>
<th>Teacher Competency</th>
<th>Mean</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>7. 6 To diagnose student needs</td>
<td>1.60</td>
<td>1</td>
</tr>
<tr>
<td>7. 5 To promote development of healthy self-image</td>
<td>1.66</td>
<td>2</td>
</tr>
<tr>
<td>7. 7 To design appropriate instruction</td>
<td>1.72</td>
<td>3</td>
</tr>
<tr>
<td>7. 9 To create inquiry and process skills</td>
<td>1.82</td>
<td>4</td>
</tr>
<tr>
<td>7.10 To develop supportive environment</td>
<td>1.92</td>
<td>5</td>
</tr>
<tr>
<td>7. 3 To generate respect for cultural differences</td>
<td>1.94</td>
<td>6</td>
</tr>
<tr>
<td>7.12 To aid student goals and aspirations</td>
<td>1.96</td>
<td>7</td>
</tr>
<tr>
<td>7.15 To demonstrate ability in English usage</td>
<td>2.01</td>
<td>8</td>
</tr>
<tr>
<td>7.13 To select appropriate materials and resources</td>
<td>2.02</td>
<td>9</td>
</tr>
<tr>
<td>7. 2 To identify and develop goals</td>
<td>2.08</td>
<td>10</td>
</tr>
<tr>
<td>7. 8 To evaluate effectiveness of teaching role</td>
<td>2.11</td>
<td>11</td>
</tr>
<tr>
<td>7. 4 To assess and use unique characteristics of others</td>
<td>2.12</td>
<td>12</td>
</tr>
<tr>
<td>7.11 To maximize learning potential of community</td>
<td>2.24</td>
<td>13</td>
</tr>
<tr>
<td>7.14 To know and apply group dynamics</td>
<td>2.67</td>
<td>14</td>
</tr>
<tr>
<td>7. 1 To relate research to teaching</td>
<td>2.99</td>
<td>15</td>
</tr>
<tr>
<td>Teacher Competency</td>
<td>Mean</td>
<td>Ranking</td>
</tr>
<tr>
<td>--------------------------------------------------------</td>
<td>-------</td>
<td>---------</td>
</tr>
<tr>
<td>6.6 To diagnose student needs</td>
<td>1.48</td>
<td>1</td>
</tr>
<tr>
<td>6.7 To design appropriate instruction</td>
<td>1.55</td>
<td>2</td>
</tr>
<tr>
<td>6.9 To create inquiry and process skills</td>
<td>1.73</td>
<td>3</td>
</tr>
<tr>
<td>6.5 To promote development of healthy self-image</td>
<td>1.76</td>
<td>4</td>
</tr>
<tr>
<td>6.2 To identify and develop goals</td>
<td>1.87</td>
<td>5</td>
</tr>
<tr>
<td>6.8 To evaluate effectiveness of teaching role</td>
<td>1.88</td>
<td>6</td>
</tr>
<tr>
<td>6.10 To develop supportive environment</td>
<td>1.90</td>
<td>7</td>
</tr>
<tr>
<td>6.12 To aid student goals and aspirations</td>
<td>1.91</td>
<td>8</td>
</tr>
<tr>
<td>6.15 To demonstrate ability in English usage</td>
<td>1.94</td>
<td>9</td>
</tr>
<tr>
<td>6.13 To select appropriate materials and resources</td>
<td>1.95</td>
<td>10</td>
</tr>
<tr>
<td>6.3 To generate respect for cultural differences</td>
<td>2.05</td>
<td>11</td>
</tr>
<tr>
<td>6.11 To maximize learning potential of community</td>
<td>2.11</td>
<td>12</td>
</tr>
<tr>
<td>6.4 To assess and use unique characteristics of others</td>
<td>2.25</td>
<td>13</td>
</tr>
<tr>
<td>6.14 To know and apply group dynamics</td>
<td>2.48</td>
<td>14</td>
</tr>
<tr>
<td>6.1 To relate research to teaching</td>
<td>2.92</td>
<td>15</td>
</tr>
</tbody>
</table>
2. To maximize the learning potential existing between the school and the community
3. To know and apply the principles of group dynamics
4. To relate the results of research to his/her professional conduct as an educator.

While the ranking of competencies revealed differences in the perceptions of their importance, it was noted that both teachers and principals rated all competencies (on an average) at least slightly above important. Ranges of both groups were almost identical (teachers, 1.60 to 2.99; principals, 1.48 to 2.92).

Factor analyses were performed to disclose underlying factors among teacher and principal perceptions of teacher competencies as disclosed by ratings of these competencies (Teacher Questionnaire 7.1 to 7.15; Principal Questionnaire, 6.1 to 6.15). Fox (1970, p. 3) described an important distinguishing characteristic of factor analysis which was very relevant to the present study:

It disentangles complex interrelationships among the phenomena into functional unities or independent patterns of behavior and identifies the independent influences or causes at work.

A separate factor analysis of the competency ratings was performed within each group. Initial computations were carried out using the method of principal components; factors with eigenvalues exceeding 1.0 were retained for the rotational step. All rotations were carried out utilizing the varimax criterion (Kaiser, 1958) which rotates the original factors orthogonally to a more interpretable solution. The
method yielded four factors for teacher ratings and three factors for principal ratings of teacher competencies. In this section each group is investigated separately and then comparisons are made between emergent factor patterns.

Following the example set by Russett (1967), the variables (i.e. teacher competencies) were reordered by size of high loading. This loading order approach better displayed the factor saturation than the variable order table which appears to be traditional in the literature. Table 8 gives the loading order on four factors of the teacher competencies as rated by teachers. As even greater clarity can be gained by removing the low loadings, Table 9 gives the highest loadings (i.e. those greater than .40) on the four factors of the teacher competencies as rated by teachers. An acceptable minimum of .40 for a loading on a factor is common in the literature and has been specifically advocated by Rummel (1970, p. 480). The wording of each competency as it appears in the questionnaire has been abbreviated for convenience.

An examination of Tables 8 and 9 reveals four clearly defined factors which may collectively be termed Primary Competencies of Teachers:

1. To coordinate and evaluate school and community learning opportunities in keeping with students' goals and interests  

   + Realism

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<table>
<thead>
<tr>
<th>Variable</th>
<th>Orthogonally Rotated Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>S₁</td>
</tr>
<tr>
<td>7.10 To develop supportive environment</td>
<td>.75</td>
</tr>
<tr>
<td>7.9 To create inquiry and process skills</td>
<td>.69</td>
</tr>
<tr>
<td>7.12 To aid student goals and aspirations</td>
<td>.68</td>
</tr>
<tr>
<td>7.11 To maximize learning potential of community</td>
<td>.68</td>
</tr>
<tr>
<td>7.8 To evaluate effectiveness of teaching role</td>
<td>.41</td>
</tr>
<tr>
<td>7.13 To select appropriate materials and resources</td>
<td>.36</td>
</tr>
<tr>
<td>7.14 To know and apply group dynamics</td>
<td>.34</td>
</tr>
<tr>
<td>7.4 To assess and use unique characteristics of others</td>
<td>.33</td>
</tr>
<tr>
<td>7.15 To demonstrate ability in English usage</td>
<td>.32</td>
</tr>
<tr>
<td>7.6 To diagnose student needs</td>
<td>.21</td>
</tr>
<tr>
<td>7.5 To promote development of healthy self-image</td>
<td>.18</td>
</tr>
<tr>
<td>7.7 To design appropriate instruction</td>
<td>.15</td>
</tr>
<tr>
<td>7.3 To generate respect for cultural differences</td>
<td>.07</td>
</tr>
<tr>
<td>7.2 To identify and develop goals</td>
<td>.06</td>
</tr>
<tr>
<td>7.1 To relate research to teaching</td>
<td>.01</td>
</tr>
<tr>
<td>Variable</td>
<td></td>
</tr>
<tr>
<td>-----------------</td>
<td>---------</td>
</tr>
<tr>
<td>To develop supportive environment</td>
<td>.75</td>
</tr>
<tr>
<td>To create inquiry and process skills</td>
<td>.69</td>
</tr>
<tr>
<td>To aid student goals and aspirations</td>
<td>.68</td>
</tr>
<tr>
<td>To maximize learning potential of community</td>
<td>.68</td>
</tr>
<tr>
<td>To evaluate effectiveness of teaching role</td>
<td>.41 .42</td>
</tr>
<tr>
<td>To select appropriate materials and resources</td>
<td>.53</td>
</tr>
<tr>
<td>To know and apply group dynamics</td>
<td>.48</td>
</tr>
<tr>
<td>To assess and use unique characteristics of others</td>
<td>.78</td>
</tr>
<tr>
<td>To demonstrate ability in English usage</td>
<td>.61</td>
</tr>
<tr>
<td>To diagnose student needs</td>
<td>.75</td>
</tr>
<tr>
<td>To promote development of healthy self-image</td>
<td>.74</td>
</tr>
<tr>
<td>To design appropriate instruction</td>
<td>.81</td>
</tr>
<tr>
<td>To generate respect for cultural differences</td>
<td>.07 .79</td>
</tr>
<tr>
<td>To identify and develop goals</td>
<td>.40 .40</td>
</tr>
<tr>
<td>To relate research to teaching</td>
<td>.75</td>
</tr>
</tbody>
</table>
2. To develop in students a strong self-concept and respect for others; and to utilize the unique characteristics of students

3. Acting as an exemplar (particularly in language) to set and develop educational goals through an understanding of group procedures and relevant research

4. To design, implement and evaluate strategies to facilitate student learning according to identified needs.

The central thrust of each factor has been summarized, it may be noted, by the four descriptors:

1. Realism
2. Humanism
3. Effective Communications
4. Learning Strategies

Table 10 contains competency variables (abbreviated form) with high loadings on a particular factor, a description of the factor and the descriptor for each factor.

The loading order on three factors of the teacher competency variables as rated by teachers is given in Table 11. Table 12 gives the highest loading (i.e. those greater than .4) on these three factors.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Description of Factor</th>
<th>Descriptor</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.10 To develop supportive environment</td>
<td>To coordinate and evaluate school and community learning opportunities in keeping with students' goals and interests</td>
<td>Realism</td>
</tr>
<tr>
<td>7.9 To create inquiry and process skills</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.12 To aid student goals and aspirations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.11 To maximize learning potential of community</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.8 To evaluate effectiveness of teaching role</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.4 To assess and use unique characteristics of others</td>
<td>To develop in students a strong self-concept and respect for others; and to utilize the unique characteristics of students</td>
<td>Humanism</td>
</tr>
<tr>
<td>7.5 To promote development of healthy self-image</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.3 To generate respect for cultural differences</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.2 To identify and develop goals</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.14 To know and apply group dynamics</td>
<td>Acting as an example (particularly in language) to set and develop educational goals through an understanding of group procedures and relevant research</td>
<td>Effective Communications</td>
</tr>
<tr>
<td>7.15 To demonstrate ability in English usage</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.2 To identify and develop goals</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.1 To relate research to teaching</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.8 To evaluate effectiveness of teaching role</td>
<td>To design, implement and evaluate strategies to facilitate student learning according to identified needs</td>
<td>Learning Strategies</td>
</tr>
<tr>
<td>7.13 To select appropriate materials and resources</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.6 To diagnose student needs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.7 To design appropriate instruction</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Tables 11 and 12 reveal three factors, reasonably defined; like those derived from teacher ratings, these also may collectively be termed **Primary Competencies of Teachers:**

1. To develop students' self-concept and skills of inquiry, of process, and of creativity by designing and evaluating instructional methods and materials

2. To support students' positive self-image by utilizing the heterogeneity of community and of other individuals

3. To have a sound theoretical background (aided by language skills) so to identify and develop educational goals.

The essence of each factor has been summarized by the three descriptors:

1. Comprehensive Student Development
2. Nurturing Environment
3. Theory

Table 13 contains competency variables with high loadings on a particular factor, a description of the factor and the descriptor for each factor.

Factor analysis of teacher and principal ratings of teacher competencies has therefore provided seven factors. Of these, five were distinct, while the remaining two—Humanism and Nurturing Environment—
**TABLE 11**

Loading Order on Orthogonal Factors of Teacher Competency Variables as Rated by Principals

<table>
<thead>
<tr>
<th>Variable</th>
<th>Orthogonally Rotated Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$S_1$</td>
</tr>
<tr>
<td>6. 7 To design appropriate instruction</td>
<td>.74</td>
</tr>
<tr>
<td>6. 9 To create inquiry and process skills</td>
<td>.67</td>
</tr>
<tr>
<td>6. 6 To diagnose student needs</td>
<td>.65</td>
</tr>
<tr>
<td>6. 8 To evaluate effectiveness of teaching role</td>
<td>.61</td>
</tr>
<tr>
<td>6.10 To develop supportive environment</td>
<td>.61</td>
</tr>
<tr>
<td>6.13 To select appropriate material and resources</td>
<td>.58</td>
</tr>
<tr>
<td>6.11 To maximize learning potential of community</td>
<td>.41</td>
</tr>
<tr>
<td>6. 2 To identify and develop goals</td>
<td>.36</td>
</tr>
<tr>
<td>6.14 To know and apply group dynamics</td>
<td>.36</td>
</tr>
<tr>
<td>6.12 To aid student goals and aspirations</td>
<td>.33</td>
</tr>
<tr>
<td>6.15 To demonstrate ability in English usage</td>
<td>.30</td>
</tr>
<tr>
<td>6. 5 To promote development of healthy self-image</td>
<td>.19</td>
</tr>
<tr>
<td>6. 3 To generate respect for cultural differences</td>
<td>.07</td>
</tr>
<tr>
<td>6. 4 To assess and use unique characteristics of others</td>
<td>.04</td>
</tr>
<tr>
<td>6. 1 To relate research to teaching</td>
<td>-.04</td>
</tr>
</tbody>
</table>

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TABLE 12

Highest Loadings on Orthogonal Factors of Teacher Competency Variables as Rated by Principals

<table>
<thead>
<tr>
<th>Variable</th>
<th>Orthogonally Rotated Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$S_1$</td>
</tr>
<tr>
<td>6. 7 To design appropriate instruction</td>
<td>.74</td>
</tr>
<tr>
<td>6. 9 To create inquiry and process skills</td>
<td>.67</td>
</tr>
<tr>
<td>6. 6 To diagnose student needs</td>
<td>.65</td>
</tr>
<tr>
<td>6. 8 To evaluate effectiveness of teaching role</td>
<td>.61</td>
</tr>
<tr>
<td>6.10 To develop supportive environment</td>
<td>.61</td>
</tr>
<tr>
<td>6.13 To select appropriate materials and resources</td>
<td></td>
</tr>
<tr>
<td>6.11 To maximize learning potential of community</td>
<td>.41</td>
</tr>
<tr>
<td>6. 2 To identify and develop goals</td>
<td></td>
</tr>
<tr>
<td>6.14 To know and apply group dynamics</td>
<td></td>
</tr>
<tr>
<td>6.12 To aid student goals and aspirations</td>
<td></td>
</tr>
<tr>
<td>6.15 To demonstrate ability in English usage</td>
<td></td>
</tr>
<tr>
<td>6. 5 To promote development of healthy self-image</td>
<td></td>
</tr>
<tr>
<td>6. 3 To generate respect for cultural differences</td>
<td></td>
</tr>
<tr>
<td>6. 4 To assess and use unique characteristics of others</td>
<td></td>
</tr>
<tr>
<td>6. 1 To relate research to teaching</td>
<td></td>
</tr>
<tr>
<td>Variable</td>
<td>Description of Factor</td>
</tr>
<tr>
<td>----------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>6.7 To design appropriate instruction</td>
<td>To develop students' self-concept and skills of inquiry of process and of creativity by designing and evaluating instructional methods and materials</td>
</tr>
<tr>
<td>6.9 To create inquiry and process skills</td>
<td></td>
</tr>
<tr>
<td>6.6 To diagnose student needs</td>
<td></td>
</tr>
<tr>
<td>6.8 To evaluate effectiveness of teaching role</td>
<td></td>
</tr>
<tr>
<td>6.10 To develop supportive environment</td>
<td></td>
</tr>
<tr>
<td>6.13 To select appropriate materials and resources</td>
<td></td>
</tr>
<tr>
<td>6.11 To maximize learning potential of community</td>
<td></td>
</tr>
<tr>
<td>6.10 To develop supportive environment</td>
<td>To support students' positive self-image by utilizing the heterogeneity of community and of other individuals</td>
</tr>
<tr>
<td>6.11 To maximize learning potential of community</td>
<td></td>
</tr>
<tr>
<td>6.12 To aid student goals and aspirations</td>
<td></td>
</tr>
<tr>
<td>6.5 To promote development of healthy self-image</td>
<td></td>
</tr>
<tr>
<td>6.3 To generate respect for cultural differences</td>
<td></td>
</tr>
<tr>
<td>6.4 To assess and use unique characteristics of others</td>
<td></td>
</tr>
<tr>
<td>6.2 To identify and develop goals</td>
<td>To have a sound theoretical background (aided by language skills) so to identify and develop educational goals</td>
</tr>
<tr>
<td>6.14 To know and apply group dynamics</td>
<td></td>
</tr>
<tr>
<td>6.15 To demonstrate ability in English usage</td>
<td></td>
</tr>
<tr>
<td>6.1 To relate research to teaching</td>
<td></td>
</tr>
</tbody>
</table>
contained some similar elements. Nevertheless, both these factors were retained as that derived from principal ratings also contained elements quite distinct from the factor derived from teacher ratings. (See Tables 10 and 13).

In summary, the seven Primary Competencies of Teachers were:

1. Realism
2. Humanism
3. Effective communications
4. Learning Strategies
5. Comprehensive Student Development
6. Nurturing Environment
7. Theory

These results suggested a set of potential criteria which might be considered one of the bases of teacher performance appraisal.

What is the relationship between teachers and principals in their rating of the importance of teacher competencies and what is the relationship between the five competencies rated most important by each group?

Tables 6 and 7 showed rankings according to means of teacher competencies by teachers and principals respectively. A Kendall's Tau (correlation coefficient) was performed on these rankings, giving a correlation of .75(p < .002). It was concluded that the relationship between the two sets of rankings was very strong.

The same statistical procedure was adopted to discover the degree of relationship between the five competencies rated most important by
teachers (and the corresponding rank order of these competencies by principals) and the five competencies considered most important by principals (and the corresponding rank order of these competencies by teachers). Table 14 shows this information. A correlation of $0.65(p < 0.01)$ was obtained between the five highest teacher rankings and the corresponding principal rankings for the same competencies. A correlation of $0.65(p < 0.01)$ was also obtained between the five highest principal rankings and the corresponding teacher rankings on the same competencies.

**TABLE 14**

The Five Competencies Ranked Highest by each Group (Teachers and Principals) and the Corresponding Rankings by the Other Group

<table>
<thead>
<tr>
<th>Competency Ranked Highest by Teachers</th>
<th>Principal Ranking</th>
<th>Competency Ranked Highest by Principals</th>
<th>Teacher Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>To diagnose student needs</td>
<td>1</td>
<td>To diagnose student needs</td>
<td>1</td>
</tr>
<tr>
<td>To promote development of healthy self-image</td>
<td>4</td>
<td>To design appropriate instruction</td>
<td>3</td>
</tr>
<tr>
<td>To design appropriate instruction</td>
<td>2</td>
<td>To create inquiry and process skills</td>
<td>4</td>
</tr>
<tr>
<td>To create inquiry and process skills</td>
<td>3</td>
<td>To promote development of healthy self-image</td>
<td>2</td>
</tr>
<tr>
<td>To develop supportive environment</td>
<td>7</td>
<td>To identify and develop goals</td>
<td>10</td>
</tr>
</tbody>
</table>

It was concluded that a substantial relationship existed between the five competencies ranked highest by one group and the corresponding...
rankings on the same competencies by the other group.

**Research Question 2:** Do teachers and principals differ in the nature of their objections to the appraisal function?

2a What are the main reasons for objections to the appraisal function?

An analysis of the means of responses to Teacher Questionnaire section 6 and Principal Questionnaire section 5 indicates respondents' perceptions about objections commonly held towards the appraisal function. Table 15 lists the means of teacher and principal responses for each statement contained in the section.

The means of principal responses are higher than teacher responses on each item statement. This indicates that principals tended to disagree with the statements more strongly than teachers in all except the third statement where their agreement was less marked than the teachers (see Table 15). The teachers tended to take a middle-ground stance towards the first, second and fifth statements, while agreeing with the third statement and disagreeing with the fourth.

In general terms, apart from agreement by teachers and principals that appraisal instruments are imperfect, teachers showed uncertainty about the issues by their responses, while principals disagreed with the statements. It would appear that apart from the issue concerning imperfections of instrumentation, neither teachers nor principals could agree with the commonly held criticisms of the appraisal function.
TABLE 15
Teacher and Principal Responses to Commonly Held Objections to the Appraisal Function

<table>
<thead>
<tr>
<th>Questionnaire Item</th>
<th>Mean of Teacher Responses</th>
<th>Mean of Principal Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.1 Appraisals have focused on personality rather than performance judged against criterion measures</td>
<td>2.52</td>
<td>3.01</td>
</tr>
<tr>
<td>5.1 Results of appraisals have not been used to assist individual development</td>
<td>2.35</td>
<td>3.16</td>
</tr>
<tr>
<td>6.2 Appraisal instruments are far from perfect</td>
<td>1.59</td>
<td>1.65</td>
</tr>
<tr>
<td>5.3 Appraisal is a one-way process, with the teacher not given the opportunity to communicate with the superior</td>
<td>3.04</td>
<td>3.96</td>
</tr>
<tr>
<td>5.4 Appraisal methods are not conducive to development of teachers' self-expression and creativity</td>
<td>2.82</td>
<td>3.64</td>
</tr>
<tr>
<td>6.5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2b Do teachers and principals differ in the nature of their objections?

It was explained in Chapter III that responses to the five items of section 6 (Teacher Questionnaire) and section 5 (Principal Questionnaire) were combined and an encompassing variable (viz. objections) created. This was possible because all items in the section pertained to criticism of the appraisal function. A one-way analysis of variance was performed to determine whether there was difference between teacher and principal
perceptions concerning these objections. The results of this analysis are contained in Table 16.

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers</td>
<td>450</td>
<td>2.49</td>
<td>.722</td>
</tr>
<tr>
<td>Principals</td>
<td>278</td>
<td>3.08</td>
<td>.651</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between groups</td>
<td>61.29</td>
<td>1</td>
<td>61.29</td>
<td>126.6</td>
<td>.0001</td>
</tr>
<tr>
<td>Within groups</td>
<td>351.60</td>
<td>726</td>
<td>.48</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>412.89</td>
<td>727</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Results of Table 16 show that teachers and principals differed quite significantly in their perceptions of objections to the appraisal function.

Research question 3: Do untenured teachers see appraisals as less of a threat than tenured teachers?

3a Is there a difference in the opinions of tenured and untenured teachers concerning the importance of the appraisal of teacher performance?

A one-way analysis of variance was performed to gauge whether there was a difference between the opinions of tenured and untenured teachers.
concerning the importance of the appraisal of teacher performance (Teacher Questionnaire 1 and 5.1). The results of this analysis are given in Table 17.

**TABLE 17**

One-way Analysis of Variance Determining the Difference Between Tenured and Untenured Teachers and Perceptions of the Importance of the Appraisal Function

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tenured</td>
<td>402</td>
<td>1.50</td>
<td>.575</td>
</tr>
<tr>
<td>Untenured</td>
<td>49</td>
<td>1.31</td>
<td>.522</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between groups</td>
<td>1.13</td>
<td>1</td>
<td>1.13</td>
<td>3.47</td>
<td>.06</td>
</tr>
<tr>
<td>Within groups</td>
<td>145.58</td>
<td>449</td>
<td>.32</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>146.71</td>
<td>450</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 17 reveals no significant difference between tenured and untenured teachers in respect to their attitudes towards the importance of the appraisal function. These results suggest that both groups of teachers perceived the appraisal function as important and neither felt threatened by the concept, per se, of accountability.

Research question 4: Does length of experience as a principal affect perceptions about the appraisal function?
4a Does length of experience (dichotomized to more or less than five years) effect different perceptions about the appraisal function?

It was explained in Chapter III that responses to five items of section 4 (Principal Questionnaire) would be combined and an encompassing variable (principal perceptions) created. All five items pertained to principals' implications in the appraisal process. A one-way analysis of variance was performed to determine whether length of experience as a principal, dichotomized into more or less than five years, effected different perceptions about the appraisal function. Table 18 contains an analysis of results.

**TABLE 18**

One-way Analysis of Variance Determining the Difference Between Principal Perceptions about the Appraisal Function held by Experienced and Inexperienced Principals

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inexperienced Principals</td>
<td>83</td>
<td>2.35</td>
<td>.372</td>
</tr>
<tr>
<td>Experienced Principals</td>
<td>195</td>
<td>2.43</td>
<td>.346</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between groups</td>
<td>.39</td>
<td>1</td>
<td>.39</td>
<td>3.08</td>
<td>.08</td>
</tr>
<tr>
<td>Within groups</td>
<td>34.60</td>
<td>276</td>
<td>.13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>34.99</td>
<td>277</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Results shown in Table 18 failed to establish a significant
difference between these two groups of principals. The proximity of the means indicates that principal perceptions of the appraisal function did not alter with years of experience.

Research question 5: Is there a difference between academic status and perceptions about the necessity of the appraisal function?

5a Do teachers with bachelors' and masters' degrees hold different perceptions about the necessity for the appraisal function than those with specialists' and doctorate degrees?

A one-way analysis of variance was performed to discover whether a difference existed between academic status—bachelors' and masters' degrees as compared with higher degrees—and perceptions about the necessity for the appraisal function (Teacher Questionnaire, 2 and 5.1). Results of this analysis are contained in Table 19.

TABLE 19

One-way Analysis of Variance Determining the Difference Between Teachers' Academic Status and Perceptions about the Necessity for the Appraisal Function

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelors' and masters'</td>
<td>419</td>
<td>1.50</td>
<td>.576</td>
</tr>
<tr>
<td>Specialists' and doctorate</td>
<td>32</td>
<td>1.31</td>
<td>.471</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between groups</td>
<td>1.09</td>
<td>1</td>
<td>1.01</td>
<td>3.35</td>
<td>.068</td>
</tr>
<tr>
<td>Within groups</td>
<td>145.62</td>
<td>449</td>
<td>.32</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>146.71</td>
<td>450</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Reproduced with permission of the copyright owner. Further reproduction prohibited without permission.
No significant difference was found between teachers of different academic status.

5b Do principals with bachelors' and masters' degrees hold different perceptions about the necessity for the appraisal function than those with specialists' and doctorate degrees?

A one-way analysis of variance was performed to find the difference between academic status--bachelors' and masters' degrees as compared with specialists' and doctorate degrees--and perceptions about the necessity for the appraisal function (Principal Questionnaire, 2 and 4.1). Table 20 presents the results of this analysis.

TABLE 20

One-way Analysis of Variance Determining the Difference Between Principals' Academic Status and Perceptions about the Necessity for the Appraisal Function

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelors' and masters'</td>
<td>192</td>
<td>1.203</td>
<td>.416</td>
</tr>
<tr>
<td>Specialists' and doctorate</td>
<td>86</td>
<td>1.209</td>
<td>.409</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between groups</td>
<td>.002</td>
<td>1</td>
<td>.002</td>
<td>.013</td>
<td>.91</td>
</tr>
<tr>
<td>Within groups</td>
<td>47.311</td>
<td>276</td>
<td>.171</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>47.313</td>
<td>277</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The statistical test reveals no significant difference between
principals' academic status and their perceptions of the necessity for the appraisal function.

Research question 6: Do teachers who hold favorable attitudes towards their abilities as teachers accept appraisals more willingly than those who hold mediocre or unfavorable attitudes towards their abilities?

6a Do teachers who hold favorable attitudes towards their abilities as teachers hold different perceptions about appraisals by comparison with those who hold mediocre or unfavorable attitudes towards their abilities?

In order to respond to this question, teacher responses were dealt with as two groups (as explained in Chapter III)—those who rated their stage of development as a teacher above average and those who either considered their development average or below (Teacher Questionnaire, 3). Whether or not a difference existed between these groups in respect to acceptance of appraisals—i.e. acceptance of their professional accountability (Teacher Questionnaire, 5.1)—was determined by a one-way analysis of variance. Table 21 contains the results of the one-way analysis of variance performed on the data.

Results failed to indicate a significant difference between teachers with favorable attitudes towards their teaching abilities and those with mediocre or unfavorable attitudes, and acceptance of the appraisal function. The size of the standard deviations (.58 and .55) and the proximity and size of the means (1.48 and 1.52) clearly show that both groups tended to strongly agree that teachers are accountable for their professional conduct.
TABLE 21
One-way Analysis of Variance Determining the Difference Between Teachers with Different Attitudes towards Teaching Abilities and Acceptance of the Appraisal Function

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Favorable opinion</td>
<td>321</td>
<td>1.48</td>
<td>.581</td>
</tr>
<tr>
<td>Mediocre or Unfavorable opinion</td>
<td>130</td>
<td>1.52</td>
<td>.546</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between groups</td>
<td>.12</td>
<td>1</td>
<td>.118</td>
<td>.36</td>
<td>.55</td>
</tr>
<tr>
<td>Within groups</td>
<td>146.59</td>
<td>449</td>
<td>.327</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>146.71</td>
<td>450</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Research question 7: Who should appraise teacher performance and do teachers and principals differ in their opinion concerning this matter?

7a Who should appraise teacher performance?

The examination of means of teacher and principal responses appropriate to this question (Teacher Questionnaire, 5.8 to 5.12; Principal Questionnaire, 4.8 to 4.12) is given in Table 22. All items against which responses have been recorded deal with a specific aspect of which persons should be implicated in the appraisal process—principals, students, parents, peers or teachers themselves.

A very similar pattern for teacher and principal responses can be observed in Table 22. Teachers and principals expressed the opinion

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strongly that teacher appraisals should not be the province of principals or students alone. Both groups also considered that parents should not be implicated in the process. With a teacher mean of 2.65 and principal mean of 2.98 for item 5.11 (or 4.11), there was a middle stance adopted (but veering towards rejection) for peer rating as part of the process. By contrast, both groups gave strong support to the concept of self-rating (teacher and principal means of 1.81 and 1.89 respectively).

TABLE 22

Teacher and Principal Perceptions of which Persons should be Implicated in the Appraisal Function

<table>
<thead>
<tr>
<th>Questionnaire Item</th>
<th>Teacher Mean</th>
<th>Principal Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.8 Principals alone should appraise a teacher's performance</td>
<td>4.08</td>
<td>3.55</td>
</tr>
<tr>
<td>4.8 Students alone should appraise a teacher's performance</td>
<td>4.51</td>
<td>4.46</td>
</tr>
<tr>
<td>5.9 Parent rating of a teacher should be part of the appraisal process</td>
<td>3.47</td>
<td>3.51</td>
</tr>
<tr>
<td>4.10 Peer rating of a teacher should be part of the appraisal process</td>
<td>2.65</td>
<td>2.98</td>
</tr>
<tr>
<td>5.11 Self rating should be an important part of the appraisal process</td>
<td>1.81</td>
<td>1.89</td>
</tr>
</tbody>
</table>

7b Do teachers and principals differ in their opinions concerning who should be implicated in teacher appraisals?
A one-way analysis of variance was performed to determine whether teachers and principals differed in their opinions concerning who should be implicated in teacher appraisals. As outlined in Chapter III, responses to five items dealing with this issue (Teacher Questionnaire 5.8 to 5.12; Principal Questionnaire 4.8 to 4.12) were combined and the encompassing variable (viz. who) created. The results of the one-way analysis of variance are given in Table 23.

### TABLE 23

One-way Analysis of Variance Determining the Difference Between Teacher and Principal Perceptions Concerning which Persons should be Implicated in the Appraisal Function

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers</td>
<td>450</td>
<td>3.30</td>
<td>.429</td>
</tr>
<tr>
<td>Principals</td>
<td>278</td>
<td>3.28</td>
<td>.491</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between groups</td>
<td>.12</td>
<td>1</td>
<td>.12</td>
<td>.60</td>
<td>.44</td>
</tr>
<tr>
<td>Within groups</td>
<td>149.45</td>
<td>726</td>
<td>.21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>149.57</td>
<td>727</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A significant difference does not exist between teacher and principal perceptions concerning who should be implicated in the appraisal function. The size of the obtained probability, suggests a strong concurrence by the two groups in this matter.
Research question 8: Should teachers be appraised solely on the basis of what students learn in class?

8a Do teachers and principals hold different views about whether teachers should be appraised solely on the basis of what students learn in class?

A one-way analysis of variance was performed to reach a decision whether teachers and principals hold different perceptions about teachers being appraised solely on the basis of student learning (Teacher Questionnaire, 5.5; Principal Questionnaire, 4.5). Table 24 presents these findings.

**TABLE 24**

One-way Analysis of Variance Determining the Difference Between Teacher and Principal Perceptions Concerning Appraisals Based on Student Learning

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers</td>
<td>450</td>
<td>4.222</td>
<td>.775</td>
</tr>
<tr>
<td>Principals</td>
<td>278</td>
<td>4.216</td>
<td>.772</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between groups</td>
<td>.007</td>
<td>1</td>
<td>.007</td>
<td>.01</td>
<td>.91</td>
</tr>
<tr>
<td>Within groups</td>
<td>434.828</td>
<td>726</td>
<td>.599</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>434.835</td>
<td>727</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

No significant difference was found. A perusal of the means and standard deviations explains this situation. Bearing in mind the size of the means (4.222 and 4.216) and their proximity, it could be
concluded that both teachers and principals displayed a marked aversion to teacher appraisals being based on student learning.

Research question 9: Can an appraisal system serve the dual function of developing teacher competencies and of dismissing incompetent teachers?

9a Do teachers and principals hold different views about whether an appraisal system can serve the dual function of developing teacher competencies and of dismissing incompetent teachers?

A one-way analysis of variance was performed to determine the difference between teacher and principal perceptions about the appraisal function serving two (apparently) disparate purposes. These purposes are developing teacher competencies on the one hand and dismissing incompetent teachers on the other. (Teacher Questionnaire, 5.3; Principal Questionnaire, 4.3). Relevant data are given in Table 25.

**TABLE 25**

One-way Analysis of Variance Determining Teacher and Principal Perceptions about Multiple Functions of the Appraisal Process

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers</td>
<td>450</td>
<td>2.04</td>
<td>.813</td>
</tr>
<tr>
<td>Principals</td>
<td>278</td>
<td>1.57</td>
<td>.641</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between groups</td>
<td>37.78</td>
<td>1</td>
<td>37.78</td>
<td>66.74</td>
<td>.0001</td>
</tr>
<tr>
<td>Within groups</td>
<td>411.02</td>
<td>726</td>
<td>.57</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>448.80</td>
<td>727</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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A highly significant difference exists between teacher and principal perceptions about the appraisal function serving the purposes of both teacher development and incompetent teacher dismissal. Whereas the teacher responses indicated a middle-ground opinion, (mean of 2.04), the principals showed firm agreement for the feasibility of the dual purpose being met by the appraisal function (mean of 1.57).

Research question 10: Do teachers and principals agree that the appraisal process should be formative rather than summative, developmental (for teachers) rather than adversely critical?

10a Do teachers and principals hold different perceptions about whether the appraisal process should be continuous and should entail conferences after each formal appraisal observation?

To determine whether teachers and principals agree that the appraisal process should be continuous, and entail teacher-principal conferences (Teacher Questionnaire, 5.4; Principal Questionnaire, 4.4), a one-way analysis of variance was performed. Table 26 presents the results of this analysis.

No statistical difference exists between teacher and principal perceptions about the formative nature of appraisals. The size and proximity of group means (1.51 and 1.46) indicate that both groups were firmly of the belief that teacher appraisals should be ongoing, informative and (by implication) developmental.
TABLE 26
One-way Analysis of Variance Determining the Difference Between Teacher and Principal Perceptions about the Formative Nature of Appraisals

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers</td>
<td>450</td>
<td>1.51</td>
<td>.658</td>
</tr>
<tr>
<td>Principals</td>
<td>278</td>
<td>1.46</td>
<td>.748</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between groups</td>
<td>.40</td>
<td>1</td>
<td>.40</td>
<td>.84</td>
<td>.36</td>
</tr>
<tr>
<td>Within groups</td>
<td>349.53</td>
<td>726</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>349.93</td>
<td>727</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Content Analysis of Respondents' Comments

A response analysis (based on frequency of occurrence) was performed on teacher and principal comments relating, or in addition to, implied reasons for failure of the appraisal function (Teacher Questionnaire, 6.1 to 6.6; Principal Questionnaire, 5.1 to 5.6). The same technique was used to analyze teacher and principal comments concerning the appraisal of teacher performance, particularly in respect to changes which might make the process more positive and acceptable (Teacher Questionnaire, 8; Principal Questionnaire, 7). Tables 27 and 28, in which statements are occasionally abbreviated for convenience, present these analyses. It may be noted that respondents' opinions on a particular issue have been designated either "strong" or "mild".

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Even when allowance is made for the greater number of teacher respondents by comparison with principals (451 compared with 278), there was a disproportionately high number of teacher comments (258 compared with 103 on Table 27; 326 compared with 159 on Table 28). One possible reason for this in reference to Table 27 is that teachers were more critical than principals about objections commonly held against the appraisal function. Such a conjecture, however, does not explain the disproportionate number of teacher comments in Table 28 where comments generally favorable to the appraisal function were sought. A more likely supposition, covering the comparative comment response rates in both Tables, is that teachers viewed the appraisal function more seriously than principals. Teachers have more to win or lose by its outcome than principals who are both tenured and, with very few exceptions, secure in their status.

Table 27 reveals four areas of appraisal criticism where there is a wide discrepancy between the high number of teacher comments and the comparatively low number of principal comments. These are:

1. Evaluation depends on the personality of the principal and the teacher
2. Appraisals are too infrequent
3. Principals are often ignorant of a teacher's philosophies, methods, classroom structure, area of special expertise and goals, rendering a fair appraisal impossible
4. Emphasis on appraisals being a joint effort--
<table>
<thead>
<tr>
<th>Critical Statement</th>
<th>Teachers</th>
<th></th>
<th>Principals</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Strong Opinion</td>
<td>Mild Opinion</td>
<td>Strong Opinion</td>
<td>Mild Opinion</td>
</tr>
<tr>
<td>1. Principal determines how an instrument is used—creatively or critically</td>
<td>7</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2. Appraisals discourage rather than encourage a teacher</td>
<td>9</td>
<td>4</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>3. Evaluation depends on the personality of the principal and the teacher</td>
<td>26</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4. Appraisals can be used to intimidate teachers who disagree with principals' philosophies</td>
<td>12</td>
<td>7</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>5. The process is too school-district specific, limiting assessment of many teacher competencies</td>
<td>-</td>
<td>4</td>
<td>5</td>
<td>-</td>
</tr>
<tr>
<td>6. Some appraisal instruments contain so many items (relating to teacher competencies) that the importance of main issues is obscured</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>7. Appraisals are too infrequent</td>
<td>29</td>
<td>4</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>8. To improve all teachers and not only those with problems, appraisals should be regular</td>
<td>13</td>
<td>2</td>
<td>7</td>
<td>-</td>
</tr>
<tr>
<td>9. Parents cannot evaluate teachers objectively</td>
<td>6</td>
<td>-</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>10. Full potential of teachers cannot be easily realized under poor administration</td>
<td>10</td>
<td>3</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>11. Self-appraisal, the strongest inducement for change, is seldom a part of the process</td>
<td>14</td>
<td>6</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>12. Principals are often ignorant of a teacher's philosophies, methods, classroom structure, area of special expertise and goals, rendering a fair appraisal impossible</td>
<td>24</td>
<td>12</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>13. Appraisal can be inconsistent with factors such as the varying economic and political climate of a school district influencing outcomes</td>
<td>4</td>
<td>-</td>
<td>6</td>
<td>-</td>
</tr>
<tr>
<td>14. The whole educational process and those involved with it should be evaluated and not just teacher competency</td>
<td>8</td>
<td>7</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>15. Emphasis on appraisals being a joint effort—principal and teacher—is too infrequent</td>
<td>21</td>
<td>2</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>16. Collective bargaining and tenure laws have reduced the opportunity for open communication in the process</td>
<td>-</td>
<td>-</td>
<td>12</td>
<td>3</td>
</tr>
<tr>
<td>17. Formal appraisals discontinue after tenure has been granted</td>
<td>12</td>
<td>4</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>Improvement Statement</td>
<td>Teachers</td>
<td></td>
<td>Principals</td>
<td></td>
</tr>
<tr>
<td>--------------------------------------------------------------------------------------</td>
<td>----------</td>
<td>-------</td>
<td>------------</td>
<td>-------</td>
</tr>
<tr>
<td></td>
<td>Strong</td>
<td>Mild</td>
<td>Strong</td>
<td>Mild</td>
</tr>
<tr>
<td>1. The open, non-threatening and honest climate, and a sharing in the process by</td>
<td>30</td>
<td>14</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>teachers and principals, will aid teacher development</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. If appraisals are used to develop rather than punish, sound relationships follow</td>
<td>16</td>
<td>13</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>3. Short, frequent classroom visits by principals lead to a better grasp of a teacher's work</td>
<td>15</td>
<td>10</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>4. Follow-up sessions must be programmed after every appraisal to offer constructive criticism and new (or modified) individual goal-settings</td>
<td>16</td>
<td>2</td>
<td>13</td>
<td>4</td>
</tr>
<tr>
<td>5. School systems will need to work closely with teacher unions to gain support for enlightened appraisal procedures</td>
<td>-</td>
<td>1</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>6. Special criteria should be developed as a basis for judgments in special subject areas</td>
<td>9</td>
<td>2</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>7. A good appraisal process will take regard of the quality of students</td>
<td>4</td>
<td>-</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>8. Principals should receive training in appraisal techniques (including objectivity)</td>
<td>7</td>
<td>-</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>9. Appraisals should implicate principals, students, peers and the teachers concerned</td>
<td>21</td>
<td>8</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>10. Sound appraisals are an essential component of continuing teacher education</td>
<td>5</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>11. Effective communication is an essential adjunct to effective appraisals</td>
<td>9</td>
<td>7</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>12. Let the teacher know in advance the criteria to be used, instruments and procedures</td>
<td>10</td>
<td>3</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>13. Any instrument used must be brief and explicit</td>
<td>7</td>
<td>2</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>14. The process should include subjective and objective evaluations</td>
<td>-</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>15. Base appraisals on extensive observations</td>
<td>15</td>
<td>7</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>16. Similarity of main concepts should prevail in all school districts</td>
<td>16</td>
<td>4</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>17. Teachers must be given the right to comment freely on appraisal outcomes</td>
<td>20</td>
<td>14</td>
<td>14</td>
<td>5</td>
</tr>
<tr>
<td>18. The process should distinguish between the competent and incompetent teacher</td>
<td>19</td>
<td>11</td>
<td>14</td>
<td>7</td>
</tr>
</tbody>
</table>
principal and teacher--is too infrequent. These four areas appear to center around infrequent and poor communication between principals and teachers during the appraisal process being a main cause of misunderstanding and, subsequently, antagonism. Table 27 reveals one area only in which the number of principal comments was markedly greater than teacher comments, viz.:

1. Collective bargaining and tenure laws have reduced the opportunity for open communication in the process.

The tenor of principal comments relating to this statement indicated that principals considered collective bargaining and tenure laws invalidated the purpose of appraisals as they saw it--viz. to hold teachers professionally accountable.

Table 28 shows a relative uniformity of opinion from both groups concerning issues related to improvement of the appraisal function. In three areas, however, there is considerable difference between the high number of teacher comments and low number of principal comments. These are:

1. The open, non-threatening and honest climate, and a sharing in the process by teachers and principals, will enable teachers readily to perceive strengths and weaknesses
2. If appraisals are used to develop rather than punish, sound counseling and human relationships follow

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3. Appraisals should implicate principals, students, peers and the teachers concerned. These three areas appear to focus on a teacher desire for appraisals to be a shared process and conducted in an open climate, with teacher development the prime aim. It may be noted that both teachers and principals offered a relatively high number of comments in areas relating to:

1. Short, frequent and reasonably informal classroom visits by principals lead to a more complete grasp of a teacher's work
2. Follow-up sessions must be programmed after every appraisal to offer constructive criticism and new (or modified) individual goal-settings for performance improvement
3. Let the teacher know in advance the criteria to be used, instruments and procedures
4. Base appraisals on extensive observations
5. Similarity of main concepts should prevail in all school districts
6. Teachers must be given the right to comment freely on appraisal outcomes
7. The appraisal process should clearly distinguish between the competent and incompetent teacher.

Discussion of these results will ensue in Chapter V.
Summary

The results of this study indicated considerable agreement between teacher and principal perceptions of the appraisal function. In particular, both groups favored an appraisal system which was on-going, broadly based, subject to objectives mutually acceptable, and a means of teacher competency development (with principals holding stronger opinions in this area). There was strong agreement, also about which competencies were most important and which were least important as well as who should be implicated in the appraisal function.

Both groups strongly agreed that teacher appraisals should not be the province of principals or students alone; both groups rejected parent or peer implication but both gave strong support to the concept of self-rating.

It was found that tenured and untenured teachers held similar perceptions about the appraisal function. Moreover, length of experience, (principals) confidence in teaching abilities (teachers), and academic status (both groups) had no statistical effect on perceptions of the appraisal function.

Content analysis of comments revealed that teacher criticisms of the function centered around infrequent and poor communications leading towards misunderstandings and dysfunctionalities. The same analysis emphasized the desirability of an open climate in which responsibility for appraisal processes could be shared by teacher and principal.

A statistically significant difference was found between teacher
and principal perceptions in the areas of teacher accountability and teacher competency development. However, the large sample size contributed to this statistical difference. In both the above instances, the differences between both means and standard deviations were small. Nevertheless, principals held the opinion more strongly than teachers that teachers should be accountable for their professional conduct and that teacher development should be an outcome of the appraisal process.

A highly significant difference was found between teacher and principal perceptions about the function serving the purposes of both teacher development and incompetent teacher dismissal. Whereas principals clearly favored this situation, teachers adopted a "middle-of-the-road" stance. Similarly, teachers and principals could not agree about objections commonly held against the appraisal function. These were viewed more critically by teachers than principals.

Factor analyses of both teacher and principal ratings of teacher competencies provided seven Primary Competencies of Teachers. These were:

1. Realism
2. Humanism
3. Effective communications
4. Learning strategies
5. Comprehensive student development
6. Nurturing environment
7. Theory.

A discussion of these results follows in Chapter V.

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CHAPTER V

SUMMARY, FINDINGS AND THEIR PRACTICAL IMPLICATIONS,
AND RECOMMENDATIONS

Chapter V presents a general discussion of the study and its potential usefulness to those concerned with the appraisal of teacher performance. The objectives of the study will be summarized. Following a discussion of the findings, practical implications will be drawn in the form of a conceptual framework for the appraisal function. Finally, recommendations will be made.

Summary

The primary objective of this study was to investigate whether teachers and principals, through self-reported measures, perceived that professional improvement of teachers could be an outcome of appraisal rationales and techniques which they judged to be positive. By statement and implication, the proposition was made that improving teacher performance competencies is the most productive and realistically feasible means to increase the effect teachers have on student development. At the same time it was denied, as both unrealistic and empirically unfounded, that teacher appraisal should be based solely on student learning. This contention was strongly supported by findings in this study.

A search of the literature relating to the appraisal function revealed a plethora of opinion-based publications and, by contrast, a scarcity of research supported by empirical data. Literature pertaining to questions raised in Chapter I composed the review: (1) systematic accountability

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of teachers, (2) teacher attitudes to the appraisal process, (3) student learning as the basis for the appraisal function, (4) teacher competencies, (5) who appraises? (6) the relationship of teacher attitudes of personal ability and the appraisal function, and (7) the formative emphasis. It was discovered that studies in the literature had not attempted to draw conclusions about teacher development as a result of positive appraisal techniques. Neither had research explored teacher and principal perceptions to discover whether areas of agreement exist about the function. The aim of this study was therefore strengthened by the search of the literature.

Answers to specific questions about teacher and principal perceptions of the appraisal function were sought through a survey instrument in order that, accumulatively, a response to the primary objective of the investigation could be obtained. A questionnaire was designed as an instrument of data collection in the following main areas of teacher and principal perceptions about the appraisal function: (1) teacher accountability for professional conduct, (2) teacher development, (3) the formative emphasis, (4) who should be implicated, (5) commonly held objections, (6) student learning as the sole basis, and (7) teacher performance competencies. In addition, teacher and principal comments about negative and positive aspects of appraisal were solicited in response to open-ended questions. The teacher appraisal areas mentioned above form the basis for the discussion of findings section (below) which, in turn, influences the conceptual framework section which follows.

The populations for this study were composed of public school
teachers and principals employed by Michigan School districts. A systematic sampling technique was used to select 600 teachers from the Michigan Department of Education's 1975-1976 Professional and Personnel Report. The same sampling method was used to select 300 principals from the Michigan Education Directory and Buyer's Guide, 1975-1976. During the period November 9 through November 29, 1976, 549 useable responses (i.e. 61 percent of the 900 questionnaires posted) were received. Follow-up letters and questionnaires posted on November 28, 1976, elicited a further 180 useable responses (i.e. 20 percent of the 900 questionnaires posted). The very high response rate could possibly have been attributed to intense interest by educators in the areas of teacher accountability and appraisal. This contention was substantiated by respondents' comments. Demographic dispersion maps indicated that both teacher and principal respondents widely represented Michigan school districts. The matter of external validity of this study is taken up later in this chapter.

Coded data from questionnaires were transferred to two computer discs (one each for teachers and principals). The data analysis techniques, determined when the questionnaire was developed (Appendix B) were utilized to respond to research questions (and to test their implied hypotheses). To reach a decision whether a statistically significant difference existed between teachers' and principals' perceptions about any single item or combined items, a one-way analysis of variance was used. The Pearson product-moment correlation method was used to show the relationships of some of these perceptions. Means, percentages and rank-ordering were used to provide statistical description where applicable. Finally, factor
analysis was carried out using the rotational varimax (orthogonal) technique to discover concepts underlying principal and teacher ratings of teacher performance competencies. The relationship between rankings was found using Kendall's Tau.

Discussion of the Findings

Discussion of the findings will be organized according to the following main areas of teacher and principal perceptions of the appraisal function: (1) teacher accountability for professional conduct (and relationships with other variables), (2) teacher development, (3) the formative emphasis, (4) who should be implicated, (5) commonly held objections, (6) student learning as the sole basis, and (7) teacher performance competencies. These areas encompass the research question investigated and, accumulatively, reach conclusions about the main objective of the study—viz. to discover whether the professional improvement of teachers may possibly be accomplished through appraisal techniques and rationales perceived to be positive.

Discussion will center on the research findings. Nevertheless, discussion will also incorporate occasional theory development based on the review of literature and emphases given by teachers and principals in their written responses to open-ended questions in the questionnaire. Subsequently, both research findings and what this writer judges to be important theoretical precepts will be included in the conceptual framework for the teacher appraisal function.

Both teachers and principals expressed responsibility in the...
general area of teacher accountability for professional conduct—the
teachers to develop professional competencies and the principals to
assist this process. In their written comments, 21 teachers and 18
principals stated that the appraisal function should stress the
responsibility of a teacher to account for his progress as it relates
to the attainment of (written) objectives. These comments may help
to explain why (for teachers and principals) intra-group differences
such as presence or absence of a formal appraisal system and academic
status do not alter opinions about the importance of professional
accountability. Similarly, these comments may contribute to under­
standing why tenured and untenured teachers, and those with or without
a high regard for their present teaching abilities, agree that teachers
must be accountable for their professional conduct.

The inexperienced and experienced principals also indicated
agreement about major aspects of the appraisal function, including
teacher accountability. Again, it may be conjectured, that a sense of
the importance of teacher accountability and its vehicle of assessment,
the appraisal function, over-rode intra-group differences.

Chapter IV outlined reasons why a statistical difference was found
between teacher and principal perceptions of accountability (Research
question 1a) despite the proximity of means. The difference was of
degree rather than kind. Almost without exception, respondents from
both groups agreed that teachers are professionally accountable;
principals, however, were slightly firmer in their views. For all
practical intents and purposes, teacher and principal agreement on
this issue exists, and is remarkably strong.

Two teacher appraisal issues raised in the literature, and relevant to this section, need mentioning.

First, by comparison with the findings of Stemnock (1969) and NEA (1972), Michigan school districts have a lower percentage of formal appraisal systems than the nation as a whole (80 percent by comparison with 90 percent). The accuracy, however, of any of these results is in some doubt as the word "formal" was not defined. More meaningful results would have been obtained if all three surveys had defined the term similarly—e.g. "an established written policy governing standards of procedures and processes".

Second, Stemnock (1969) found that 90 percent of teachers surveyed indicated approval of regular appraisals for professional accountability. In the present study, 97 percent of teachers agreed with this stance. It must be remembered that these are the same teachers who were critical of some extant practices associated with appraisals. This leads one to conclude that teachers can clearly separate professional responsibility from (what they perceive to be) frailties of the methods used to gauge that responsibility.

Teacher Development

Results shown in Table 4 indicated that a statistically significant difference existed between teacher and principal self-reported perceptions concerning the appraisal system being a means of teacher competency development. However, as discussed in Chapter IV, the large sample size
contributed to the statistically significant result.

It may be conjectured that teachers displayed less enthusiasm than principals because they could not dissociate the concept of development from control (by the principal or by the system). If one function of the appraisal system is to obtain accurate data to make effective decisions regarding the professional development of teachers, then it needs to include provisions for allowing individual staff members an opportunity to identify those areas where strengthening and development are required.

That section of Chapter IV dealing with content analysis showed that teachers strongly favor an open, nonthreatening climate if appraisals are to flourish. It would appear that teacher development as a basis for, and an outcome of, the appraisal function will remain an unattainable ideal unless provision is made for open teacher-principal discussion about objectives of appraisals and honest disclosure of reasons for decisions reached.

The extent to which their own appraisal systems fell short of the open climate described could account for teachers' lukewarm support of the appraisal-development nexus.

The Formative Emphasis

One purpose of this study was to investigate ways in which the appraisal function might become less of a process designed to judge a teacher and more of a process designed to help a teacher improve performance. For such a change in emphasis to occur, both teachers and principals
would need to accept the appraisal process as essentially ongoing and formative in nature. Results (Table 26) obtained in this study strongly suggest that both groups do, indeed, agree that the process should be ongoing, with conferences after each observation being an integral part of the formative evaluation.

Reference to the literature in Chapter II indicates consensus among writers that effective feedback is at the heart of formative teacher evaluation. This study offers strong empirical support for these writers' supposition. Whether or not the appraisal function can serve the dual purpose of teacher development and of incompetent teacher dismissal—an area of disagreement between teachers and principals—may be viewed in the context of formative appraisal. Conferences for feedback purposes would enable a monitoring of the type and direction of teacher activities on a regular basis. This process would afford every opportunity to the teacher with potential for professional growth to improve his performance. Those who lack this potential (i.e. the incompetents) would have had ample opportunity to improve in a professional, supportive and continuing process. It may be noted that results of content analysis (Table 28) indicate agreement between teachers and principals that the appraisal process should distinguish clearly between the competent and incompetent teacher.

Formative appraisals permit teachers to take the initiative by identifying (and reidentifying after conferences) those areas needing improvement and thereby increasing the likelihood that constructive actions on the part of the teacher will ensue. Results of content
analysis (Table 28) support this contention. Both teachers and principals favored short, frequent visits with follow-up sessions programmed to offer constructive criticism and new (or modified), individual (shared) goal-setting for performance improvement. Such a process is an antithesis of summative appraisals which predominate within school districts.

Implied in the word "conference" is two-way communication. Results of both inferential statistics (Chapter IV) and content analysis (Table 28) strongly suggest that as an integral part of the formative appraisal process, teachers must be given the right to comment freely on appraisal outcomes. Given this right, it then becomes the responsibility of the teacher to act upon supportive counseling to aid personal and professional growth.

Of necessity, the kind of process suggested focuses upon the individual teacher. Nevertheless, consistency of approach between teachers must be maintained in keeping with written appraisal policies. Ideally, perhaps, the most desirable form of appraisal outcome is one in which the teacher is individually responsible to the principal for producing program outcomes in line with mutually agreed upon objectives. In reality, however, the development of any teacher must be congruent with a school district's policies relating to such areas as student cognitive learning and social growth, and expectations held for teachers in these areas. Individualizing the teacher appraisal program must inevitably stop short of any isolation from community expectations for the education of its youth.
Who should be Implicated?

Both teachers and principals indicated strongly that teacher appraisals should be based on goals and objectives mutually agreed upon by teachers and principals and not those selected by the principal alone (Table 5). Moreover, there was equally strong agreement between the two groups concerning who should be implicated in the appraisal process (Tables 22 and 23). The groups rejected the notion of principals or students alone being the assessors, and of parents being implicated in the process. Nor was support offered for peer rating as part of the process, a result almost identical to the findings of the recent Perrone Report (Perrone, 1976). By contrast, both groups gave firm support to the concept of self-rating.

Taken together, these two sets of findings reveal that the appraisal process must be shared; and that teachers and principals must play the dominant roles. This conclusion supported other research findings (NEA, 1964; Stemnock, 1969; Reavis, 1975; Jensen, 1968). Few conclusions can be drawn about student, parent and peer implication. However, the literature would suggest greater support for involvement of student, parent and peer groups in the appraisal process than this study found. In particular, the literature stresses the many advantages to be gained by student feedback. While this may be so, teacher (and principal) perceptions showed a marked lack of acceptance of these advantages, no matter how rational they may appear to be in print. And, ultimately, teacher attitudes are crucial in any area where teachers are closely
involved.

If principals are to be so closely implicated in the appraisal function, it follows that they should be as skilled as possible in evaluation techniques. The findings emanating from Research question 2 (objections to the appraisal function) and results of content analysis of comments (Table 28) indicate teacher dissatisfaction with some approaches adopted by principals. While it would appear that school districts could profitably introduce training courses for administrators involved in the teacher appraisal function, results of this study would suggest that training should be directed at improving techniques associated with positive aspects of the function. These aspects are drawn together in a summary (below). They also are the basis of the conceptual framework developed in this chapter.

**Commonly Held Objections**

Results of the investigation into objections commonly held against the appraisal function (Research question 2) revealed a significant difference between teacher and principal perceptions. This conclusion was much in line with that reached by Reavis (1975) who reported that "administrators view their schools' teacher evaluation practices more positively than do teachers" (p. 3). Findings from content analysis of comments also revealed many issues about which teachers and principals may hold different opinions.

The fact, however, that both groups agreed that appraisal instruments are far from perfect (Table 15) is of importance. It is interest-
ing to note that there is reasonable proximity of agreement (means of 1.59 and 1.65) and also that this is the only appraisal objection where either group scored the "agreed" end of the Likert scale. An important question which arises is: To what extent does teacher and principal discontent with imperfections of appraisal instruments affect their perceptions of other components of the appraisal function? A further question is: How central and how crucial is this issue? Results of this section of the study raise interesting conjecture about the importance of isolating factors of the appraisal function which have an overbearingly negative effect upon the function as a whole. It appears that instrumentation may be one of these factors. Research which aims at providing answers to the question of relative influence of detrimental aspects of the appraisal function will be a valuable addition to the literature.

Student Learning and the Appraisal Function

It is apparent that neither teachers nor principals consider that teachers should be appraised solely on the basis of what students learn in class (Table 24). The proximity and size of means (4.222 and 4.216) and proximity of standard deviations (.775 and .772) indicate a remarkable teacher-principal consensus. Chapter II outlined, in considerable detail, the arguments that have been posed for and against basing the appraisal function on student learning. The chapter also reiterated (from Chapter I) the stance adopted in this study--that the definition of the appraisal process as including only a measurement
of the relationship between quality of teaching and student achievement was rejected. It appears that teachers and principals also reject this supposition. Whether or not a nexus, in the appraisal situation, does exist between student (learning) achievement and teacher performance appears to be a moot point. What is important is that both groups' opinion of the appraisal function must have a considerably broader base than student learning.

Findings of this study therefore support conclusions of Rosenshine and Furst (1971) who contended that no single criterion for the appraisal function is sufficient.

Difficulties inherent to linking teacher effectiveness with valued student outcomes are that teacher effects on achievement are unstable (Rosenshine, 1970), that acts of teaching may be unstable (Moon, 1971) and that most acts of teaching are unrelated to student outcomes (Heath & Nielson, 1974; Rosenshine & Furst, 1971). Possible explanations for these conclusions may be conjectured. These would include: (1) limitations in available measurement instruments, (2) systematic differences between students in one situation by comparison with another, and (3) systematic changes in teacher behavior over time.

Teacher Performance Competencies

Tables 6 and 7 revealed a very similar teacher and principal pattern of perceptions about the importance of teacher competencies. Not only did both groups find all competencies (on an average) at least important, they also ranked the same four competencies most highly (and also both
selected another four competencies as the least important). The findings of this study are very much in line with those of Thomas (1973) who found that teachers and supervisors tended to agree on the value of specified teacher competencies. Both studies strongly suggested that teachers should be competent in instructional design, instructional methodology, in several levels of interpersonal relationships and in community-school relationships. The present study, moreover, gave stronger emphasis to the learning environment. While the rating (and ranking) of the questionnaire items suggested teacher and principal agreement that teacher development may be based upon clearly explicated teacher competencies, it must be borne in mind that accuracy in identifying and measuring teacher behaviors which influence student outcome measures has not been established. In other words, teacher behavior can only be conceived of as a complex of skills; while ideally these should be identified and practiced systematically under specified conditions, practically this has not been established as possible by research. Nevertheless, this study has shown that teacher and principal agreement does exist about the importance of teacher competencies, even if these have been considered out of the context of the realities of a particular classroom. With this in mind, the insistence of both groups (as revealed by both content and statistical analyses) that appraisal observations are frequent has meaning. Only as a result of frequent observations will a principal be able to gauge the effectiveness of the interrelatedness of the various skills he would otherwise observe possibly only in isolation. Under such circumstances, the appraisal
period, feedback, formation of new objectives and teacher development may be based on a complex of teacher competencies rather than deliberately isolated competencies.

The factor analysis of competency variables gave rise to seven reasonably distinct factors, termed Primary Competencies of Teachers (Tables 10 and 13). Rummel (1970) maintains that factor analysis "handles social phenomena in the situation" (p. 3). Extrapolating Rummel's concept to this study, it may be conjectured that teachers and principals, on the basis of experience, had the classroom situation clearly in mind when they rated competencies. If this is so, the descriptions (and descriptors) of the seven factors are visual portrayals of what teachers and principals construe to be important behavioral activities or relationships of competent teachers. Taken as a whole, these seven factors may be considered a conceptual framework of desirable social activities of teachers to assist student learning.

When a conceptual framework for the teacher appraisal function is developed (below) the seven factors will have a place of importance. This is not to suggest that these factors, or the competencies which are loaded on them, are the only possible factors or competencies to be considered in an appraisal process. They form, however, a very sound basis for a positive appraisal process for two reasons. First, they are outcomes of research supported by empirical data and not mere supposition (with its ever-present danger of bias). Second, the factors are derived from exceptionally strong consensus among teachers and principals, the two groups most commonly implicated in teacher appraisal.
Conclusions Arising from Discussion of Findings

The main purpose of this study was to find whether teachers and principals perceived that professional improvement of teachers could be an outcome of appraisal rationales and techniques which they considered positive. Is there sufficient consensus between these two groups about the appraisal function to constitute an effective and viable process? Those findings militating against this contention and those supporting it will be briefly summarized and a conclusion drawn.

Persevering with any of the following factors was found to contribute to the failure of teacher appraisals:

1. Basing appraisals solely on student learning
2. Having principals unilaterally appraising teachers
3. Having students, parents or peers implicated (unless marginally, and only after teacher approval is given)
4. Continuing the use of present appraisal instruments, particularly where the emphasis is on personality rather than competency performance judged against criterion measures
5. Appraising too infrequently (principal insufficiently conversant with a teacher's competencies and their interrelatedness within the classroom situation).

The following factors were found to contribute positively to teacher appraisal process:
1. Focusing the process on teacher development
2. Sharing of the process by teachers and principals
3. Making appraisals formative (with constructive feedback and adjustment of objectives)
4. Informing teachers in advance of the policies and procedures to be followed and expectations of competency performance
5. Basing appraisals on extensive observations
6. Allowing teachers the right to comment on appraisal outcomes
7. Making provision for self evaluation as a valuable component.

On balance, it would appear possible to devise an appraisal process which contains the positive elements listed and which is acceptable to both teachers and principals. The positive elements are attainable; in some instances, their presence would obviate the negative elements listed. Two additional findings of the study substantiate the possibility of formulating a positive appraisal function. First, there was general agreement between teachers and principals (and subgroups of both) not only that teachers should be professionally accountable, but also that the appraisal function should be continuous, entailing a conference after each appraisal observation. Second, the marked agreement between the two groups concerning the importance and rankings of teacher competencies offers one strong starting point for an improved appraisal process.
Practical Implications of the Findings

The conceptual framework for a positive appraisal process developed below is based on the findings of this study, and influenced by the literature. Heuristic in nature, its purpose is to direct those closely concerned with teacher appraisals into particular conceptual channels. Its intention, therefore, is not to provide those kinds of details which must remain the province of school districts. For instance, while general areas of teacher performance competencies will be given, specific competencies will not be developed except for exemplary purposes. The conceptual framework has four components—Context, Procedures, Competencies and Process—and each has a brief overview before the salient features are presented.

Conceptual Framework for Positive Appraisal Process

Component: Context

Overview: Any effective appraisal system must be preceded by extensive planning. Implicated in this planning are those immediately affected by its outcomes—viz. teachers, principals, central office administrators and school board members. Policies (ratified by the board), procedures, and processes result from planning. Designs allowing consistency of approach must be paramount.

Salient Features:

1. Policies
   a. reflect knowledge of relevant research
b. ensure consistency of approach

c. encompass areas such as who appraises, acceptable methods of arbitration in the case of appeals and other main procedures

d. all policies to be written and available to teachers

2. Terminology

a. unambiguous use of language in policies, procedures, forms and instruments

b. credibility of appraisal process not diminished by loosely defined terms

3. Rating system format

a. different format required for different purposes (e.g. self-assessment, principal appraisal of teacher)

b. agreement between interested parties

4. Instrumentation

a. criteria of objectivity, validity and reliability

b. the above essential criteria determined by pilot testing

5. Evaluation of appraisal process

a. to allow flexibility and change resulting from assessment of policies, procedures and processes

b. formative (i.e. in step with implementation of change) and summative (decisions at selected terminal points).

Component: Procedures

Overview: Emphasis in procedures emanating from policies is given to a close working relationship between concerned groups. Procedures are written statements containing sufficient detail for clearly under-
stood and consistent actions to ensue.

**Salient Features:**

1. Communication
   a. full details of policies and practices made available to all concerned
   b. channels of downward and upward communication instituted
   c. provision for immediate communication of decisions to change any aspect of appraisal system

2. Observations
   a. purposes and frequency fully understood by teachers
   b. decisions reached about written or verbal feedback or both

3. Forms
   a. in line with policies
   b. required objective and subjective data clearly explicated
   c. personal objectives, and circumstances under which these are reformulated stated

4. Personnel
   a. decisions concerning who is implicated (e.g. teachers, principals, students); emphasis given to principal and teacher involvement, with judicious use of other parties
   b. teacher self-rating essential.

**Component: Competencies**

**Overview:** Teacher performance competencies are standards of awareness and skills basically necessary to ensure satisfactory student development. Inevitably they are arbitrary in nature; moreover, different
emphases are likely to pertain in a particular school district by comparison with another. Despite this, there is a conceptual level of competencies which has general application across district borders. While the school board may make decisions regarding the conceptual level, teachers must open a meaningful dialogue with administrators when decisions have to be made about detailed competencies.

**Salient Features:**

1. Standards
   a. each competency (below the conceptual level) described unequivocally
   b. example of satisfactory attainment of each particular competency published in appraisal booklet

2. Concepts
   a. the Primary Competencies of Teachers lists Realism, Humanism, Effective Communications, Learning Strategies, Comprehensive Student Development, Nurturing Environment, and Theory
   b. detailed competencies developed under each concept may vary from one school district to another

3. Detailed competencies
   a. developed under concepts (e.g. the concept Learning Strategies may encompass such detailed competencies as diagnosing student needs, selecting appropriate resources, designing appropriate instruction and evaluating effectiveness)
   b. defined (e.g. by written example).

4. Variations
   a. different competencies used or stressed according to different kinds and levels of preparation and experience

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b. teacher collaboration sought in these decisions

**Component:** Process

**Overview:** This component emphasizes an open, professional climate, goal formation, feedback and discussion as essentials of a formative teacher appraisal. Whatever is done must be clear, personalized (within accepted policy constraints) and constructive. Planning may be complete; but only a sound process will ensure that teacher development is an outcome of the appraisal function.

**Salient Features:**

1. **Goal formation**
   a. based on defined (expected) competencies but individualized according to stage of professional development
   b. goals modified during post-appraisal conferences
   c. written records maintained
   d. discrepancy between goals and performance the basis of each (subsequent) appraisal

2. **Climate**
   a. information gathered openly, honestly
   b. written procedures strictly adhered to
   c. self-image of teacher enhanced if possible by professionally developmental nature of process
   d. principal offers psychological support and professional opportunities and thereafter teacher responsible for goal attainment.

3. **Ongoing**
   a. frequent appraisals (according to need based on
status, preparation, experience and professional development)

b. details (e.g. procedures, instrumentation) communicated to teacher well in advance

4. Formative

a. immediate feedback

b. discussion, teacher openly expresses views, including comparisons with self-appraisal

c. initiating of new objectives (written) as basis for development

d. flexibility within policy limitations

e. professionalism (constructive actions by teacher expected provided that due process scrupulously observed)

5. Summative

a. occasional appraisals at selected terminal points (e.g. decisions re: tenure, dismissal, promotion)

b. policies and procedures communicated well in advance and followed exactly

c. conference follows immediately.

Recommendations for Further Study

The methodology used to select the samples, the size of each sample, the even State-wide distribution of respondents and the high response rate support the contention that results of this study may be generalized to the State of Michigan. These same factors provide limited confidence that the results may apply to other States of this country where demographic features are similar to those of Michigan. If, however, this study were to be replicated within a State where demographic features
were markedly different, comparisons would determine the extent to which the conceptual framework, developed as a result of the Michigan survey, could confidently be applied country-wide.

Another study could test the validity of the conceptual framework. This will not be easily done as school districts are most unlikely to offer any researcher a *tabula rasa* teacher appraisal situation in which the model may be applied. The researcher will have to take the situation as it is. With this limitation accepted, it may be possible to select school districts which approximate the ideal conditions of the conceptual framework and others where there is little similarity. A study of the factors usually attributed to a healthy school system may reveal that the type of teacher appraisal process adopted by a school district has a relationship with these factors. Factors to be investigated could include school climate, job satisfaction, student development and parental and community attitudes towards the system.

The data obtained for this study (and stored on magnetic discs in Western Michigan University's Computer Center) are extensive. There is considerable information still to be obtained from these data. For example, a researcher may run a two-way analysis of variance. Such an analysis of the main effects and interaction of independent variables (e.g. teacher tenure status and confidence) on a dependent variable (e.g. teacher accountability or development) should provide useful information, adding further dimensions to the present findings. As a further example, multiple regression analysis could provide a series of useful predictions about teacher or principal status (e.g. years of
experience, tenure, academic qualifications) based on different combinations of appraisal variables.

Who should be implicated in the teacher appraisal process needs further investigation. Results obtained from this study and a perusal of the literature both indicate that much remains inconclusive in this area. Despite the obvious importance of this aspect of the teacher appraisal function, there is not a single study reported in the literature which concentrates on this area. Opinion-based comments strongly support numerous groups playing a part in the process. This study found support only for principal and teacher implication. Research into this area should be profitable.

Teacher and principal concern about appraisal instruments, and about the use of obtained data, is justified. Many reasons exist for this justification, most of which fall into the general domains of validity and reliability. One particular concern was alluded to often by respondents in their comments. To what extent can evidence gathered about teacher performance on any occasion become generalizable? This problem appears to center on whether there is a clear, replicable relationship between teacher behavior and student outcomes. A researcher with expertise in measurement and generalizability theory may wish to resolve this extremely difficult, but basically important issue.

Conclusion

One principal respondent commented:
Teacher assessment is a highly personal type of activity which often is highly subjective and as such requires a relationship of trust and honesty on the part of both the evaluator and the evaluatee.

And one teacher respondent commented:

Information which will be part of the appraisal process should be gathered honestly and professionally. Although the instrument used should give consistent results for similar teacher performance, teacher-principal trust also plays a part.

If school districts endeavor to meet the positive conditions recommended in this study, the teacher appraisal function will be a facilitating and enhancing process characterized by mutual teacher-principal respect. Under such conditions differences of opinion become constructive forces. Moreover, teachers will invest themselves more fully and openly in a collaborative appraisal process designed to promote their professional development.
REFERENCES


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APPENDIX A

Teacher and Principal Questionnaires

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TEACHER QUESTIONNAIRE

Your responses to this questionnaire will be treated in the strictest confidence. The code number in the top right hand corner is for follow-up identification purposes only. When questionnaires are returned and numbers are checked, identifying code numbers will be destroyed.

1. Have you been granted tenure? ( ) yes ( ) no

2. What is your academic status (highest level)?
   ( ) B.A. or B.S.
   ( ) M.A. or M.S.
   ( ) Specialist's Degree
   ( ) Ed.D. or Ph.D.
   ( ) Other (please specify)____________________

3. At your present stage of development as a teacher, how do you rate yourself?
   ( ) Above average ( ) Average ( ) Below average

4. Does your school district have a formal appraisal system of teacher performance?
   ( ) yes ( ) no

5. On a scale of 1 = Strongly Agree (SA) 2 = Agree (A) 3 = Uncertain (U) 4 = Disagree (D) 5 * Strongly Disagree (SD) react to the following. 1 2 3 4 5

5.1 Teachers should be held accountable for their professional conduct____________________
5.2 An appraisal system should be a means of teacher competency development____________________
5.3 An appraisal system should not only be a means of teacher development but also a means of dismissing incompetent teachers____________________
5.4 The appraisal process should be on-going—i.e. a conference with a teacher should be required after each formal appraisal observation____________________
5.5 Teachers should be appraised solely on the basis of what students learn in school____________________
5.6 Teacher appraisals should be based on written performance objectives selected by principals____________________
5.7 Teacher appraisals should be based on goals and objectives mutually agreed upon by teachers and principals____________________
5.8 Principals alone should appraise a teacher's performance____________________
5.9 Students alone should appraise a teacher's performance

5.10 Parent rating of a teacher should be part of the appraisal process

5.11 Peer rating of a teacher should be a part of the appraisal process

5.12 Self rating should be an important part of the appraisal process

6. The following are comments often made about the appraisal of teacher performance.

On a scale of 1 = Strongly Agree (SA)
2 = Agree (A)
3 = Uncertain (U)
4 = Disagree (D)
5 = Strongly Disagree (SD)

react to these comments. If you wish, add any other comments you feel are important (6.6).

6.1 Appraisals have focused on personality rather than performance judged against criterion measures

6.2 Results of appraisals have not been used to assist individual development

6.3 Appraisal instruments are far from perfect

6.4 Appraisal is a one-way process, with the teacher not given the opportunity to communicate with the superior

6.5 Appraisal methods are not conducive to development of teachers' self-expression and creativity

6.6 Other comments:

7. Effective teaching requires professional skills, attitudes and knowledge. Below is a list of 15 teacher competencies. This list has evolved from extensive logical task analyses of teaching by teachers, principals, superintendents and university educators.

On a scale of 1 = Extremely Important (EI)
2 = Very Important (VI)
3 = Important (I)
4 = Moderately Important (MI)
5 = Unimportant (U)
6 = Quite Unimportant (QU)

rate each of the following competencies.

7.1 To relate the results of research to his/her professional conduct as an educator

7.2 To identify and develop educational goals

7.3 To generate student awareness of and respect for individual and cultural differences

7.4 To assess and utilize the unique characteristics of others

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7.5 To promote development of healthy self-image in interacting with others

7.6 To diagnose student needs and take appropriate action (including alternative teaching procedures)

7.7 To design instruction and provide learning opportunities consistent with student achievement level and learning style

7.8 To evaluate effectiveness of performance in teaching role

7.9 To create an environment which promotes inquiry and process skills

7.10 To develop an environment which supports the creative processes

7.11 To maximize the learning potential existing between the school and the community

7.12 To aid students in the selection, evaluation, and achievement of personal goals and aspirations

7.13 To select and utilize a variety of materials and resources to enhance the attainment of educational goals and/or instructional objectives

7.14 To know and apply the principles of group dynamics

7.15 To demonstrate the ability to speak and write the English (American) language clearly

8. No structured questionnaire can capture perfectly the complexity of your personal situation. Please feel free to add additional written comments, in the space below, concerning the appraisal of teacher performance, particularly in respect to changes which might make the process more positive and acceptable.
Your responses to this questionnaire will be treated in the strictest confidence. The code number in the top right hand corner is for follow-up identification purposes only. When questionnaires are returned and numbers are checked, identifying code numbers will be destroyed.

1. How many years have you been a principal?  ______years

2. What is your academic status (highest level)?

   { } B.A. or B.S.
   { } M.A. or M.S.
   { } Specialist's Degree
   { } Ed.D. or Ph.D.
   { } Other (please specify)__________

3. Does your school have a formal appraisal system?  ( ) yes  ( ) no

4. On a scale of 1 = Strongly Agree (SA)  2 = Agree (A)  3 = Uncertain (U)  4 = Disagree (D)  5 = Strongly Disagree (SD) react to the following:

   4.1 Teachers should be held accountable for their professional conduct

   4.2 An appraisal system should be a means of teacher competency development

   4.3 An appraisal system should not only be a means of teacher development but also a means of dismissing incompetent teachers

   4.4 The appraisal process should be on-going--i.e. a conference with a teacher should be required after each formal appraisal observation

   4.5 Teachers should be appraised solely on the basis of what students learn in school

   4.6 Teacher appraisals should be based on written performance objectives selected by principals

   4.7 Teacher appraisals should be based on goals and objectives mutually agreed upon by teachers and principals

   4.8 Principals alone should appraise a teacher's performance

   4.9 Students alone should appraise a teacher's performance

   4.10 Parent rating of a teacher should be part of the appraisal process
4.11 Peer rating of a teacher should be a part of the appraisal process  

4.12 Self rating should be an important part of the appraisal process  

5. The following are comments often made about the appraisal of teacher performance.

On a scale of 1 = Strongly Agree (SD)  
2 = Agree (A)  
3 = Uncertain (U)  
4 = Disagree (D)  
5 = Strongly Disagree (SD)  
react to these comments. If you wish, add any other comments you feel are important (5.6.).  

5.1 Appraisals have focused on personality rather than performance judged against criterion measures  

5.2 Results of appraisals have not been used to assist individual development  

5.3 Appraisal instruments are far from perfect  

5.4 Appraisal is a one-way process, with the teacher not given the opportunity to communicate with the superior  

5.5 Appraisal methods are not conducive to development of teachers' self-expression and creativity  

5.6 Other comments:  

6. Effective teaching requires professional skills, attitudes and knowledge. Below is a list of 15 teacher competencies. This list has evolved from extensive logical task analyses of teaching by teachers, principals, superintendents and university educators.

On a scale of 1 = Extremely Important (EI)  
2 = Very Important (VI)  
3 = Important (I)  
4 = Moderately Important (MI)  
5 = Unimportant (U)  
6 = Quite Unimportant (CU)  
rate each of the following competencies.  

6.1 To relate the results of research to his/her professional conduct as an educator  

6.2 To identify and develop educational goals  

6.3 To generate student awareness of and respect for individual and cultural differences  

6.4 To assess and utilize the unique characteristics of others  

6.5 To promote development of healthy self-image in interacting with others  

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6.6 To diagnose student needs and take appropriate action (including alternative teaching procedures)  
6.7 To design instruction and provide learning opportunities consistent with student achievement level and learning style  
6.8 To evaluate effectiveness of performance in teaching role  
6.9 To create an environment which promotes inquiry and process skills  
6.10 To develop an environment which supports the creative process  
6.11 To maximize the learning potential existing between the school and the community  
6.12 To aid students in the selection, evaluation, and achievement of personal goals and aspirations  
6.13 To select and utilize a variety of materials and resources to enhance the attainment of educational goals and/or instructional objectives  
6.14 To know and apply the principles of group dynamics  
6.15 To demonstrate the ability to speak and write the English (American) language clearly  

7. No structured questionnaire can capture perfectly the complexity of your personal situation. Please feel free to add additional written comments, in the space below, concerning the appraisal of teacher performance, particularly in respect to changes which might make the process more positive and acceptable.
APPENDIX B

Organizational Chart for Research Questions
<table>
<thead>
<tr>
<th>RESEARCH QUESTIONS</th>
<th>SURVEY QUESTIONS</th>
<th>DATA ANALYSIS METHODS</th>
<th>RATIONALE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research question 1: Do teachers and principals perceive that professional improvement of teachers can be an outcome of positive appraisal rationales and techniques?</td>
<td>T*5.1 Teachers should be held accountable for their professional conduct</td>
<td>One-way analysis of variance</td>
<td>A statistically significant result (α = .05) will indicate a basic lack of agreement between teachers and principals concerning the place of teacher appraisals.</td>
</tr>
<tr>
<td>1a Do teachers and principals have similar opinions concerning whether there is a place (within the system) for the appraisal of teacher performance?</td>
<td>P*4.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1b Do teachers from school districts without formal appraisal systems differ in their perceptions concerning teacher accountability from teachers from districts with formal appraisal systems?</td>
<td>T 4 Does your school district have a formal appraisal system of teacher performance?</td>
<td>Chi-square test for two independent samples; frequencies of teachers in categories 1 and 2 (combined) and 4 and 5 (combined) of 5.1 conforming to either category of section T 4 of questionnaire</td>
<td>Frequencies obtained from T 5.1 conforming to the two categories of section T 4 may indicate (α = .05) whether the presence of a formal system of appraisal affects teacher perceptions about teacher accountability. Note: frequencies of teachers and principals indicating formal or informal appraisal systems will be recorded (independently of any other categories) so that a statewide percentage of schools with formal systems may be gauged.</td>
</tr>
<tr>
<td>1c Do principals from school districts without formal appraisal systems differ in their perceptions concerning teacher accountability from principals from districts with formal appraisal systems?</td>
<td>P 3 Does your school have a formal appraisal system?</td>
<td>Chi-square test for two independent samples; frequencies of principals in categories 1 and 2 (combined) and 4 and 5 (combined) of P 4.1 conforming to either category of section P 3 questionnaire</td>
<td>Frequencies obtained from P 4.1 conforming to two categories of section P 3 may indicate (α = .05) whether the presence of a formal appraisal system affects principal attitudes about teacher accountability.</td>
</tr>
<tr>
<td>P 4.1 Teachers should be held accountable for their professional conduct</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* The prefixes T or P refer to the teacher and principal questionnaires respectively.
<table>
<thead>
<tr>
<th>RESEARCH QUESTIONS</th>
<th>SURVEY QUESTIONS</th>
<th>DATA ANALYSIS METHODS</th>
<th>RATIONALE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1d Do teachers and principals perceive that professional development should be</td>
<td>An appraisal system should be a means of teacher competency development</td>
<td>Means</td>
<td>Means will indicate the general opinions of each group. Percentages will indicate differences between those who hold definite opinions either for or against.</td>
</tr>
<tr>
<td>the outcome of teacher appraisal?</td>
<td></td>
<td>Percentages in categories 1 and 2 (combined) and 4 and 5 (combined)</td>
<td>A statistically significant result ($\alpha = .05$) will indicate a basic lack of agreement between teachers and principals concerning the purpose of the appraisal function.</td>
</tr>
<tr>
<td>1e Do teachers and principals hold differing perceptions concerning the purpose</td>
<td>An appraisal system should be a means of teacher competency development</td>
<td>One-way analysis of variance</td>
<td>Means will indicate the general opinions of each group.</td>
</tr>
<tr>
<td>of the appraisal?</td>
<td></td>
<td></td>
<td>The kind of linear relationship formed from the results of T 5.6 and T 5.7 and from the results of P 4.6 and P 4.7 will give added meaning to the outcome of the means analyses.</td>
</tr>
<tr>
<td>1f Should the written performance objectives of teacher appraisal be decided by</td>
<td>Teacher appraisals should be based on written performance objectives by principals</td>
<td>Pearson product-moment coefficient to show relationship between the two sub-sections</td>
<td>Differences between the two correlations will be tested for significance ($\alpha = .05$), using the test statistic:</td>
</tr>
<tr>
<td>principals alone or by both principals and teachers?</td>
<td></td>
<td>(treated separately for teachers and principals)</td>
<td>$z = \sqrt{\frac{1}{n_1-3} + \frac{1}{n_2-3}}$</td>
</tr>
<tr>
<td>1g Which teacher competencies are held in high esteem by teachers and by</td>
<td>See page 3 of questionnaires</td>
<td>Means</td>
<td>Ordering of teacher competency 1st according to ranking of means (teachers and principals treated separately) will indicate relative importance of the 15 competencies for each group.</td>
</tr>
<tr>
<td>principals?</td>
<td></td>
<td>Factor analysis (orthogonally rotated factors)</td>
<td>R matrix and subsequent rotation- al varimax will disclose underlying (positive) factors.</td>
</tr>
<tr>
<td>RESEARCH QUESTIONS</td>
<td>SURVEY QUESTIONS</td>
<td>DATA ANALYSIS METHODS</td>
<td>RATIONALE</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------------</td>
<td>---------------------------------</td>
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<td>---------------------------------------------------------------------------</td>
</tr>
<tr>
<td>1h What is the relationship between teachers and principals in their rating of the importance of teacher competencies and what is the relationship between the five competencies rated most important by each group?</td>
<td>T 7 See page 3 of questionnaires</td>
<td>Kendall's Tau (for both correlations)</td>
<td>These results will determine the relationship (i.e. agreement) between teachers and principals in respect to the importance of selected teacher competencies.</td>
</tr>
<tr>
<td><strong>Research question 2:</strong> Do teachers and principals differ in the nature of their objections to the appraisal function?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2a What are the main reasons for objections to the appraisal function?</td>
<td>T 6 See page 2 of questionnaire</td>
<td>Means</td>
<td>Means will indicate teachers' and principals' reactions to each of the five sub-sections.</td>
</tr>
<tr>
<td>2b Do teachers and principals differ in the nature of their objections?</td>
<td>T 6 See page 2 of questionnaire</td>
<td>One-way analysis of variance</td>
<td>This test will determine whether there is a statistically significant difference (α = .05) between teacher and principal perceptions about objections to the appraisal function.</td>
</tr>
<tr>
<td><strong>Research question 3:</strong> Do untenured teachers see appraisals as less of a threat than tenured teachers?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3a Is there a difference in the opinions of tenured and untenured teachers concerning the importance of the appraisal of teacher performance?</td>
<td>T 1 Have you been granted tenure?</td>
<td>One-way analysis of variance</td>
<td>A statistically significant result (α = .05) will strengthen the implied hypothesis that untenured teachers are less threatened by appraisals than tenured teachers.</td>
</tr>
<tr>
<td>T 5.1 Teachers should be held accountable for their professional conduct</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research Questions</td>
<td>Survey Questions</td>
<td>Data Analysis Methods</td>
<td>Rationale</td>
</tr>
<tr>
<td>--------------------</td>
<td>-----------------</td>
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</tr>
<tr>
<td>Research question 4: Does length of experience as a principal affect perceptions about the appraisal function?</td>
<td>4a Does length of experience (dichotomized to more or less than five years) affect perceptions about the appraisal function?</td>
<td>P 1 How many years have you been a principal?</td>
<td>One-way analysis of variance</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P 4.1)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>P 4.2) See pages 1 and 2 of questionnaire</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4b Does length of experience (dichotomized to more or less than five years) affect perceptions about the appraisal function?</td>
<td>P 4.6)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>P 4.7)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>P 4.8)</td>
<td></td>
</tr>
<tr>
<td>Research question 5: Is there a difference between academic status and perceptions about the necessity of the appraisal function?</td>
<td>5a Do teachers with bachelors' and masters' degrees hold different perceptions about the necessity for the appraisal function than those with specialists' and doctorate degrees?</td>
<td>T 2 What is your academic status?</td>
<td>One-way analysis of variance (bachelors' and masters' taken as one group; specialists' and doctorates as a second)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>T 5.1 Teachers should be held accountable for their professional conduct</td>
<td></td>
</tr>
<tr>
<td></td>
<td>5b Do principals with bachelors' and masters' degrees hold different perceptions about the necessity for the appraisal function than those with specialists' and doctorate degrees?</td>
<td>P 2 What is your academic status?</td>
<td>One-way analysis of variance (bachelors' and masters' taken as one group; specialists' and doctorates as a second)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>P 4.1 Teachers should be held accountable for their professional conduct</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>P 4.8)</td>
<td></td>
</tr>
<tr>
<td>RESEARCH QUESTIONS</td>
<td>SURVEY QUESTIONS</td>
<td>DATA ANALYSIS METHODS</td>
<td>RATIONALE</td>
</tr>
<tr>
<td>---------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------</td>
<td>------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Research question 6: Do teachers who hold favorable attitudes towards their</td>
<td>T 3 At your present stage of development as a teacher, how do you</td>
<td>One-way analysis of variance</td>
<td>The implicit hypothesis is that the more confident teachers will accept appraisals more willingly than the less confident. A statistically significant result ($\alpha = .05$) will support this hypothesis.</td>
</tr>
<tr>
<td>abilities as teachers accept appraisals more willingly than those who hold</td>
<td>rate yourself?</td>
<td>Two groups compared: those rating above</td>
<td></td>
</tr>
<tr>
<td>mediocre or unfavorable attitudes towards their abilities?</td>
<td></td>
<td>average and those rating average or</td>
<td></td>
</tr>
<tr>
<td></td>
<td>T 5.1 Teachers should be held accountable for their professional conduct</td>
<td>below average</td>
<td></td>
</tr>
<tr>
<td>Research question 7: Who should appraise teacher performance and do teachers</td>
<td>T 5.8-5.12 See page 2 of questionnaire</td>
<td>Means</td>
<td>Examination of means will give an indication of teacher and principal perceptions (taken separately) about who should be implicated in teacher appraisal.</td>
</tr>
<tr>
<td>and principals differ in their opinion concerning this matter?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7a Who should appraise teacher performance?</td>
<td>P 4.8-4.12 questionnaire</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7b Do teachers and principals differ in their opinions concerning who should</td>
<td>T 5.8-5.12 See page 2 of questionnaire</td>
<td>One-way analysis of variance</td>
<td>The results of this test will establish whether a significant difference ($\alpha = .05$) exists between teachers and principals concerning opinions about who should be implicated in teacher appraisals.</td>
</tr>
<tr>
<td>be implicated in teacher appraisals?</td>
<td>P 4.8-4.12 questionnaire</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research question 8: Should teachers be appraised solely on the basis of what</td>
<td>T 5.5 Teachers should be appraised solely on the basis of what students learn</td>
<td>One-way analysis of variance</td>
<td>The results of this test will indicate whether a significant difference ($\alpha = .05$) exists between teacher and principal perceptions about student learning being the sole basis for teacher appraisal.</td>
</tr>
<tr>
<td>students learn in class?</td>
<td>in school</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8a Do teachers and principals hold similar views about whether teachers should</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>be appraised solely on the basis of what students learn in class?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RESEARCH QUESTIONS</td>
<td>SURVEY QUESTIONS</td>
<td>DATA ANALYSIS METHODS</td>
<td>RATIONALE</td>
</tr>
<tr>
<td>--------------------</td>
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<td>-----------</td>
</tr>
<tr>
<td>Research question 9: Can an appraisal system serve the dual function of developing teacher competencies and of dismissing incompetent teachers?</td>
<td>9a Do teachers and principals hold similar views about whether an appraisal system can serve the dual function of developing teacher competencies and of dismissing incompetent teachers?</td>
<td>T 5.3 An appraisal system should not only be a means of teacher development but also a means of dismissing incompetent teachers</td>
<td>One-way analysis of variance</td>
</tr>
<tr>
<td>Research question 10: Do teachers and principals agree that the appraisal process should be formative rather than summative, developmental (for teachers) rather than aloofly critical?</td>
<td>10a Do teachers and principals hold similar perceptions about whether the appraisal process should be continuous and should entail conferences after each formal appraisal observation?</td>
<td>T 5.4 The appraisal process should be ongoing--i.e., a conference with a teacher should be required after each formal appraisal observation</td>
<td>One-way analysis of variance</td>
</tr>
</tbody>
</table>
APPENDIX C

Covering Letters
8th November, 1976

Dear

One of the most troublesome and persistent problems in the teaching profession has been the appraisal of teacher performance. Despite very real interest in the area of teacher appraisal, surprisingly little research has been done to help clarify optimum procedures.

For a research study I wish to gather data which may show the way to positive appraisal processes. My plan is to gather information from a random selection of Michigan educators by the survey method. This information will be used as a basis for decisions about the possibility that teacher appraisals could become positive (rather than negative) processes.

I am requesting your help to accumulate information. While realizing you are busy, I sincerely hope you can take the time to complete the enclosed questionnaire. Needless to say, all information you provide will remain confidential. The opening statement on the questionnaire outlines the procedures which will be followed to ensure confidentiality.

Enclosed is a return, self addressed envelope, stamped for your convenience. If you wish to receive a summary of the results of this study, please enclose a note to that effect.

Your co-operation in this venture is very much appreciated.

Sincerely,

Anthony J. Shinkfield
Graduate Assistant
Department of Educational Leadership

Kenneth F. Simon, Ed.D.
Associate Dean
College of Education

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8th November, 1976

Dear

Recently you were sent a questionnaire from which data will be sought concerning the appraisal of teacher performance. In particular, it is hoped that the collected data may show the way to a positive appraisal process. As only a limited number of these questionnaires was sent out, your reply is very important for the accuracy of the survey.

Your co-operation is sought in completing the questionnaire (an additional copy of which is enclosed for your convenience) and returning it in the enclosed self-addressed, stamped envelope.

If you have already returned the questionnaire, please disregard this letter.

Your co-operation is very much appreciated.

Sincerely,

Anthony J. Shinkfield
Graduate Assistant
Department of Educational Leadership

Kenneth F. Simon, Ed.D.
Associate Dean
College of Education

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APPENDIX D

Surveys Returned by Area
Survey Returns by Teachers by Areas

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Survey Returns by Principals by Areas