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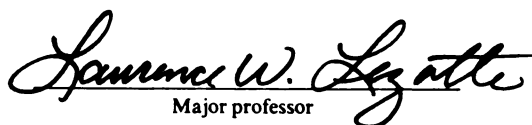
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PRINCIPAL BEHAVIORS CAN IMPACT TEACHER EFFICACY
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**AN INVESTIGATION TO DETERMINE IF
PRINCIPAL BEHAVIORS CAN IMPACT TEACHER EFFICACY**

By

J. Mark Lubbers

A DISSERTATION

**Submitted to
Michigan State University
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ABSTRACT

AN INVESTIGATION TO DETERMINE IF PRINCIPAL BEHAVIORS CAN IMPACT TEACHER EFFICACY

By

J. Mark Lubbers

Evidence suggests there is a strong correlation between student achievement and a teacher's sense of efficacy. There is also evidence which indicates there is a relationship between principals who are viewed to be strong instructional leaders and student achievement. Theory dealing with both teacher efficacy and instructional leadership suggests that principal behaviors do influence teachers' sense of collective efficacy. This dissertation investigated the interaction between the behaviors of an instructional leader and the teachers' sense of teacher efficacy.

Teachers in schools identified to be improving, stable, or declining in student achievement were asked to rate their principal in terms of frequency of identified behaviors. Questions were also asked which measure the teachers' sense of pedagogical efficacy and teaching efficacy.

Teachers' views about their pedagogical and teaching efficacy were not significantly different among improving, stable, and declining schools. Principals in improving and stable schools were viewed by their faculties to be significantly stronger

instructional leaders than the principals of declining schools. Certain principal behaviors were found to account for the variance in teachers' sense of pedagogical and teaching efficacy.

DEDICATION

This dissertation is dedicated to my wife, Lyndy, who was constantly at my side to celebrate the peaks of success and struggle through the valleys of frustration while working on this project. And to my two children, Jessie and Mitch, who helped me keep my perspective on what is important in life

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Completing a dissertation twelve hundred miles away from campus is not an easy undertaking. Dale Shaw and Dianna Suhr at the University of Northern Colorado were of tremendous assistance in the running and interpretation of the statistical analyses.

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CHAPTER I

Introduction

Both teacher efficacy and instructional leadership have been linked to student achievement. Very little, however, has been done to determine what impact, if any, the role of the principal as an instructional leader has on teachers' sense of efficacy.

There is little theoretical or empirical knowledge regarding the concept of the principal as an instructional leader (Bossert, Dwyer, Rowan, & Lee, 1982; Leithwood & Montgomery, 1984). Edmonds (1979) argued that "one of the most tangible and indispensable characteristics of effective schools is the strong administrative leadership, without which the disparate elements of good schooling could neither be brought together nor kept together" (p. 4). There is evidence which now supports Edmonds' statement. Andrews, Soder, and Jacoby (1986) found that student achievement in reading and mathematics, particularly for the low achieving students, can be impacted by the perceptions held by the teaching staff regarding the principal as an instructional leader.

Teachers' sense of efficacy refers to "the extent which teachers believe they can affect student learning," (Denbo & Gibson, 1985, p. 173). A strong correlation has been found regarding student achievement and a teacher's sense of efficacy (Armour et al., 1977; Brookover, Beady, Schweitzer, & Wisenbaker, 1979; Ashton, Webb, & Doda, 1982).

The stronger the teacher's sense of efficacy the greater were student gains. Teacher efficacy has also been found to be beneficial in terms of implementing and continuing educational innovations. Berman, McLaughlin, Bass, Pauley, and Zellman (1977) found that program continuation was likelier to continue when teachers felt efficacious.

Background Information

During 1987 Sally Kilgore was a guest speaker at a colloquium sponsored by the Institute for Research on Teaching at Michigan State University. During the presentation, Kilgore posed the question, "How do the policies and procedures of the school impinge on the actions and behaviors of the students?" A question that was unanswered leaving the colloquium was "How do the various values, beliefs, and actions of the principal impinge on the actions and behaviors of the teachers?"

The issue between leadership and efficacy has been considered by Bennis and Nanus (1985) when they stated, "For successful leadership to occur there has to be a fusion between positive self-regard and optimism about a desired outcome." (p. 79) indicates indebtedness to Bandura (1982) for his analysis on self-efficacy. The curiosity between teachers' sense of efficacy and the beliefs and actions of the building principal was intensified after reviewing two Rand studies. Teacher efficacy and the leadership role of the principal were found to be important factors in consistent reading gains of students in predominantly low income and minority areas in the Los Angeles area (Armour et al., 1976). These two factors were also found to play a significant role in the successful implementation, outcomes, and continuation of new programs

introduced in a school (Berman et al., 1977). Because of these findings and the issues already raised, the question of interest became, "How do the behaviors and actions of the building principal impinge on teachers' sense of efficacy?"

Purpose

The purpose of this study, as a result of evidence which links both constructs - teacher efficacy and instructional leadership to student learning - was to determine (1) if collective teacher efficacy was different in schools based upon student achievement and (2) what behaviors of an instructional leader influenced teachers' sense of teacher efficacy.

Teachers in selected Michigan elementary schools which were classified as improving, stable, or declining in student achievement based upon the Michigan Educational Assessment Program (MEAP) were asked to (1) rate their principal in terms of frequency of identified behaviors and to (2) respond to a series of questions which measured their own level of teacher efficacy.

A secondary purpose of this study was to determine which instrument did a better job of discriminating between effective and less effective instructional leaders. The two instruments in question were the Principal Instructional Management Rating Scale (Hallinger, 1984) and the Staff Assessment Questionnaire (Andrews et al. 1986).

Definition of Terms

Student Achievement

Student achievement in this study was defined by the aggregate scores that schools had in reading and mathematics on the Michigan Educational Assessment Program (MEAP) which is administered in the fall to fourth-grade students. The MEAP identifies schools as improving, stable, and declining. The intent of these designations are to assist educators in following achievement trends (MEAP Handbook, ND, p. 23).

The 'Improving/Declining' designation is based upon the examination of three years of Michigan assessment results: the current year and the two preceding years. Each school is classified in reading and mathematics separately. (p. 23)

Schools can receive the MEAP change classification of "improving" if it meets the following criteria:

- (a) There has been an increase of 5% or more in students attaining more than 75% (top quartile) of the objectives tested by the MEAP.
- (b) There has been a 5% decrease or more in students who attain less than 25% (bottom quartile) of the objectives tested by the MEAP
- (c) The percentage of students in the top quartile was no lower in the middle year than in the preceding year.
- (d) The percentage of students in the bottom quartile was no higher in the middle year than in the preceding year. (If the percentage of students in the bottom quartile had been below 5% since the first of the three years, an improving school is identified by the increase of 5% or more in the percentage of students in the top quartile.)

Schools can receive the MEAP change designation of "declining" if it meets the following criteria:

- (a) There has been a 5% or more decrease in students attaining more than 75% (top quartile) of the objectives tested by the MEAP.
- (b) There has been a 5% or more increase in students who attain less than 25% (bottom quartile) of the objectives tested by the MEAP.
- (c) The percentage of students in the top quartile was no higher in the middle year than in the preceding year.
- (d) The percentage of students in the bottom quartile was no lower in the middle year than in the preceding year.

Schools not designated by the MEAP as either improving or stable are classified as stable.

Improving Schools

Improving schools in this study were defined as those schools which had received the MEAP change classification of improving in both reading and mathematics for 1986 and had maintained the classification of improving in the 1987 MEAP results in at least one of the two content areas.

Stable Schools

Stable schools for this investigation were defined as those schools which had the MEAP designation of stable in both reading and mathematics for 1986 and 1987.

Declining Schools

Declining schools were defined as those schools which had the MEAP change designation of declining in mathematics, reading or in both areas in 1986 and the MEAP change designation for 1987 remained the same or had been altered to the status of stable. (The only way a school could be removed from this group in 1987 was for it to receive the change designation of improving in the area in which it had been classified as declining in 1986).

Teacher Efficacy

Teacher efficacy has two distinct theoretical factors (Gibson & Denbo, 1984). Ashton (1984) defined the general construct of teacher efficacy as the extent which a teacher believes he/she has the skills (pedagogical efficacy) to affect student performance (teaching efficacy).

Pedagogical Efficacy

Pedagogical efficacy defined by Gibson and Denbo (1984) is the teacher's sense of responsibility and feeling that he or she has the skills and abilities to cause student learning to occur as measured by the mean score taken from the Teacher Efficacy Scale. In this study pedagogical efficacy, is synonymous with personal teaching efficacy, which is the term Gibson and Denbo originally used. For purposes of clarity, pedagogical efficacy will be used to distinguish between the two factors (personal teaching efficacy and teaching efficacy) since the terms are similar.

Teaching Efficacy

Teaching efficacy reflects the teacher's belief that this ability to cause learning to occur is not hampered by external factors beyond his control as measured by a mean score taken from the Teacher Efficacy Scale. Bandura (1977) labeled this as outcome expectancy.

Collective Efficacy

Bandura (1986) states there is individual efficacy and collective efficacy. How each person views his own abilities and the extent which the person feels his actions will produce the desired outcomes is individual efficacy. Collective efficacy deals with a group's view that they can solve their problems through concerted effort. "Individual" when used with pedagogical or teaching efficacy will refer to the teacher's own views. "Collective" teaching or pedagogical efficacy will be addressing the beliefs as a school.

Instructional Leadership

Instructional leadership (which in this study is synonymous with instructional management) "refers to actions undertaken [by the principal] with the intention of developing a productive and satisfying working environment for teachers and desirable learning conditions and outcomes for [all] children" (Greenfield, 1987, p. 60) as measured by an overall mean score obtained from the Principal Instructional Management Rating Scale (Hallinger, 1984) or the Staff Assessment Questionnaire (Andrews et al., 1986).

Hypotheses

Bandura's (1986) theory of self-efficacy plus evidence that correlates strong teacher efficacy with high student achievement (Armour et al. 1977; Ashton et al. 1982; and Gibson and Denbo, 1984) lead to the following two hypotheses regarding the collective efficacy of a school.

Hypothesis 1: Teachers' sense of collective pedagogical efficacy will be

greater in the improving schools than in the stable and declining schools.

Hypothesis 2: Teachers' sense of collective teaching efficacy will be greater in the

improving schools than in the stable and declining schools.

The influence that the principal has on student achievement has been cited by Weber (1971); Armour et al. (1976); and Andrews et al. (1986). Berman et al. (1977) concluded that the principal was a factor concerning the speed at which school adopted an innovation. This evidence formed the basis for the following hypothesis.

Hypothesis 3: The principal will be viewed as a stronger instructional leader in the

improving schools than in the stable and declining schools.

This last set of hypotheses resulted from the relationship that appears to exist

among the four sources of information identified in Bandura's (1986) theory of self-efficacy; Denham and Michael's (1981) sources of information which they argue influence teacher efficacy; and Hallinger and Murphy's (1985) identified behaviors of an instructional leader. Leithwood and Montgomery's (1982) paradigm of the role of the principal integrates with Porter and Brophy's (1988) model of good teaching and lends support to the notion that instructional leaders can impact collective teacher efficacy.

Hypothesis 4a: Instructional leader behaviors as measured by Hallinger's PIMR can be used to help explain the variation in teachers' sense of collective pedagogical efficacy.

Hypothesis 4b: Instructional leader behaviors as measured by Andrews' SAQ can be used to help explain the variation in teachers' sense of collective pedagogical efficacy.

Hypothesis 5a: Instructional leader behaviors as measured by Hallinger's PIMR can be used to help explain the variation in teachers' sense of collective teaching efficacy.

Hypothesis 5b: Instructional leader behaviors as measured by Andrews' SAQ can be used to help explain the variation in teachers' sense of collective teaching efficacy.

Significance of the Study

To date, little documentation has occurred regarding the actual process that staffs in improving schools experience. Sergiovani (1987) aptly states that successful leaders invest power in those who have the technical skills to act. Frequently people possess the necessary skills but do not act because of a lack of judgement regarding their capabilities (Bandura, 1986). Bandura also states there is a greater propensity for action when there is a higher degree of perceived efficacy. This study has the potential

of identifying those behaviors of an instructional leader that help positively to influence teachers' feelings about their ability to affect student learning.

The call for an investigation between teacher efficacy and instructional leadership does not come only from the theoretical literature. Several studies which have examined teacher efficacy have made the suggestion that further research is needed. Berman et al. (1977) state:

The powerful effect of a teacher's sense of efficacy raises the question of whether it might be possible to enhance it through various projects or activities. . . . In any event, given the important relationship between this teacher attribute and the success of innovations, further research on ways to enhance teachers' sense of efficacy would be appropriate (p. 138-139).

Ashton et al. (1982) used a sample of two schools to study the effect of school organization on efficacy. The results showed a trend, although not significant, between the leadership of the principal and higher sense of efficacy among the teachers. Therefore, Ashton suggested that further research is warranted using a larger sample and a more reliable instrument.

From the perspective of school improvement, Denbo and Gibson (1985) indicate that organizational factors do play a role in influencing teachers' sense of efficacy. They recommended further investigation into how such variables as administrative styles impact teacher efficacy.

Guskey (1986) cites several context variables that might have an affect on teacher efficacy and claims that "few investigations have sought to determine the nature of these variables or their precise effects on measures of teacher efficacy" (p. 3).

Empirical evidence is lacking regarding how the behaviors of the principal effect the collective efficacy of a school. Bandura (1986) advocated the need for research regarding how collective efficacy can decline, be sustained, or be enhanced.

This study has the potential of addressing the recommendations that have been made by others and to provide empirical evidence to support the theories which will be discussed in the next chapter. Knowledge derived from this work will also help to explain how teachers in improving or declining schools view their ability to cause learning to occur for all students.

Assumptions and Limitations

The school samples that were used were not randomly taken from the school population. Schools used in this study were elementary schools in Michigan which were classified by the Michigan Education Assessment Program to be improving, stable, or declining.

One of the criticisms of the effective schools research is the use of contrasted groups, where schools studied were judged to be either "effective" or "ineffective" (Rowan, Dwyer, & Bossert, 1982). Schools classified as stable were included in this study to address this criticism.

A limitation of this study was the assumption that the change status assigned to each school using the Michigan Educational Assessment Program and based upon one grade level (fourth grade for the elementary level) would reflect the change status for the entire building. It was assumed fourth grade teachers at a building could not over the course of nine months make the gains that were evident in the improving schools if there were not support and help from the lower grades. Likewise, it was assumed consistent declines at the fourth-grade would not solely be the responsibility of the teachers at that grade level.

An assumption was made that teachers will accurately reflect their perceptions regarding their sense of pedagogical efficacy and teaching efficacy. Bandura (1986)

stated that an individual's rating of efficacy will go down if under social pressure. Precautions to insure anonymity of responses will remove any undo social pressure.

Collective efficacy for each school was derived by taking the mean for each building. Bandura (1986) warned that taking the mean of individuals' perceived efficacy may insufficiently represent the collective efficacy for the group.

How the teacher views and rates the building principal may also be a limitation. Blumberg and Greenfield (1980) stated there tends to be more conflict in schools where the principal is a strong instructional leader. Such conflict may cause the teachers to rate the principal lower. The opposite effect, known as the halo effect, may exist in those buildings where the principal is not a strong instructional leader. Hallinger's PIMR addressed this limitation by asking the teachers to rate the frequency of behavior instead of the quality of the behavior.

In the next chapter, a review of the theoretical and empirical literature which deals with both topics will be provided as well as a discussion on how these two topics fit together. Chapter Three deals with the instrumentation used, how data was collected, and the statistical models which were used to test the stated hypothesis. Results of the data analysis will be presented in Chapter Four, which will include both the planned and subsequent analyses and the decisions concerning each of the hypotheses. Chapter Five will provide a summary of this study and will discuss the findings in view of the theoretical framework, present conclusions and implications for practice, and offer recommendations for further research.

CHAPTER II

Evidence exists both in the theoretical and empirical literature to suggest that a positive relationship may exist between behaviors of an instructional leader and teachers' sense of both personal and teaching efficacy. Theoretical and empirical literature dealing with efficacy will be reviewed first, followed by a discussion of the literature which pertains to the role of the principal as an instructional leader. The goal of this chapter is to show, theoretically, how these two components fit together. This chapter will conclude by highlighting the implications and similarities that appear to exist between the theories of instructional leadership and teacher efficacy.

Self-efficacy

Theoretical Framework

How a person performs not only depends upon the skills and knowledge which the individual has, but also upon the manner in which the individual views his capabilities to use the knowledge and skills to obtain a desired result. According to Bandura (1977), an individual's performance is determined by a belief that the: (a) desired outcome will occur because of the behavior and (b) individual has the capability of bringing about the desired outcome. Efficacy focuses upon the notion that individuals must continually use cognitive, social, and behavioral skills to test and devise alternative strategies that will enable the person to be successful (Bandura, 1986). Research supports Bandura's observation that individuals who possess both the view that

they do have the ability and a belief that the expected outcomes are a result of their efforts perform better (Locke, Frederick, Lee, & Bobko, 1984).

Personal efficacy is comprised of two component: self-efficacy and outcome expectancy. "Perceived self-efficacy is defined as people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances" (Bandura, 1986, p. 391). The critical point does not deal with the types of skills the individual has but the individual's attitude regarding what he can accomplish with his skills. The idea represented by self-efficacy is the same as pedagogical efficacy. Pedagogical efficacy is the teacher's own judgment about his or her ability to use teaching skills to cause student learning to occur (Gibson & Denbo, 1984).

Outcome expectancy is the other component of self-efficacy. This aspect of efficacy deals with the person's belief that the desired outcome will be the result of his or her behavior. Bandura (1977) defined outcome expectancy "as a person's estimate that a given behavior will lead to certain outcomes" (p. 193). This dimension correlates with teaching efficacy: the teacher's general belief that all students can learn despite socio-economic factors, gender, or family background (Tracz & Gibson, 1986).

Sources of Information

Bandura (1977, 1986) proposed four sources where individuals can obtain information regarding their own efficacy. Performance accomplishment is the first and most influential source. Successful experiences raise a person's efficacy appraisal while failure lowers it. Bandura states that an efficacious individual will not be strongly affected by failure since the individual will attribute the failure to lack of effort or poor strategy. Analyzing one's own successful performance has also been shown to improve later performance and strengthen beliefs about capabilities.

Observing others who are performing successfully or visualizing the correct behavior is a second way of enhancing efficacy appraisal. People tend to judge their own abilities by comparing them to the performance of others. Bandura (1986) suggests that the key to this source of information is in personal relevance. The person who is observing must see some similarity either in situation or ability levels.

Verbal persuasion is a third source of information which can strengthen a person's self-efficacy. Consideration of who is giving the feedback, their credibility, and their knowledge level are all factors which will influence the chance of improving an individual's self-efficacy.

Emotions which a person experiences are the fourth source. Bandura (1977, 1986) states that individuals can receive information regarding their feeling of efficacy through physiological arousal. Self-efficacy information can be obtained through such physical symptoms as fatigue, aches, and windedness. Fear and stress can impede an individual's performance level. Levels of anxiety cannot only lower the performance level but can also generate greater anxiety. People tend to expect success when the situation that is facing them has an anxiety level which is tolerable. Coping skills can be taught to individuals that can control emotional arousal which in turn enhances self-efficacy and improves performance (Bandura, 1986).

Description of Self-efficacy

Bandura (1986) gives an excellent description of both an efficacious individual and an inefficacious person. The differences between the two individuals highlights both aspects of efficacy. The inefficacious individual will shy away from difficult tasks. Effort will slacken when the task becomes difficult and failure will be due to lack of personal skills. This person dwells on his/her inability to perform. Low aspirations are held by this person. Credit for successful experiences is given to external factors. High levels of stress are experienced which helps to undermine the person's performance.

The efficacious individual sets realistic yet challenging goals and is not afraid of trying new and difficult tasks. An efficacious person not only has developed proficiency in skills, but believes in the ability to use and adapt his or her skills when needed. Effort is intensified when performance falls short of the expected outcome. Reasons for failure are due to lack of effort or other circumstances which indicate a success orientation. An efficacious person approaches threatening situations in a calm manner and usually experiences little stress during taxing times. Bandura (1986) succinctly summed up the description of an efficacious person: "Research shows that people who regard themselves as highly efficacious act, think, and feel differently from those who perceive themselves as inefficacious. They produce their own future rather than simply foretell it" (p. 395).

Ashton (1984) provides examples of behaviors that a high efficacy and low efficacy teacher would exhibit in the following dimensions (see figure 2.1).

Incorporating Teacher Efficacy into a Model of Good Teaching

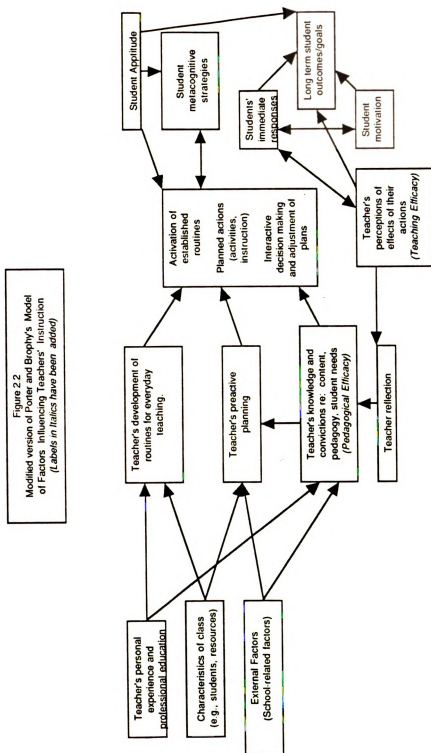
Porter and Brophy (1988) proposed a model for teaching which highlights factors that influence the quality of instruction which a teacher provides. Porter and Brophy view good teaching as:

tightly coupled rational process in which background and milieu factors influence teachers' development of professional pedagogical knowledge and routines. These in turn, influence the planning of instruction, which influences the nature of instruction that actually occurs. And this instruction (along with student aptitude and motivation factors) influences students' immediate responses to instruction and ultimately, its long-term outcomes. There is also a self-correcting mechanism: Good teachers reflect on the feedback that they get on the effects of their instruction. This reflection in turn enhances their professional knowledge and affects their future instructional planning (p.75).

Note that what Porter and Brophy labeled as "Teachers' Knowledge and Convictions" is what this study defines as pedagogical efficacy.

Figure 2.1
Ashton's (1984) Distinguishing Dimensions
Between High and Low Teacher Efficacy

<u>High Teacher Efficacy</u>		<u>Low Teacher Efficacy</u>
•Actions are meaningful and important •Feels that teaching does have a positive impact on learning	<u>Personal Accomplishment</u>	•Is frustrated and discouraged
•Expects students to progress •Students usually meet teacher expectations	<u>Expectations for Students</u>	•Expects students to fail •Ability to learn is related to factors outside the school
•Believes that it is a teacher's responsibility to teach •Examines own performance when students fail	<u>Personal Responsibility</u>	•Responsibility for failure rests with the student
•Has definite objectives and goals as well as plans for accomplishing goals.	<u>Strategies for Achieving Goals</u>	•Lacks specific goals and plans for accomplishing goals
•Feels good about self and teaching skills	<u>Positive Effect</u>	•Frustrated with teaching and expresses discouragement
•Confident that they can influence student learning	<u>Sense of Control</u>	•Feels there is a sense of futility
•Feels involved in a joint venture	<u>Common Teacher/Student Goals</u>	•Feels that student goals are in opposition to their own goals
•Feels involved in the decisions that are made •Involves students in the decision making process	<u>Democratic Decision Making</u>	•Feels that decisions are imposed upon them •Does not involve students in the decision making process



The box labeled "Teachers' perceptions of effects of their actions" could also be entitled "Teaching Efficacy" and is consistent with Bandura's (1977) description of highly efficacious individuals. From a conceptual view, there is a fit between teacher efficacy and good teaching. Theoretically, it appears that efficacious teachers are good teachers who (a) have a command of pedagogical skills, (b) who feel that their actions are productive, and (c) will intensify and or refine their efforts if they are not obtaining the desired results.

Empirical Studies of Teacher Efficacy

Los Angeles Unified School District contracted with Rand Corporation to study twenty selected minority elementary schools (Armour, et al. 1976). Schools selected for this study had to exhibit either losses or gains in student achievement over a three-year period and have a student population of at least 400 students who were predominantly minority in low-income areas. Four aspects of schools were considered: (a) teacher attributes, (b) classroom setting, (c) curricular and instructional methods used, and (d) the implementation of the reading program.

Eighty-one teachers were asked to complete a questionnaire. Two questions in the survey dealt with efficacy. They were:

1. When it comes right down to it, a teacher really can't do much (because) most of a student's motivation and performance depends on his or her home environment.
2. If I try really hard, I can get through to even the most difficult or unmotivated students (p. 23).

The first question dealt with what Bandura has labeled as outcome expectancy. Relating this concept to teaching, this question dealt with the teacher's belief concerning the effect that education has on children as a whole. The second question correlates with Bandura's notion of how individuals view their own skills and abilities and fits under the category of personal teaching efficacy.

Information obtained from the two questions was summarized into one measure of teaching efficacy. Although only two questions out of the survey addressed teacher efficacy, the results strongly and significantly showed that the more efficacious a teacher felt, the greater were the gains in reading achievement for students. A conclusion was drawn that high sense of efficacy was a needed and preliminary factor for effective teaching. The data "do not enable us to determine whether it is possible to raise teacher's feelings of classroom efficacy by providing more training, support, or supervision for those who wish it" (Armour et al., p. 24).

A year later Berman et al. (1977) investigated factors which affect the implementation and continuation of federal programs which supported educational change. This study involved 100 superintendents, 171 principals, and 1072 teachers all who were involved with federally supported projects. This study included the same two questions that Armour et al. (1976) used. Again, the drawback concerns the issue that only two questions were used to measure the construct of efficacy even though almost one thousand more teachers responded to the questions. Results indicated that teachers' sense of efficacy was a strong positive variable which had an impact on the percentage of project goals accomplished, higher student performance, teacher change, and continuation of methods and materials advanced by the project. Berman et al. concluded:

The teachers' sense of efficacy had a strong effect on project continuation. . . .The powerful effect of a teachers' sense of efficacy raises the question of whether it might be possible to enhance it through various project or school activities. . . . Our impression is, however, that it reflects teachers' school experiences as well as their personalities. If so, staff development strategies aimed at teachers and their environment might increase their sense of efficacy. In any event, given the important relationship between this teacher attribute and the success of innovations, further research on ways to enhance teachers' sense of efficacy would be appropriate (pp. 138-139).

Ashton et al. (1982) investigated teachers' sense of efficacy involving 48 high school basic-skills teachers. A significant correlation was found to exist between teachers' sense of efficacy and student achievement based upon test scores using the Metropolitan Standardized Test ($r = .78$, $p = .003$ for math and $r = .83$, $p = .02$ for communication). These findings supported the results that Armour et al. (1976) and Berman et al. (1977) obtained. Ashton et al. also concluded from interviewing teachers that maintaining a sense of teacher efficacy was difficult for teachers because of the isolation of the classroom, the difficulty in assessing their effectiveness, and the lack of teacher collegiality and administrative support. Teachers also expressed a feeling of powerlessness due to the lack of collegial decision making.

A uniqueness of the Ashton et al. (1982) study rests in the fact that an ethnographic study was conducted using two schools, one a middle school and the other a junior high school. Visiting with the principals and teachers of both buildings suggested that instructional leadership at each school may influence teachers' sense of efficacy. The inference made was based upon how each principal viewed the teachers with whom he worked.

The principal of the school that had a generally higher measure of teacher efficacy viewed teachers as professionals who had valuable ideas to contribute. Their role was viewed as important in terms of addressing the needs and problems of the larger school picture. Teachers viewed the principal in this school as a co-worker.

Teachers' ideas and suggestions were occasionally solicited by the principal of the school which had a lower measure of efficacy. This principal expected less from the faculty, took a paternal attitude, and showed greater doubt in the teachers' ability to influence student learning. The attitude of this junior high principal was accurately reflected with a poster, "How can we soar like eagles when you've got to fly with a bunch of turkeys?" (Ashton et al., 1982, p. 86)

Gibson and Denbo (1984) attempted to address many shortcomings that plagued previous research concerning teacher efficacy. This study was divided into three parts. The first phase of the study asked the following questions: "What are the dimensions of teacher efficacy? How do these dimensions relate to Bandura's theory of self-efficacy?" (p. 570) The second phase dealt with the question: "Does collection of data concerning teacher efficacy from different sources converge?" (p. 570) The last phase, which involved classroom observation, asked: "Do high- and low-efficacy teachers exhibit differential patterns of teacher behaviors in the classroom related to academic focus, feedback, and persistence in failure situations?"

Results concluded from these three phases were the following.

1. The factorial analysis of the teacher efficacy scale suggests that two constructs are measured by the questionnaire which coincide with Bandura's theoretical constructs of self-efficacy.

2. Evidence exists that teacher efficacy does converge with two different sources of information provided by verbal ability and flexibility.

3. Significant differences between teachers ($n=8$) were found in the amount of time used in small-group instruction. High efficacy teachers spent less time in small-group instruction and more time monitoring students' work. Low efficacy teachers tended to give more feedback to students that involved criticism. A trend was reported in the amount of teacher persistence (defined as a ratio between student failure and teacher cuing or asking a different question) observed. "Low efficacy teachers were more likely to go on by giving the answer, asking another student, or allowing another student to call out before a student gave the correct response" (Gibson & Denbo, 1984, p. 577)

Collective Efficacy

The theory of efficacy thus far has dealt with the individual. Bandura expands this construct to include collective efficacy which he feels is rooted in individual efficacy. "Perceived collective efficacy is reflected in judgments about group

capabilities to make decisions, to enlist supporters, and to withstand failures and reprisals" (Bandura, 1986, p. 451). Factors which undermine collective efficacy are (a) the layers of bureaucratic structures which help to diffuse participant responsibility and (b) the increasing dependence on technical specialization. Bandura (1986) argues:

The strength of groups, organizations, and even nations lies partly in people's sense of collective efficacy that they can solve their problems and improve their lives through concerted efforts (p. 449).

Achievement of collective efficacy requires cogent means of relating factional interests to shared purposes. The unifying purpose must be explicit and obtainable through concerted effort. Because success calls for sustained effort over a long time, proximal subgoals are needed to provide incentives and evidence of progress along the way (p.453).

Summary - Teacher Efficacy

The discussion so far has focused upon the theoretical and empirical literature dealing with self-efficacy in general and more specifically with the concept of teacher-efficacy. Evidence suggests that teacher-efficacy is comprised of two parts: (1) pedagogical efficacy which deals with a teacher's belief about his own teaching skills and abilities and (2) teaching efficacy which addresses a teacher's beliefs about the impact that his efforts have on all students. Conclusions from the studies presented show there is a strong correlation between teacher efficacy and student achievement. These studies also suggested that the leadership of the building and the organizational structure of the school could have an effect upon teacher efficacy. An examination of the research which pertains to the principal's role as an instructional leader will now be conducted.

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Principal as Instructional Leader

Theoretical Framework

Presenting a concise theoretical framework for basing the hypothesis regarding what an instructional leader does is difficult because of several factors. Greenfield (1982) addresses this problem: "There has been little research that contributes to the development of significant policy or powerful theoretical frameworks . . ." (p.4).

Greenfield cites the following reasons for this situation.

1. There has been a lack of criteria to differentiate good from poor administrative behavior.
2. Concepts have been lacking which describe administrative behavior.
3. There have been difficulties in observing on the job behavior of principals.
4. Administrative behaviors required differ from one setting to another.
5. It is difficult to quantify large amounts of data dealing with the principalship.

It is important to point out that Greenfield indicates that research is beginning to provide descriptions of what principals really do in specific administrative situations.

The term instructional leadership "refers to actions undertaken [by the principal] with the intention of developing a productive and satisfying working environment for teachers and desirable learning conditions and outcomes for [all] children (Greenfield, 1987, p.60). Leithwood and Montgomery (1982) defined "change, or program 'improvement' as the realization of valued outcomes by students" (pp.310-311) and view principal effectiveness "in terms of effects on student learning either directly or through mediating variables" (p.311). The assumption that undergirds the theory for instructional leadership is that innovation is continually needed to promote self-renewing change. The force which promotes the acceptance and management of innovation rests with the school's leader - the principal (Bruining & Van der Vegt, 1987).

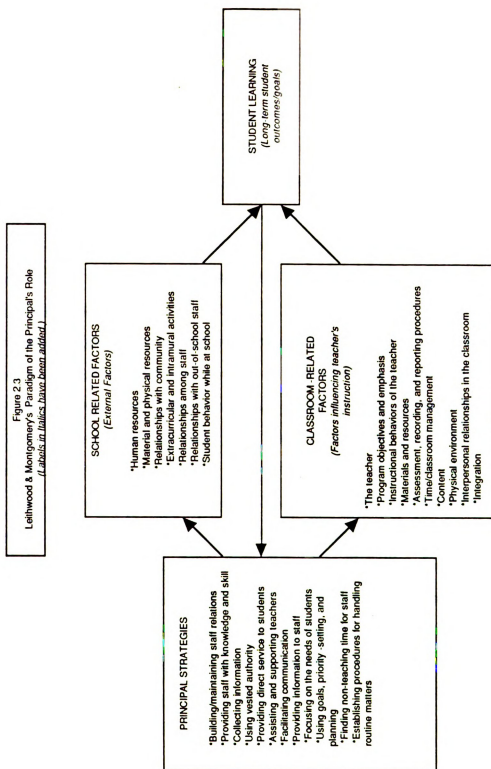
Since an instructional leader is an individual concentrating on continual improvement, the principal must promote problem-solving within the school by being an information processor (Leithwood & Montgomery, 1984). Teachers are better able to resolve problems and overcome obstacles when information is made available. Leithwood and Montgomery suggest that the effectiveness of the principal can be explained in how information is processed and how problems are solved. Differences between principals' impact upon the schools which they are assigned can be explained by:

1. The nature and clarity of goals.
2. Existence and depth of knowledge regarding factors that may influence the goals.
3. Knowledge of actions or strategies which will alter the status of the factors.
4. Different ways in which decision making is used in developing the goals, identifying the factors, and selecting the strategies.

Leithwood and Montgomery (1984) offer the following paradigm (Figure 2.3) to describe the principal's role. The figure presented was modified for this study to show an outcome culture, or a system that is data driven as compared to a process culture which relies upon the carrying out of the strategies or procedures and fails to monitor the results. This modification was derived from Bolman and Deal's (1984) conclusion that goal clarity is important both in terms of management and effective organizations.

As indicated by figure 2.3, the goals held by the principal and the school help to determine what strategies will be used to alter either school or classroom-related factors. Bossert et al. (1982) proposed a similar paradigm. Their framework includes external factors (personal characteristics, district characteristics, and external characteristics) which can also influence the principal.

Flexibility is a strength of this instructional leadership framework and addresses what Deal (1987) calls the human resource view and the formal structure view. The human resource perspective emphasizes the importance of utilizing the skills and



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meeting the needs of the people who are involved in the school. Formal structure view focuses upon productivity through clear goals, concise policies and procedures, adequate measures of quality control, and specialization of skills. Leithwood and Montgomery's paradigm incorporates both views since strategies can be developed which address factors related to either view.

Leithwood and Montgomery summarized their 1982 ideas by stating that the instructional leader is the person who is responsible for promoting innovation within the school which will help the staff to accomplish their desired outcomes. The encouraging of innovation is a result of the principal freely providing information which will assist teachers in solving problems which directly impact their work and prevent them from accomplishing the desired outcomes.

Impact of the Principal

Evidence exists that the leader of any organization helps to determine the level of productivity. Cubberly (cited in Greenfield, 1987) asserts, "As is the principal, so is the school" (p. 294). Likert (1967) states that "data from other studies support the conclusion that the management system of a firm is a major factor in determining its productivity" (p.38).

Studies in the educational setting are also providing evidence that principals do have an impact upon the school. Weber (1971) studied four inner-city elementary schools which had exceptionally strong reading scores for inner-city children. One of the eight factors that were consistently found in these four schools was strong leadership. This leadership rested with the principal in three of the schools. The leadership in the fourth school went to the area superintendent.

Armour et al. (1976) concluded after studying twenty elementary schools in the Los Angeles area that the leadership role of the principal was one of the most important factors in those schools judged to be successful. Berman et al. (1977) referred to the principal as "the gatekeeper of change" (p.123) and concluded that the principal was a major factor in the promotion or hindrance of change in a school.

Andrews et al. (1986) investigated the relationship between teachers' perceptions of the principal as an instructional leader and student achievement in 67 elementary schools. After a three-year study, Andrews et al. concluded that students who attended schools administered by a principal who was perceived to be a strong instructional leader by the teachers exhibited significantly better gain scores than students who attended schools where the principal was rated as an average or weak instructional leader. Evidence also revealed that free or reduced lunch students had significantly higher gain scores for both reading and math in those schools that had a principal who was judged to be a strong instructional leader.

Rowan, Bossert, and Dwyer (1982) summed up the evidence regarding the impact that principals do have upon schools and student learning: "Despite [the methodological] shortcomings, the idea that principal leadership is related to school effectiveness cannot be dismissed" (p. 1). The conclusion that principals play a critical role in the change and improvement process can be drawn from evidence found in studies dealing with school change, school improvement, staff development, the administrator as instructional leader, and the effective schools research (Murphy & Hallinger, 1987).

Behaviors of an Instructional Leader

It has only been recently that gains have been made in identifying and defining behaviors of an instructional leader (Hallinger & Murphy, 1987). Although methodological problems exist concerning the research which has studied characteristics of an instructional leader, the conclusions that have been made reflect a similarity. In a

study of 10 elementary principals, Blumberg and Greenfield (1980) identified the following traits. Effective principals tended to have a:

1. Keen sense of goal clarity and very goal oriented. Goals tended to reflect the need to strive for improvement.
2. High degree of personal security. Challenges are welcomed with little fear of being threatened.
3. High tolerance for ambiguity. Promoting of change was likelier to occur because of a willingness to test interpersonal and organizational limits.
4. An analytical perspective when approaching problems.
5. Desire to be proactive instead of reactive. Effective principals were in control of their job.
6. Need to be in control and enjoy initiating action.
7. Need to express and receive warmth or affection for the people with whom they work.
8. Need to include others in problem-solving.

Four broad categories were derived from a review of the literature conducted by Bossert, et al. (1982). Those categories were (a) Goals and Production, (b) Power and Decision Making, (c) Organization and Coordination, and (d) Human Relations. Effective principals place a stronger emphasis on student achievement. Goals with specific standards are established. Not only are goals set, but clear expectations are conveyed to students and teachers that all students can achieve the set goals.

Teachers perceive the effective principal to be more powerful than their counterparts because of their knowledge and influence in the areas of curriculum and instruction. Effective principals are more decisive and active in the decision-making process. These principals also tend to have a better understanding of the power structure of the community they serve.

Stronger organizational and coordination skills are held by those principals who are effective. An effective principal spends more time coordinating the curriculum and instruction. Teachers are observed more frequently and receive more feedback concerning their teaching. More discussion dealing with work problems faced by the teachers occurs.

The last area discussed by Bossert et al. deals with human relations. Effective principals encourage and acknowledge good work. Principals recognize the unique styles that teachers have and still help them to achieve the desired goals. Effective principals also tend to respect the judgments made by teachers and show a willingness to cooperate with teachers.

One of the nine themes discussed by Corcoran and Wilson (1986) in looking at successful secondary schools was that of school leadership. Corcoran and Wilson found that principals in these schools which were judged to be successful tended to be visionary and held tightly to identified goals. These principals were also very active in promoting, supporting, and incorporating faculty innovations. These principals closely monitored the school's operations, insisted on a clear articulation and management of the curriculum, and maintained thoughtful and thorough supervision and evaluation of the teaching staff.

Summarizing the literature on educational intervention, Bruining and Van der Vegt (1987) conclude that effective principals:

1. Understand the importance of specific goals.
2. Can identify good teaching.
3. Have strong skills in motivating staff.
4. Continually support the efforts of teachers.
5. Encourage participation and cooperation from all staff members.
6. Have the ability to prioritize.
7. Promote group problem-solving.

8. Maintain monitoring and reporting mechanisms.

9. Create an atmosphere in which teachers feel a freedom to experiment.

Blase (1988) used the perspective of teachers to identify the dimensions of effective leadership in schools. The sample consisted of 80 teachers who were asked through an open-ended questionnaire and interviews to describe the behaviors of those principals with whom they had worked whom they would consider to be strong instructional leaders. The major factors identified were principals who were accessible and visible; showed a consistency between behaviors, policies and priorities; had expertise in curriculum and instruction; maintained clear and reasonable expectations; were decisive when needed to be; directed by specific goals; followed through on actions; managed time well; and held a problem solving orientation which involved the teachers.

The literature reviewed suggests there are certain characteristics the strong instructional leaders possess. Hallinger and Murphy (1985) provide a thorough description of not only the job functions that an instructional leader needs, but also has identified behaviors which pertain to each job function. The job functions which Hallinger and Murphy use are the same ones that have been previously identified (see Appendix A for a listing of the behaviors for each job function). The ten job functions are: (a) framing the school goals, (b) communicating the school goals, (c) supervising and evaluating instruction, (d) coordinating the curriculum, (e) monitoring student progress, (f) protecting instructional time, (g) maintaining high visibility, (h) providing incentives for teachers, (i) promoting professional development, and (j) providing incentives for learning.

Andrews et al. (1986) used the following four dimensions to describe the instructional leadership of principals who were found to have a positive impact on student learning. Those four dimensions are resource provider, instructional resource, communicator, and visible presence. Although only four categories, the items used to clarify these clusters mirror those strategies or functions already discussed.

The "strategies" as coined by Leithwood and Montgomery (1982), the "job functions" which Hallinger and Murphy (1984) used, and the four categories used by Andrews et al. (1986) are very similar in terms of describing instructional leader behavior. (See figure 2.4 for a comparison.)

Summary - Instructional Leadership

The theory presented for instructional leadership is based upon the concepts of goals, factors, strategies, and decision making. Evidence has been presented which indicates that principals do play an important part in school improvement and the quality of education that students receive. This section concluded by describing the job functions which strong instructional leaders possess. The final section of this chapter will discuss the implications between the evidence dealing with teacher efficacy and the behaviors of an instructional leader.

Implications

Evidence has been presented which suggests that teacher efficacy is strongly correlated to student achievement. An argument was also presented which suggests that the behaviors of an instructional leader also impact student achievement. Two studies, Armour et al. (1976) and Berman et al. (1977) state both concepts - leadership and teacher efficacy as important variables in reading achievement and educational change respectively. Eleven years later, Corcoran and Wilson (1986) make the following concluding remarks about teacher efficacy and leadership.

Figure 2.4
Dimensions of Three Instructional Leadership
Models

Leithwood & Montgomery (1982) <u>Principal Strategies</u>	Andrews et al., (1986) <u>Four Aspects of Principal Behavior</u>	Hallinger (1984) <u>Job Functions of an Instructional Leader</u>
•Building/Maintaining staff relations •Active with Staff •Positive, cheerful, encouraging •Being accessible, visible •Honest, direct, sincere •Getting staff to set goals •Providing staff with knowledge and skills •Collecting information •Using vested authority •Assisting/supporting teachers in their tasks •Facilitating within school communication •Providing information to staff •Focusing attention on needs of students •Facilitating communication outside of school •Using goal and priority-setting and planning •Finding non-teaching time for staff •Establishing procedures to handle routine matters	•<u>Resource Provider</u> •Promotes staff development activities •Knowledgeable about instructional resources •Mobilizes resources and support to obtain goals •Considered important instructional resource person •<u>Instructional Resource</u> •Encourages the use of different instructional strategies •Teachers consult with the principal regarding instructional concerns or problems •Helps improve teaching through evaluation •Assists teachers in interpreting test results •<u>Communicator</u> •Discusses improving instructional skills with teachers •Discusses student achievement with staff •Communicates criteria for judging teacher performance •Provides clear vision for school •Communicates clearly regarding instructional matters •Provides feedback to teachers regarding classroom performance •<u>Visible Presence</u> •Makes frequent classroom visits •Is accessible to discuss instructional matters •"Visible presence" to all •Active in staff development	•Frame the school goals •Communicate the school goals •Support and evaluate instruction •Coordinate the curriculum •Monitor student progress •Protect instructional time •Maintain high visibility •Provide incentives for teachers •Promote professional development •Provide incentives for learning •Promote collaboration and problem-solving (added to Hallinger's ten job functions)

Teacher efficacy was judged to be a tremendous strength in these schools, with high teacher participation in planning, high levels of professional autonomy, and overall high morale (p. 33).

Leadership played a critical role in the schools selected for national recognition and the key actor was typically the principal. . . . While certainly many other factors also contribute to school success, it was typically the principal who provided the vision and the energy to create and maintain the conditions essential for success (p. 39).

Although teacher efficacy and instructional leadership has been tied to student achievement, nothing has been done to investigate whether there is a relationship between the two.

A Relationship - Theoretically Speaking

Similarities between the two theories suggests that certain job functions of instructional leadership can influence teachers' sense of efficacy. The relationship between these two constructs can be argued from two perspectives: the first using the work of Bandura (1977, 1986), Denham and Michael (1981) and Hallinger and Murphy (1985); and the second perspective utilizing the conceptual models of Leithwood and Montgomery (1982) with Porter and Brophy's (1988) model of good teaching.

Bandura (1977, 1986) suggests there are four source of information which can influence self-efficacy; (a) performance accomplishments, (b) vicarious information, (c) verbal persuasion, and (d) physiological states. Denham and Michael (1981) proposed four antecedents which effect teacher efficacy. Denham and Michael's four sources of teacher information (teaching experiences, teacher training, system variables, and personal variables) fit well with Bandura's idea.

Figure 2.5 assists in showing how: (1) the sources of information identified by Denham and Michael are similar to the sources of information Bandura proposed in his self-efficacy theory and (2) Hallinger's identified job functions of a principal match with both sources of information.

Teaching experiences as suggested by Denham and Michael is the same as Bandura's performance accomplishments. Through classroom experiences, teachers experience success and failure. It is through these experiences that teachers begin to develop the beliefs regarding either their own skills or the beliefs dealing with impact that education generally has on students from different economic and ethnic backgrounds. Experiences resulting from the chance to work cooperatively or in isolation will also impact teacher efficacy. Framing school goals, communicating school goals, coordinating the curriculum, and monitoring student progress are principal behaviors that provide teachers with information which is relevant in assessing performance.

Vicarious information and teacher training represent the same idea. The opportunity to observe another teacher either through inservice or through class observation will impact efficacy. The frequency of these opportunities will increase when an instructional leader promotes and supports staff development activities. Vicarious information will also be greater when the building principal provides teachers with feedback regarding instructional skills and encourages the faculty to solve problems collectively. Also, the lack of time to work together will also influence efficacy. System variables deals with the type of feedback that a teacher receives and the type of recognition that is available. This antecedent is identical to Bandura's verbal persuasion. The evaluative information that a teacher receives through post observation conferences, career ladders, summative appraisal, and group interaction all will affect efficacy. Many of the job functions of an instructional leader will address the system variables proposed by Denham and Michael.

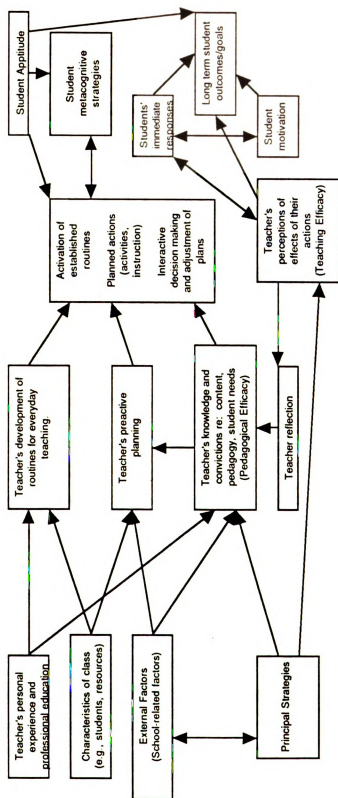
Denham and Michael's personal variable corresponds with Bandura's physiological source of information and deals with the individual's level of anxiety. Stress in the classroom, in the school, from parents or colleagues can play a factor in whether efficacy is enhanced or diminished. The level of anxiety which exists within a building can be attributed in part to the type of behaviors exhibited by the instructional leader, such as clarity of school goals, the provision of incentives by the principal for both teachers and students, and the protection of instructional time so that teachers have the time necessary to teach.

Leithwood and Montgomery's (1982) conceptual model of the principal's role integrates well with Porter and Brophy's (1988) model of good teaching. Figure 2.6 is the combining of both models- the role of good teaching and the principal's role. Note that the subdivisions that Leithwood and Montgomery used to clarify their notion of school-related factors closely resemble what Porter and Brophy described as factors external to the classroom. Also, the subdimensions for classroom-related factors in Leithwood and Montgomery's model can also be found in Porter and Brophy's paradigm. "Principal Strategies" in this paradigm would include those behaviors identified by Hallinger (1984) and Andrews et al. (1986).

Figure 2.5
Proposed Relation Between Behaviors of an
Instructional Leader and Sources of Information
for Teacher Efficacy

Bandura's Sources of Information	Denham & Michael's Sources of Teacher Efficacy Information	Hallinger's Job Functions of an Instructional Leader
•Performance Accomplishments	•Teaching Experience	•Frame school goals •Communicate school goals •Coordinate curriculum
•Vicarious Information	•Teacher Training	•Supervise/evaluate instruction •Promote professional development •Enhance collaboration and support
•Verbal Persuasion	•System Variables	•Supervise/evaluate instruction •Monitor student progress •Maintain high visibility •Provide incentives for teachers
•Physiological States	•Personal Variables	•Protection of instructional time •Provide incentives for learning

Figure 2.6
Integration of Porter & Brophy's Model of Good Teaching with Leithwood & Montgomery's Paradigm of the Principal's Role



CHAPTER III

Design of the Study

A blueprint is an accurate description of this chapter. The content of this chapter deals with the population from which the sample for this study was derived, the manner in which the data was collected, and describes the instrumentation that was used. Ethical considerations are also addressed, testable hypotheses stated, and a description provided regarding the statistical procedures used.

Population and Sample

Schools

Elementary schools in the state of Michigan comprised the population from which the sample was taken. The following procedure was used for selecting the schools that would be used in the sample.

1. Schools were first selected if the fourth grade enrollment for the years 1980, 1984, 1985, 1986, and 1987 had fifty or more students. This information was obtained from the 1986 and 1987 MEAP (Michigan Educational Assessment Program) results. Six hundred eighty-five schools met this criteria. This requirement was used to help minimize the influence of one-track schools.

2. The 685 schools were then classified as improving, stable, or declining based upon the 1986 fourth grade MEAP results using the change definitions found in the Michigan Educational Assessment Handbook (N.D.).

Schools classified as improving had to have the MEAP change classification of "improving" in both reading and math. Eighty-eight schools out of the 685 met this criteria.

Schools classified as stable schools had to have the MEAP change classification of "stable" and the MEAP status classification of "moderate needs" in both reading and math. Out of the 685 schools, 48 were classified as stable schools.

Schools classified as declining had to have the MEAP change classification of "declining" in reading, math, or both. A total of twenty schools met this criteria out of the 685 schools.

3. The 149 schools identified in the preceeding step were then classified a second time using the 1987 fourth grade MEAP results and the MEAP change designations.

In order for schools which had been assigned to the improving group to remain in the improving group for this study, schools had again to receive the MEAP change designation of "improving" in at least one of the two areas (math or reading). Twenty-eight schools out of the eighty-eight schools met this criteria.

Schools which continued to receive the MEAP change designation of stable and the MEAP status designation of moderate needs in both reading and math remained in the stable group for the study. Twenty-two schools out of the 48 identified in the 1986 MEAP results were classified as stable schools.

Schools which had been classified as declining in the 1986 MEAP results were grouped as declining schools if the 1987 MEAP change designation continued to be "declining" or had changed to "stable." The only way a school could be removed from this cohort for this study was to obtain the MEAP change

designation of "improving" during the 1987 MEAP results. Eighteen of the twenty schools classified as declining in the 1986 MEAP results continued to have the designation of declining.

4. Length of time the principal had been assigned to the building was also a criteria. This criteria was not addressed until the packets were sent to the schools. The cover letter that the principal received provided instructions for the return of all the questionnaires if it was the principal's first year at the school.

This selection process resulted in sixty-eight schools total; twenty-eight schools were labeled as improving schools, twenty-two schools were labeled as stable schools, and eighteen schools were deemed as declining schools. The principals and faculties of all 68 schools were sent a packet of materials and asked to participate in this study.

Sample Size

Forty-one of the sixty-eight schools that were contacted participated by having teachers reply to one of the two questionnaires. Table 3.1 provides a summary of how schools participated.

Table 3.1
Number of Schools Used in the Sample

	Improving	Stable	Declining	Total
Schools contacted	28	22	18	68
Schools that returned at least one questionnaire and principal card	19 (67.8%)	12 (54.5%)	10 (55.5%)	41 (60.2%)
Schools that did not participate	9 (32.2%)	10 (45.5%)	8 (44.5%)	27 (39.8%)

Principals new to buildings accounted for five of the twenty-seven schools that did not participate. Of these five, two were in improving schools, one was in a stable school, and two were in declining schools. One school did respond although it was the principal's first year at the school. The decision was to include this school in the study.

Data Collection

Suggested Procedure for Mail Survey

The procedure advocated by Dillman, Christenson, Carpenter, and Brooks (1974) for increasing the response rate for a mail survey was followed.

Dillman et al. advocate the use of a cover letter that uses a letterhead of some type. The National Center for Effective Schools' letterhead was used for the cover letters that were sent to both the principals and the teachers (See Appendices E, F, and G).

Dillman et al. stress the importance of having the letters as personal as possible for each of the participants. One strategy is to have each letter hand signed in blue ink so that it is less obvious that the letter was mass produced. Each of the cover letters to principals and teachers were hand signed in blue ink.

The providing of a self-addressed and self-stamped envelope also increases the likelihood of individuals responding. All questionnaires had attached a self-addressed and self-stamped envelope. The self-addressed and self-stamped envelope was also to ensure confidentiality and to minimize any risk that a teacher might have about rating the building principal.

Some form of reminder was also found to be important based upon the work of Dillman et al. Two weeks after the questionnaires had been sent to each school, reminders were sent with a note asking that the reminders be distributed to the teachers (Appendix I).

Phone calls to the principals began a week after the reminders had been sent asking that each principal encourage the faculties to complete and return the questionnaires.

Two procedures advocated by Dillman et al. (1974) were not followed: 1) phone contacts with each teacher and 2) a second mailing of the questionnaires. The individual phone contacts were not possible since there was no access to teacher names for each of the buildings involved in the study. A secondary mailing was not possible since there was no control which teacher got which form in the first mailing. Hence, there was no way of ensuring that the teachers would get the same questionnaire version on the second mailing.

School Packet Formation

The number of teachers surveys that were sent to each building were calculated on a full time teacher equivalency of 20 students for every one teacher. Quantities of the teacher surveys for each school were calculated by dividing the enrollment listed for each school in the Michigan Education Directory by twenty. Four extra questionnaires were added to each school for the following positions: physical education, music, art, and special education.

Each packet contained (1) a cover letter to the principal (Appendix G) which explained the purpose of the study and gave directions regarding the distribution of the teacher surveys; (2) a response card (Appendix H) for the principal to return; and (3) both forms of the teacher survey (Appendices E and F) including a cover letter. The two versions of the questionnaires were mixed in an altering manner before being placed in the mailing envelope.

Packet Mailing

All the packets were sent to the schools via the United States Mail. School addresses and the names of the principals were obtained from the Michigan Educational Directory.

School Follow-up

Two weeks after the questionnaire packets were sent a packet of follow-up reminders (Appendix I) were sent to each school. The number of reminders sent were the same as the number of questionnaires that had been sent. Each packet had a note requesting that the reminders be distributed to the teachers.

Phone contacts to each principal were made one week after the reminders had been sent. Principals were asked to please encourage the teachers to return their questionnaires in the self-addressed and self-stamped envelopes. Principals were also asked to respond to the information which was on their card if the card had not yet been returned.

Teacher Response

Of the 2342 questionnaires that were initially sent to teachers in the 68 schools, 237 unused questionnaires were returned. This resulted in 2105 questionnaires that potentially were placed in teachers' hands. The total number of both surveys returned by teachers totaled 396 (18.9% return). Of the surveys returned, 28 were not usable because the school name was not included or because the teacher returned a blank questionnaire. Table 3.2 summarizes the return rate for each of the forms used.

Table 3.2

Return Rate for Questionnaires

	Number Sent	Number Returned	Number Used	Percent Returned
Form A (Hallinger)	1052	190	174	18.0%
Form B (Andrews)	1053	206	194	19.5%

Teacher Demographic Data

An analysis of the demographic data suggests that a similar sample of teachers was surveyed on both forms in respect to teaching experience, teaching assignment, and years with their current principal. Any differences that might be found between the two forms would be attributed to factors other than the teacher demographics identified. Comparisons of these characteristics in Table 4.3 support the conclusion that both samples came from the same population.

Changes in Student Populations

Thirty-three of the 41 schools (82.5%) responded that since 1984 no significant changes (30% or more) had occurred in the nature of clients that the school serves in terms of socio-economic or minority factors. One school refused to respond to this question. The remaining 17.5% said that significant changes had taken place.

Table 3.3

Teacher Demographics

(Numbers indicate percentage of teachers who responded)

Teacher Experience

Years	Form A (Hallinger)	Form B (Andrews)
1-2	5.2	5.7
3-4	5.8	4.1
5-9	10.4	10.4
10-15	28.3	20.7
15+	50.3	59.1

Teaching Assignment

Grade Level	Form A (Hallinger)	Form B Andrews)
K-1	23.8	26.1
2-3	23.8	20.7
4-6	23.1	22.8
Sp. Ed.	18.1	15.2
Specials	11.3	15.2

(Art, P.E., Music)

Working With Principal

Years	Form A (Hallinger)	Form B (Andrews)
1-2	27.2	27.8
3-4	29.5	26.8
5-9	20.2	21.6
10-15	13.3	14.4
15+	9.8	9.3

Instrumentation

Instruments which have been used to measure the instructional leadership of a principal or teachers' sense of efficacy were selected for this study's primary purpose of trying to determine if the variance in collective efficacy could be explained by the behaviors of the instructional leader. Investigating the discriminating ability of Hallinger's (1984) Principal Instructional Management Rating scale (PIMR) and Andrews' (1986) Staff Assessment Questionnaire (SAQ) on instructional leadership was a secondary purpose. Therefore two questionnaires were sent to each building: half of the teachers completing Form A and the other half completing Form B. Form A was Hallinger's (1984) PIMR and Form B consisted of Andrews' et al. (1986) SAQ. In both forms were sixteen questions: nine of which measured pedagogical efficacy and seven which measured teaching efficacy, taken from Gibson's Teacher Efficacy Scale (found in Gibson and Denbo, 1984). Four questions dealing with collaboration and problem-solving developed by Azumi and Madhere (1982) were added to Hallinger's PIMR only.

Principal Instructional Management Rating Scale

The Instructional Management Rating Scale (Hallinger, 1984) uses a Likert five point scale which goes from "Almost Never" to "Almost Always." This rating scale has fifty questions which deal with specific job behaviors or practices based upon research investigating the instructional leadership functions (Hallinger & Murphy, 1987). It is divided into ten subsections: (a) Frame the School Goals, (b) Communicating the School Goals, (c) Supervise and Evaluate, (d) Coordinate the Curriculum, (e) Monitor Student Progress, (f) Protect Instructional Time, (g) Maintain High Visibility, (h) Provide Incentives for Teachers, (i) Promote Professional Development, and (j) Provide Incentives for Learning. Each section provides a representative sample of behaviors

which a principal must engage in if providing instructional leadership (Hallinger & Murphy, 1987). (See Appendix A)

Hallinger and Murphy (1987) cite three studies which have shown this instrument to meet both professional and legal standards for reliability and validity. More specifically, Hallinger and Murphy (1985) tested the reliability and validity of this questionnaire using five different tests.

1. Only those items which achieved a minimum average of .80 by a group of raters were assigned to a subscale to ensure content validity.
2. A reliability coefficient of at least .75 (Cronbach's alpha) was achieved for each subscale which shows internal consistency.
3. At a significance level of $p=.05$, the variance in principal ratings within schools was less than the variance between schools.
4. The items in each subscale correlated more strongly with other items in the subscale than with items in other subscales.
5. Other observations of the instructional management behavior of the principal resulted in data similar to the information obtained from the questionnaire.

Hallinger's scale has a weakness since it does not directly address specific principal behaviors which promote collaboration and support among the teachers in the building. To measure these behaviors, four questions were modified from Azumi and Madhere's (1982) work. All four questions came from their organizational variables of structure and processes. One question dealt with structure and the other three questions focused upon communication processes. One additional question was added which was not part of Azumi and Madhere's questionnaire. This question deals with the amount of information which the principal shares with the faculty. A four-point Likert scale was originally used, which ranged from "strongly agree" to "strongly disagree." Since these questions were modified, reliability was checked and an alpha level of $r = .91$ was obtained, $n = 165$, $p = .05$. (See Appendix B)

Staff Assessment Questionnaire

The Staff Assessment Questionnaire (Andrews et al., 1986) uses a Likert five-point scale, which ranges from "Strongly Agree" to "Strongly Disagree." The questionnaire has 94 items which measure the following nine characteristics: (a) Strong Leadership, 19 items; (b) Dedicated Staff, 13 items; (c) High Expectations, 8 items; (d) Frequent Monitoring of Student Progress, 7 items; (e) Early Identification of Student Learning Problems, 4 items; (f) Positive Learning Climate, 22 items; (g) Curriculum Continuity, 5 items; (h) Multicultural Education, 9 items; and (i) Sex Equity, 4 items (Andrews, Soder, Jacoby, Rosovsky, and Bamburg, 1987).

Although this instrument is designed to assess the total school, its "Strong Leadership" component provided evidence which suggested the relationship between the behavior of building principal and student achievement (Andrews et al., 1986). It is for this reason that this questionnaire was selected. The dimension of instructional leadership consists of four subdimensions; resource provider, instructional resource, communicator, and visible presence (see Chapter Two for further discussion).

Internal consistency estimates for Strong Leadership were calculated for four groups which had a sample size ranging from 125 to 1,241 teachers. Alpha for these groups ranged from .92 to .97 with the standard error of measure ranging from 2.94 to 5.30. Reliability for this section has an alpha of .73 and a standard error of measure of 4.86. The stability of this instrument is evident using teacher responses over a three-year period in 82 schools. Means for the three-year period were 70.34, 71.74, and 70.08 while the standard error of measure for these three years were 9.98, 9.82, and 10.75.

In an attempt to keep the questionnaires relatively equal in term of items, 18 questions were removed and replaced with the teacher efficacy questions. These 18 questions pertain to (a) sex equity, (b) multicultural education, and (c) curriculum continuity. Although important, these three groups do not pertain to this investigation

and their removal should not impact the study. (See Appendix C). Items with an asterisk are those which will be replaced with the teacher efficacy questions.)

Teacher Efficacy Scale

Gibson and Denbo (1984) developed the instrument which was used to assess the teachers' sense of efficacy (see Appendix D). This questionnaire uses a Likert six-point rating scale which ranges from "Strongly Disagree" to "Strongly Agree." The Teacher Efficacy Scale uses thirty questions to measure two factors: the first being the pedagogical efficacy factor--the teacher's belief that he/she has the skills and abilities to teach; the second factor being the teacher's sense of teaching efficacy- that education can produce a change.

Not all thirty questions will be used to measure the two factors related to teacher efficacy. Sixteen of the thirty questions had a factorial loading greater than or equal to .45 (Gibson & Denbo, 1984). Nine of these questions measure the pedagogical efficacy factor while the remaining seven address the teaching efficacy factor. Gibson and Denbo (1984) reported an internal consistency reliability coefficient of .78 for the pedagogical efficacy factor and .75 for the teaching efficacy factor. Gibson and Denbo argue that the two factors measured by the Teacher Efficacy Scale have content validity by comparing it with Bandura's (1977) conceptualization of self-efficacy and Ashton and Webb's (1982) teacher efficacy model.

Ethical Considerations

Consideration was given to ensure that participants of this study were treated in a manner which is in accordance with the American Psychological Association's (1985)

Ethical Principles in the Conduct of Research with Human Participants. Teachers

involved in this study were at minimal risk regarding mental discomfort. Physical risk in terms of employability for the teachers was minimized by having each teacher return

their survey via the U.S. Mail with a provided self-addressed envelope. Participants were asked to complete either a seventy-one item questionnaire or a ninety-two item questionnaire. Information provided by the participants was compiled by school and remained confidential.

Testable Hypotheses

The following hypotheses were addressed by this study.

Hypothesis 1

Null hypothesis. No difference will be found in the means of teachers' pedagogical efficacy as measured by the teacher efficacy scale between teachers in improving, stable, and declining schools.

Symbolically. $H_0: \mu_{i\ pe} = \mu_{s\ pe} = \mu_{d\ pe}$

Alternate hypothesis. The mean of teachers' pedagogical efficacy in the improving schools as measured by the teacher efficacy scale will exceed the mean of teachers' pedagogical efficacy in the stable and declining schools.

Symbolically. $H_1: \mu_{i\ pe} > \mu_{s\ pe}$

$\mu_{s\ pe} > \mu_{d\ pe}$

Legend. $\mu_{i\ pe}$ - Improving schools' pedagogical efficacy mean; $\mu_{s\ pe}$ - Stable schools' pedagogical efficacy mean; $\mu_{d\ pe}$ - Declining schools' pedagogical efficacy mean.

Hypothesis 2

Null hypothesis. No difference will be found in the means of teachers' teaching efficacy as measured by the teacher efficacy scale between teachers in improving, stable, and declining schools.

Symbolically. $H_0: \mu_{i\ te} = \mu_{s\ te} = \mu_{d\ te}$

Alternate hypothesis. The mean of teachers' teaching efficacy in the improving schools as measured by the teacher efficacy scale will exceed the mean of teachers' teaching efficacy in the stable and declining schools.

Symbolically. $H_1: \mu_{i\ te} > \mu_{s\ te}$

$$\mu_{s\ te} > \mu_{d\ te}$$

Legend. $\mu_{i\ te}$ - Improving schools' teaching efficacy; $\mu_{s\ te}$ - Stable schools' teaching efficacy; and $\mu_{d\ te}$ - Declining schools' teaching efficacy.

Hypothesis 3

Null hypothesis. No difference will be found in the means of principals as instructional managers as measured by the Principal Instructional Management Rating Scale or the Staff Assessment Questionnaire between improving, stable, and declining schools.

Symbolically. $H_0: \mu_{i\ im} = \mu_{s\ im} = \mu_{d\ im}$

Alternate hypothesis. The instructional manager mean for principals in the improving schools will exceed the instructional manager mean of the principals in the stable and declining schools.

Symbolically. $H_1: \mu_{i\ im} > \mu_{s\ im}$

$$\mu_{s\ im} > \mu_{d\ im}$$

Legend. $\mu_{i\ im}$ - Instructional manager mean in improving schools; $\mu_{s\ im}$ - Instructional manager mean in stable school; and $\mu_{d\ im}$ - Instructional manager mean in declining schools.

Hypothesis 4a

Null hypothesis. The behaviors of the building principal as measured by Hallinger's PIMR provides no information in explaining the variation in teachers' sense of collective pedagogical efficacy as measured by the Teaching Efficacy Scale.

Symbolically. $H_0: R^2_{y.1,2,\dots,11} = 0$

Alternate hypothesis. The behaviors of the building principal as measured by Hallinger's PIMR can be used to explain the variation in teachers' sense of collective pedagogical efficacy as measured by the Teaching Efficacy Scale.

Symbolically. $H_1: R^2_{y.1,2,\dots,11} \neq 0$

Legend. Y - Teachers' sense of personal teaching efficacy; 1,2,...,11 - the eleven job functions of an instructional leader.

Hypothesis 4b

Null hypothesis. The behaviors of the building principal as measured by Andrews' SAQ provides no information in explaining the variation in teachers' sense of collective pedagogical efficacy as measured by the Teaching Efficacy Scale.

Symbolically. $H_0: R^2_{y.1,2,\dots,11} = 0$

Alternate hypothesis. The behaviors of the building principal as measured by Andrews' SAQ can be used to explain the variation in teachers' sense of collective pedagogical efficacy as measured by the Teaching Efficacy Scale.

Symbolically. $H_1: R^2_{y.1,2,\dots,11} \neq 0$

Legend. Y - Teachers' sense of personal teaching efficacy; 1,2,...,11 - the eleven job functions of an instructional leader.

Hypothesis 5a

Null hypothesis. The behaviors of the building principal as measured by Hallinger's PIMR provides no information in explaining the variation in teachers' sense of collective teaching efficacy as measured by the Teaching Efficacy Scale.

Symbolically. $H_0: R^2_{y.1,2,\dots,11} = 0$

Alternate hypothesis. The behaviors of the building principal as measured by Hallinger's PIMR can be used to explain the variation in teachers' sense of collective teaching efficacy as measured by the Teaching Efficacy Scale.

Symbolically. $H_1: R^2_{y.1,2,\dots,11} \neq 0$

Legend. Y - Teachers' sense of personal teaching efficacy; 1,2,...,11 - the eleven job functions of an instructional leader.

Hypothesis 5b

Null hypothesis. The behaviors of the building principal as measured by Andrews' SAQ provides no information in explaining the variation in teachers' sense of collective teaching efficacy as measured by the Teaching Efficacy Scale.

Symbolically. $H_0: R^2_{y.1,2,...,11} = 0$

Alternate hypothesis. The behaviors of the building principal as measured by Andrews' SAQ can be used to explain the variation in teachers' sense of collective teaching efficacy as measured by the Teaching Efficacy Scale.

Symbolically. $H_1: R^2_{y.1,2,...,11} \neq 0$

Legend. Y - Teachers' sense of personal teaching efficacy; 1,2,...,11 - the eleven job functions of an instructional leader.

Analysis

Concurrent Validity

A secondary purpose of this study was to see if the same conclusions could be made regarding the impact instructional leaders have on student achievement and teacher efficacy using Hallinger's PIMR and Andrews' SAQ.

Planned Multiple Comparisons

Testing for the first three hypotheses used a priori contrasts. Individual mean scores were computed by averaging together the teachers' responses to the questions which pertained to each of the three factors: pedagogical efficacy, teaching efficacy, and principal instructional manager behaviors by school. A "grand mean" for each of the three factors was calculated for improving, stable, and declining schools. Statistical

differences between the schools' means for each factor were determined using Tukey's Method of Multiple Comparison. A significance level of $p = .05$ was used for testing the first three hypotheses.

It appeared that the three groups of teachers, those in improving, stable, and declining schools met the three assumptions needed to use this test statistic. It can be argued that teachers in these schools came from a population which has a normal distribution and homogeneity of variance since each of them was hired out of a common pool of applicants. The third assumption dealt with the independence of observations. Teachers within the participating schools were asked to complete either form of the questionnaire without discussing questions with others.

Multiple Regression

Multiple regression was used to test the last two hypotheses based upon the following considerations advocated by Pedhazur (1982).

1. Analysis of variance cannot investigate the interactions among attributes. The interaction between variables can be tested using multiple regression.
2. Since little has been done in investigating the relationship between the behaviors of principals and teachers' beliefs, it is appropriate to study patterns that may exist in the data. Again, multiple regression is an appropriate model to use in attempting to explain any variation that may exist.

A mean for the dependent variable and for each independent variable was computed for each school when either collective pedagogical or teaching efficacy was analyzed. Means for the independent variables and the dependent variable were calculated by teacher when individual pedagogical and teaching efficacy was tested. These means were then used in backward elimination regression equations. The independent variables for hypotheses IV and V were the job functions identified by each of the two questionnaires. The dependent variable in hypothesis IV was pedagogical efficacy. For hypothesis V the dependent variable was teaching efficacy.

Summary

A description has been provided how this study was conducted. Teachers in improving, stable, and declining schools were asked to answer questions regarding their perceptions about (a) pedagogical efficacy, (b) teaching efficacy, and (c) the frequency of identified instructional leader behaviors using a five-point Likert scale. Statistical analysis for the first three hypotheses used Tukey's Method of Multiple Comparison. Backward elimination regression was used to test the last two hypotheses.

CHAPTER IV

Presentation of the results from the analysis will be made in Chapter Four. The analysis of the subscales for the instruments used will be presented first. Results of the planned and subsequent analysis by hypothesis will follow.

Analysis of Subscales

Reliability analysis was conducted on each of the subscales identified in Form A and Form B as well as for the constructs of pedagogical and teaching efficacy. Alpha levels were also calculated for each subscale with the deletion of each question to see if a stronger alpha could be obtained. Each subscale had a higher alpha level with all questions included.

Form A: Principal Instructional Management Rating Scale (PIMR)

An overall reliability coefficient of .96 (Cronbach's alpha) was found for the fifty-five questions of the PIMR. The lowest reliability coefficient found for the eleven subscales identified in the PIMR was .73 (Cronbach's alpha). (Please note that the PIMR has ten subscales and that the subscale A collaboration and problem-solving was added for this study. See Chapter Three under Instrumentation). This alpha level was for "Protecting Instructional Time." Hallinger (1985) states that a reliability coefficient of at least .75 (Cronbach's alpha) was achieved for each of the subscales. Table 4.1 lists the alpha coefficients for each of the eleven subscales of the PIMR.

Table 4.1

Reliability Coefficients for the Subscales of the
Principal Instructional Management Rating Scale

Subscale	N	Alpha
Framing goals	163	.91
Communicating goals	163	.88
Supervising and evaluating instruction	164	.87
Coordinating curriculum	156	.90
Monitoring student progress	161	.82
Protecting instructional time	147	.73
Promoting professional development	165	.86
Maintaining visibility	163	.78
Providing incentives for teachers	152	.90
Providing incentives for learning	149	.85
Collaboration and problem-solving	165	.91

Form B: Staff Assessment Questionnaire (SAQ)

A reliability coefficient of .96 was obtained for the questions that dealt with leadership in the Staff Assessment Questionnaire. Reliability coefficients for the four subscales under leadership ranged from .83 to .92 (Cronbach's alpha). Table 4.2 shows the internal consistency for each of the subscales.

Table. 4.2

**Reliability Coefficients for the Subscales
of the Staff Assessment Questionnaire**

Subscale	N	Alpha
Resource provider	181	.88
Instructional resource	177	.83
Communications	176	.92
Visibility	183	.83

Pedagogical Efficacy

A sample of 333 teachers responded to all nine (9) questions which addressed pedagogical efficacy. A reliability coefficient of .75 was obtained for this scale. Gibson and Denbo (1984) reported for this construct an internal reliability of .78.

Teaching Efficacy

The reliability coefficient obtained for teaching efficacy was .70 and was based upon 340 teachers who responded to all seven (7) of the questions. For comparison, Gibson and Denbo reported a reliability factor of .75.

All the instruments used for this study obtained reliability coefficients which were similar to those found by the developers of the three instruments.

Analysis of the Hypotheses

The planned statistical tests described in Chapter Three were followed for each of the five hypotheses. For the sake of clarity, each hypothesis will be restated, followed by a description of the test used including identification of both the dependent and independent variable. The results of the analysis will then be given. Any subsequent analysis will then be presented. Finally a decision will be made based upon the data either to reject or retain the null hypothesis.

During the planned analysis, a question arose regarding the groups. This question resulted from trends found while conducting the planned analysis. From a statistical viewpoint, thought was given to the fact that the design was losing sensitivity because of the categorical groupings. To address this concern, a continuous variable was developed using the scores instead of the classifications assigned to schools (improving, stable, or declining) through the Michigan Educational Assessment Program (MEAP).

The continuous variable used in the subsequent analysis was developed using the following procedure:

- 1) Each yearly MEAP change designation in reading and mathematics is based upon the present year and the two preceding years. 1980 is also included as a baseline year. The 1986 MEAP results list 1980, 1984, 1985, and 1986. Likewise, the 1987 MEAP results list 1980, 1985, 1986, and 1987. The data for all five years (1980, 1984, 1985, 1986, and 1987) were used in calculating the continuous variable.

- 2) The MEAP report also lists the percentage of students who mastered the objectives for reading and mathematics by quartiles. The slope for reading, math, and

the interaction of reading x mathematics was calculated based upon the percentage of students in the top quartile for each of the five years for every school. The value of the slope then became the continuous variable used to measure change in terms of improvement, stability, or decline.

Hypothesis 1: Pedagogical Efficacy

Null Hypothesis: No difference will be found in the means of teachers' pedagogical efficacy as measured by the teacher efficacy scale between teachers in improving, stable, and declining schools.

Symbolically: $H_0: \mu_{i\ pe} = \mu_{s\ pe} = \mu_{d\ pe}$

Alternate Hypothesis: The mean of teachers' pedagogical efficacy in improving schools as measured by the teacher efficacy scale will exceed the mean of teachers' pedagogical efficacy in stable and declining schools.

Symbolically: $H_1: \mu_{i\ pe} > \mu_{s\ pe}$

$\mu_{s\ pe} > \mu_{d\ pe}$

Planned Analysis: All forty-one schools were included in this test and were grouped according to the classification of improving, stable, or declining. The dependent variable for this hypothesis is pedagogical efficacy and the independent variable is the classification of school. A mean for each classification group was computed by averaging together each school's mean for pedagogical efficacy. Tukey's Method of Multiple Comparison obtained an $F(2,38) = 1.24, p = .302$. Table 4.3 provides the means and standard deviations for the three groups and Table 4.4 gives the ANOVA table.

Subsequent Analysis: The secondary analysis used the mathematics slope, reading slope, and interaction slope between mathematics and reading as the independent variable. The dependent variable was pedagogical efficacy. The means were figured for

the dependent variable from both forms for each school. Analyses of variance obtained the following: math, $E(1,71) = .055$, $p = .815$; reading, $E(1,71) = .001$, $p = .97$; and the interaction between mathematics and reading, $E(1,71) = .076$, $p = .783$. (Table 4.5)

Table 4.3

Group Means and Standard Deviations for
Collective Pedagogical Efficacy

Group	N	Mean	SD
Improving schools	19	3.85	0.13
Stable schools	12	3.95	0.15
Declining schools	10	3.91	0.20

Table 4.4

Analysis of Variance for Collective Pedagogical Efficacy

Source	DF	Sum of Squares	Mean Square	F Value	PR F
Model	2	0.069	0.034	1.24	0.30
Error	38	1.076	0.028		
Corrected Total	40	1.146			

Table 4.5

Subsequent Analysis of Variance for Pedagogical EfficacyMath Slope as Independent Variable

Source	DF	Sum of Squares	Mean Square	F Value	PR F
Model	1	.003	.003	.055	0.815
Error	71	3.978	.056		
Corrected Total	72	3.981			

Reading Slope as Independent Variable

Source	DF	Sum of Squares	Mean Square	F Value	PR F
Model	1	.000	.000	.001	.971
Error	71	3.981	.056		
Corrected Total	72	3.981			

Reading-Math Interaction Slope as Independent Variable

Source	DF	Sum of Squares	Mean Square	F Value	PR F
Model	1	.004	.004	.076	.783
Error	71	3.977	.056		
Corrected Total	72	3.981			

Decision: Based upon these data the decision is not to reject the null hypothesis- there is no difference between teachers' pedagogical efficacy scores in improving, stable, or declining schools. Data from the secondary analyses also supports this decision.

Hypothesis 2: Teaching Efficacy

Null Hypothesis: No difference will be found in the means of teachers' teaching efficacy as measured by the teacher efficacy scale between teachers in improving, stable, and declining schools.

Symbolically: $H_0: \mu_{i\ te} = \mu_{s\ te} = \mu_{d\ te}$

Alternate hypothesis: The mean of teachers' teaching efficacy in the improving schools as measured by the teaching efficacy scale will exceed the teachers' teaching efficacy mean of the stable and declining schools.

Symbolically: $H_1: \mu_{i\ te} > \mu_{s\ te}$

$\mu_{s\ te} > \mu_{d\ te}$

Planned Analysis: The dependent variable in this hypothesis is teaching efficacy and the independent variable is the classification of schools. A mean for each classification was computed by averaging together the respective schools' teaching efficacy means. The independent variable was the school classification of improving, stable, and declining. The dependent variable was teaching efficacy. Analysis of variance using Tukey resulted in an $F(2,38) = 0.26$, $p = .77$. Table 4.6 provides the means and standard deviations for the improving, stable, and declining schools and Table 4.7 is the ANOVA table.

Table 4.6

Group Means and Standard Deviations for Teaching Efficacy

Group	N	Mean	SD
Improving schools	19	2.91	0.33
Stable schools	12	2.96	0.41
Declining schools	10	3.00	0.23

Table 4.7

Analysis of Variance for Teaching Efficacy

Source	DF	Sum of Squares	Mean Square	F Value	PR F
Model	2	0.064	0.032	0.26	0.77
Error	38	4.688	0.123		
Corrected Total	40	4.475			

Subsequent Analysis: The secondary analysis used the mathematics slope, reading slope, and interaction slope between mathematics and reading as the independent variable. The dependent variable was teaching efficacy. The means were figured for the dependent variable from both forms for each school. Analysis of variance obtained the following: math, $F(1,71) = 2.48$, $p = .119$; reading, $F(1,71) = .54$, $p = .540$; and the interaction between mathematics and reading, $F(1,71) = .188$, $p = .666$.

Decision: The results of both the planned and subsequent tests led to the decision not to reject the null hypothesis which states there is no difference in teachers' teaching efficacy scores between improving, stable, and declining schools.

Table 4.8

Subsequent Analysis of Variance for Teaching Efficacy

<u>Math Slope as Independent Variable</u>					
Source	DF	Sum of Squares	Mean Square	F Value	PR F
Model	1	.398	.398	2.480	0.119
Error	71	11.408	.160		
Corrected Total	72	11.806			

<u>Reading Slope as Independent Variable</u>					
Source	DF	Sum of Squares	Mean Square	F Value	PR F
Model	1	.062	.062	.379	0.540
Error	71	11.743	.165		
Corrected Total	72	11.806			

<u>Reading-Math Interaction Slope as Independent Variable</u>					
Source	DF	Sum of Squares	Mean Square	F Value	PR F
Model	1	.031	.031	.188	0.666
Error	71	11.775	.165		
Corrected Total	72	11.806			

Hypothesis 3: Instructional Managers

This hypothesis used two different forms to see if both would discriminate strong instructional leaders from less able leaders. So, two sets of data will be presented.

Form A: Hallinger's PIMR

Null hypothesis: No difference will be found in ratings of principals as instructional managers as measured by the Principal Instructional Management Rating Scale between improving, stable, and declining schools.

Symbolically: $H_0: \mu_{i\text{ im}} = \mu_{s\text{ im}} = \mu_{d\text{ im}}$

Alternate hypothesis: The instructional manager mean for principals in the improving schools will exceed the instructional manager mean of principals in the stable and declining schools.

Subsequent Analysis: $H_1: \mu_{i\text{ im}} > \mu_{s\text{ im}}$

$\mu_{s\text{ im}} > \mu_{d\text{ im}}$

Planned Analysis: Schools that had only one teacher questionnaire returned were removed resulting in a sample size of 35 schools. A mean for each classification was computed by averaging together the respective schools' instructional manager means. Analysis of variance employing the Tukey test was used. The $F(2,32) = 4.98^*$, $p = .013$. Table 4.9 gives the size, mean, and standard deviation for each group. Table 4.10 provides the ANOVA table for the PIMR.

Table 4.9

Group Means and Standard Deviations
for Instructional Manager using PIMR

Group	N	Mean	SD
Improving schools	17	3.25	0.38
Stable schools	11	3.32	0.32
Declining schools	7	2.71	0.63

Table 4.10

Analysis of Variance for Instructional Manager using PIMR

Source	DF	Sum of Squares	Mean Square	F Value	PR F
Model	2	1.828	0.914	4.985*	0.013
Error	32	5.867	0.183		
Corrected Total	34	7.695			

Subsequent Analysis: To address the concerns that were mentioned at the start of this section, a second analysis of variance was conducted. The independent variable was the mean obtained at each building for the instructional manager. The dependent variable

became the slope for reading, math, and the interaction between reading and mathematics for each building.

The following ANOVA's were obtained using the PIMR: for reading, $E(1,33) = 4.523^*$, $p = .041$; math, $E(1,33) = 1.067$, $p = .309$; and the reading-mathematics interaction, $E(1,33) = 5.363^*$, $p = .026$. Table 4.11 provides the ANOVA tables for each of these analysis.

Decision: These findings led to the decision of rejecting the null hypothesis and accepting the alternate hypothesis. Two combinations of schools had differences at the 0.05 level. Instructional managers in the improving group had higher scores than did leaders in the declining schools. Instructional leaders of stable schools also had a higher mean than instructional leaders of declining schools. The mean for stable school instructional leaders was slightly above the mean for instructional leaders of improving schools. Data from the secondary analysis also showed that the PIMR could discriminate between schools identified by the achievement slope in reading and reading/mathematics interaction.

Table 4.11

Subsequent Analysis of Variance for
Instructional Manager Using the PIMR

Reading Slope as Dependent Variable

Source	DF	Sum of Squares	Mean Square	F Value	PR F
Model	1	49.042	49.042	4.523*	0.041
Error	33	357.788	10.842		
Corrected Total	34	406.830			

Math Slope as Dependent Variable

Source	DF	Sum of Squares	Mean Square	F Value	PR F
Model	1	12.886	12.886	1.067	0.309
Error	33	398.527	12.076		
Corrected Total	34	411.414			

Reading-Math Interaction as Dependent Variable

Source	DF	Sum of Squares	Mean Square	F Value	PR F
Model	1	93.191	93.191	5.363*	0.026
Error	33	573.431	17.376		
Corrected Total	34	666.623			

Form B: Andrews' Staff Assessment Questionnaire (SAQ)

Null hypothesis: No difference will be found in ratings of principals as instructional managers as measured by the Staff Assessment Questionnaire between improving, stable, and declining schools.

Symbolically: $H_0: \mu_{i\text{ im}} = \mu_{s\text{ im}} = \mu_{d\text{ im}}$

Alternate hypothesis: The instructional manager mean for principals in the improving schools will exceed the instructional manager mean of principals in the stable and declining schools as measured by the Staff Assessment Questionnaire.

Symbolically: $H_1: \mu_{i\text{ im}} > \mu_{s\text{ im}}$

$\mu_{s\text{ im}} > \mu_{d\text{ im}}$

Planned Analysis: Schools that had one teacher questionnaire returned were removed resulting in a sample size of 38 schools. A mean for each category was computed by averaging together the respective schools' instructional manager means. The independent variable was the category of school. Instructional manager was the dependent variable. Analysis of variance employing the Tukey test was used, resulting in $F(2,35) = .197$, $p = .821$. Table 4.12 gives the means for each group and Table 4.13 provides the ANOVA table.

Table 4.12

Group Means and Standard Deviations for Instruction Manager using SAQ

Group	N	Mean	SD
Improving schools	18	3.596	0.670
Stable schools	11	3.456	0.796
Declining schools	9	3.459	0.524

Table 4.13

Analysis of Variance for Instructional Manager using SAQ

Source	DF	Sum of Squares	Mean Square	F Value	PR F
Model	2	0.182	0.091	0.197	0.821
Error	35	16.182	0.462		
Corrected Total	37	16.365			

Subsequent Analysis: The same procedures that were used in the subsequent analysis of the PIMR were used with the SAQ. The following Anova values were obtained using the SAQ as the independent variable: for reading, $E(1,36) = 0.0$, $p = .999$; for math, $E(1,36) = .253$, $p = .617$; and reading-mathematics interaction, $E(1,36) = .058$, $p = .810$. Table 4.14 provides the ANOVA tables for each of these analyses.

Decision: Findings from the planned comparison led to the decision to retain the null hypothesis which states there is no difference in the means of instructional managers of improving, stable, and declining schools. The results of the secondary analysis supports the decision to retain the null hypothesis.

The different findings that were obtained between the two instruments lead to the conclusion that Hallinger's PIMR can discriminate between the leadership in the different categorical types while Andrews' SAQ cannot.

Table 4.14

Analysis of Variance for Instructional Manager using SAQ

<u>Reading Slope as Dependent Variable</u>					
Source	DF	Sum of Squares	Mean Square	F Value	PR F
Model	1	.000	.000	0.000	0.999
Error	36	408.642	11.351		
Corrected Total	37	408.642			

<u>Math Slope as Dependent Variable</u>					
Source	DF	Sum of Squares	Mean Square	F Value	PR F
Model	1	3.114	4.114	0.253	0.617
Error	36	442.573	12.293		
Corrected Total	37	445.687			

<u>Reading-Math Interaction Slope as Dependent Variable</u>					
Source	DF	Sum of Squares	Mean Square	F Value	PR F
Model	1	1.120	1.120	0.058	0.810
Error	36	693.748	19.270		
Corrected Total	37	694.868			

Hypothesis 4: Impact of Instructional Manager Behaviors on Pedagogical Efficacy

Form A: Hallinger's PIMR

Null hypothesis: The behaviors of the building principal as measured by Hallinger's PIMR provides no information in explaining the variation in teachers' sense of collective pedagogical efficacy as measured by the Teaching Efficacy Scale.

Symbolically: $H_0: R^2_{y.1.2....11} = 0$

Alternate hypothesis: The behaviors of the building principal as measured by Hallinger's PIMR can be used to explain the variation in teachers' sense of collective pedagogical efficacy as measured by the Teaching Efficacy Scale.

Symbolically: $H_1: R^2_{y.1.2....11} \neq 0$

Planned Analysis: Thirty-five of the forty-one schools were used for this test, with the school as the unit of analysis. (Schools which had only one teacher survey returned were removed.) The dependent variable in the regression equation is pedagogical efficacy and the independent variables are the eleven behaviors identified in the PIMR scale. Backward elimination regression was used. When all eleven variables were entered, an $R^2 = .445$ was obtained with $F(11,23) = 1.68$, $p = .15$. Eight of the eleven variables - framing goals, communicating goals, monitoring student progress, protecting instructional time, promoting professional development, maintaining visibility, providing incentives for teachers, and providing incentives for learning resulted in an $R^2 = .44$ and $F(8,26) = 2.61^*$, $p = .0306$. The best fitting regression equation resulted from three behaviors: communicating school goals, monitoring student progress, and providing incentives for learning. These three behaviors achieved an $R^2 = .388$ and $F(3,31) = 6.55^*$, $p = .0015$.

(See Table 4.15)

Table 4.15

**Backward Regression of Instructional Manager Behaviors
onto Collective Pedagogical Efficacy Using PIMR**

Source	DF	Sum of Squares	Mean Square	F Value	PR F
Regression	3	0.801	0.267	6.55*	0.0015
Error	31	1.263	0.040		
Total	34	2.064		R ² 0.388	

Subsequent Analysis: This analysis focused on the teacher as the unit of interest. Means for instructional manager behaviors and pedagogical efficacy were calculated by teacher instead of by building. The variables remained the same: pedagogical efficacy was the dependent variable and instructional manager behaviors the independent variables. Backward elimination regression was used on the secondary analysis.

All eleven of the variables related to instructional manager were entered into the regression equation resulting with $E(11,154) = 3.06^*$, $p = .001$ and an $R^2 = .179$. The best fitting equation was obtained by the variables; Framing School Goals, Providing Incentives for Teachers, and Providing Incentives for Learning. These three variables resulted in $E(3,162) = 9.38^*$, $p = .0001$ and $R^2 = .147$. Table 4.16 gives the complete regression tables for these two equations.

Table 4.16

Backward Regression of Instructional Manager Behaviors
onto Teacher Pedagogical Efficacy Using PIMB

<u>All Variables Entered</u>					
Source	DF	Sum of Squares	Mean Square	F Value	PR F
Regression	11	7.774	0.706	3.06*	0.0010
Error	154	35.581	0.231		
Total	165	43.356		R2 0.179	

Framing School Goals, Providing Incentives for Teachers, and
Providing Incentives for Learning Entered

Source	DF	Sum of Squares	Mean Square	F Value	PR F
Regression	3	6.416	2.138	9.38*	0.0001
Error	162	36.939	0.228		
Total	165	43.356		R2 0.147	

Decision: The evidence presented here resulted in the decision to reject the null hypothesis. Behaviors of the building principal as measured by Hallinger's PIMR can be used to explain the variation in both teachers' sense of collective and individual pedagogical efficacy.

Form B: Andrews' Staff Assessment Questionnaire

Null Hypothesis: The behaviors of the building principal as measured by Andrews' SAQ provides no information in explaining the variation in teachers' sense of collective pedagogical efficacy as measured by the Teaching Efficacy Scale.

Symbolically: $H_0: R^2_{y.1.2.3.4} = 0$

Alternate hypothesis: The behaviors of the building principal as measured by Andrews' SAQ can be used to explain the variation in teachers' sense of collective pedagogical efficacy as measured by the Teaching Efficacy Scale.

Symbolically: $H_1: R^2_{y.1.2.3.4} \neq 0$

Planned Analysis: Thirty-eight of the forty-one schools were used for this test, with the school as the unit of analysis. (Schools with only one teacher questionnaire were removed.) The dependent variable in the regression equation is collective pedagogical efficacy and the independent variables are the four behaviors identified in the SAQ. Backward elimination regression was used. When all four variables were entered, an $R^2 = .144$ was obtained with $F(4,33) = 1.40$, $p = .25$. The best regression equation was obtained ($R^2 = .13$, $F(1,36) = 5.82^*$, $p = .021$) when only the independent variable "communication" was entered.

Table 4.17

**Backward Regression of Instructional Manager Behaviors
onto Collective Pedagogical Efficacy Using SAQ**

Source	DF	Sum of Squares	Mean Square	F Value	PR F
Regression	1	0.265	0.265	5.82*	0.021
Error	36	1.638	0.044		
Total	37	2.064		R2 0.139	

Subsequent Analysis: This analysis focused on the teacher as the unit of interest. Means for instructional manager behaviors and pedagogical efficacy were calculated by teacher instead of by building. The variables remained the same: pedagogical efficacy was the dependent variable and instructional manager behaviors the independent variables. Backward regression with all four of the variables associated with the SAQ resulted in an $F(4,182) = 2.09$, $p = .08$ and an $R^2 = .044$. The best fit was obtained with only the variable Resource Provider, which achieved $F(1,185) = 7.03^*$, $p = .008$ with an $R^2 = .036$. Although a significance level was achieved, the amount of variation that can be explained is extremely small. Table 4.18 shows the regression tables for these two equations.

Table 4.18

Backward Regression of Instructional Manager Behaviors
onto Teacher Pedagogical Efficacy Using SAQ

<u>All Behaviors Entered</u>					
Source	DF	Sum of Squares	Mean Square	F Value	PR F
Regression	4	1.783	0.445	2.09	0.083
Error	182	38.741	0.212		
Total	186	40.524		R2 0.044	
<u>Resource Provider Entered</u>					
Source	DF	Sum of Squares	Mean Square	F Value	PR F
Regression	1	1.484	1.484	7.03*	0.008
Error	185	39.040	0.211		
Total	186	40.524		R2 0.036	

Decision: One of the four instructional leadership behaviors (communication) as measured by the SAQ can be used to explain the variation in teachers' sense of collective pedagogical efficacy. The instructional leadership behavior called resource provider as measured by the SAQ can be used to explain the variation in teachers' sense of individual pedagogical efficacy. The amount of variation in the dependent variable that can be accounted for by the model is small enough not to warrant further consideration. The decision, then, would be to reject the null hypothesis, realizing that little has been gained.

Hypothesis 5: Impact of Instructional Manager Behaviors on Teaching Efficacy

Form A: Hallinger's PIMR

Null hypothesis: The behaviors of the building principal as measured by Hallinger's PIMR provides no information in explaining the variation in teachers' sense of collective teaching efficacy as measured by the Teaching Efficacy Scale.

Symbolically: $H_0: R^2_{y.1.2.3....11} = 0$

Alternate Hypothesis: The behaviors of the building principal as measured by Hallinger's PIMR can be used to explain the variation in teachers' sense of collective teaching efficacy as measured by the Teaching Efficacy Scale.

Symbolically: $H_1: R^2_{y.1.2.3....11} \neq 0$

Planned Analysis: Thirty-five of the forty-one schools were used in this analysis (single response schools were removed). Backward elimination regression was used. The dependent variable was teaching efficacy and the independent variables were the eleven behavior groups in the PIMR.

All eleven variables were entered first and achieved an $R^2 = .244$ with $F(11,34) = .68$, $p = .74$. The best fitting regression equation resulted when the

following two variables were entered: Framing School Goals and Coordinating Curriculum. This achieved an $R^2 = .11$ and $F(2,32) = 2.10$, $p = .13$. Table 4.19 summarizes the best fitting model for this regression equation.

Table 4.19

Backward Regression of Instructional Manager Behaviors onto Collective Teaching Efficacy Using PIMR

Source	DF	Sum of Squares	Mean Square	F Value	PR F
Regression	2	0.845	0.422	2.10	0.139
Error	32	6.439	0.201		
Total	34	7.285		R2	
				0.115	

Subsequent Analysis: In this analysis the means were calculated by teacher. Teaching efficacy was the dependent variable and instructional manager behaviors the independent variable. Backward elimination regression was used. The best equation that could be achieved between using the PIMR involved the variables Framing School Goals and Coordinating Curriculum. With these two variables $F(2,163) = 2.75$, $p = .06$ and an $R^2 = .03$. Table 4.20 shows the regression table for the variables that produced the best fit.

Table 4.20

Backward Regression of Instructional Manager Behaviors
onto Teacher Teaching Efficacy Using PIMR

<u>Framing School Goals and Coordinating Curriculum Entered</u>					
Source	DF	Sum of Squares	Mean Square	F Value	PR F
Regression	2	2.487	1.243	2.75	0.066
Error	163	73.575	0.451		
Total	165	76.063		R2 0.032	

Decision: The best fitting equation did not reach $p = .05$. Therefore the decision was not to reject the null hypothesis--the behaviors of the building principal as measured by Hallinger's PIMR provides no information in explaining the variation in teachers' sense of either collective or individual teaching efficacy.

Form B: Andrews' SAQ

Null hypothesis: The behaviors of the building principal as measured by Andrews' SAQ provides no information in explaining the variation in teachers' sense of collective teaching efficacy as measured by the Teaching Efficacy Scale.

Symbolically: $H_0: R^2_{y.1.2.3.4} = 0$

Alternate Hypothesis: The behaviors of the building principal as measured by Andrews' SAQ can be used to explain the variation in teachers' sense of collective teaching efficacy as measured by the Teaching Efficacy Scale.

Symbolically: $H_1: R^2_{y.1.2.3.4} \neq 0$

Planned Analysis: Thirty-eight of the forty-one schools were used in this analysis (single-response schools were removed). Backward elimination regression was used. The dependent variable was collective teaching efficacy and the independent variables were the four behavior groups in the SAQ.

An $F(4,33) = 2.72^*$, $p = .046$ was achieved when all four variables were entered into the regression equation. These four variables together accounted for 24.8% of the variation in the variable teaching efficacy. The variable communication alone achieved an $F(1,36) = 9.82^*$, $p = .003$ and accounted for 21.4% of the variation in teaching efficacy.

Subsequent Analysis: In this analysis the mean for individual teaching efficacy was calculated by teachers. All four of the variables measured by the SAQ when entered into the backward elimination regression equation achieved a significance level of $F(4,182) = 4.23^*$, $p = .027$ and $R^2 = .085$. Most of the variation in teaching efficacy can be explained by the variable Resource Provider, which alone, achieved $F(1,185) = 14.80^*$, $p = .0002$ and $R^2 = .07$.

Decision: The decision would be to reject the null hypothesis. The behaviors of the building principal as measured by Andrews' SAQ can be used to explain the variation in teachers' sense of both collective and individual teaching efficacy.

Summary

Chapter Four has presented the data from both the planned analysis and the subsequent analysis. Rationale for the need of the secondary analysis was also given. Figure 4.1 highlights the findings derived from this study. Figure 4.2 provides a summary of which instructional behaviors could account for the variation in pedagogical and teaching efficacy. Chapter Five will provide a summary of the study, discuss these findings in relation to the theoretical framework that has been presented, and suggest implications that these findings might have for practitioners.

Figure 4.1
Study Highlights

Pedagogical Efficacy

Retain the null hypothesis. There is no difference among teachers' pedagogical efficacy scores in improving, stable, and declining schools.

Teaching Efficacy

Retain the null hypothesis. There is no difference among teachers' teaching efficacy scores in improving, stable, and declining schools.

PIMR

SAQ

Instructional Leadership

Reject the null hypothesis using the PIMR. Instructional leaders in both the improving and stable schools had higher scores than did instructional leaders in the declining schools.

Retain the null hypothesis using the SAQ. There was no difference in the means among instructional leaders in improving, stable, and declining schools.

Instructional Leadership and Pedagogical Efficacy

Reject the null hypothesis. Eight behaviors principal behaviors measured by the PIMR can be used to explain 44% of the teachers' sense of collective pedagogical efficacy.

Reject the null hypothesis. One of the four principal aspects measured by the SAQ can be used to explain 13.9% of the variation in teachers' sense of collective pedagogical efficacy.

All eleven principal behaviors measured by the PIMR can be used to explain 17.9% of the variation in teachers' sense of individual teaching efficacy.

One of the four principal aspects measured by the SAQ can be used to explain 3.6% of the variance in teachers' sense of individual pedagogical efficacy.

Instructional Leadership and Teacher Efficacy

Retain the null hypothesis. Principal behaviors as measured by the PIMR can not account for the variation in teachers' senses of collective and individual teaching efficacy.

Reject the null hypothesis. All four of the principal aspects measured by the SAQ can be used to explain 24.8% of the variation in teachers' sense of collective teaching efficacy.

All four of the principal aspects measured by the SAQ can be used to explain 8.5% of the variation in teachers' sense of teaching efficacy.

Figure 4.2
Instructional Leader Behaviors Found to be
Significant on Efficacy

	Pedagogical Efficacy		Teacher Efficacy	
	Collective	Individual	Collective	Individual
Behaviors measured by the PIMR				
Framing goals	X	X*		
Communicating goals	X*	X		
Supervise and evaluate instruction		X		
Coordinate curriculum		X		
Monitor student progress	X*	X		
Protect instructional time	X	X		
Promote professional development	X	X		
Maintain visibility	X	X		
Provide incentives for teachers	X	X		
Provide incentives for learning	X*	X*		
Collaboration and problem-solving		X		
$R^2 = .44; p = .03$ $R^2 = .17; p = .001$ $*R^2 = .38; p = .0015$ $*R^2 = .14; p = .0001$				
Behaviors measured by the SAQ				
Resource provider		X	X	X
Instructional resource			X	
Communications	X		X*	
Visibility			X	
$R^2 = .13; p = .021$ $R^2 = .036; p = .008$ $R^2 = .24; p = .04$ $R^2 = .07; p = .0002$ $*R^2 = .21; p = .003$				

CHAPTER V

Summary of Study

The origin of this study came from the work of Bennis and Nanus (1985) when they stated "for successful leadership [instructional leadership] to occur there has to be a fusion between positive self-regard and optimism [teacher efficacy] about a desired outcome" (p. 79). Bennis and Nanus based their work on Bandura's (1982) theory of self-efficacy and argued that effective leaders energize people to act in a manner that advances the organization's goals.

Both instructional leadership and teacher efficacy have received attention in terms of impacting student achievement. Edmonds (1979) argued that the factors needed for schools to operate effectively could not be brought together nor kept together without strong instructional leadership. Andrews, Soder, and Jacoby (1986) found that student achievement in reading and math, particularly for the low-achieving students could be impacted by strong instructional leadership.

Teacher efficacy or "the extent to which teachers believe they can affect student learning" (Denbo & Gibson, 1985, p. 173) has also been shown to correlate with student learning (Armour et al., 1977; Brookover et al., 1979; and Ashton et al., 1982). The stronger the teacher's sense of efficacy, the greater were student gains. Teacher efficacy has also been found to be beneficial in terms of the implementation or continuation of educational innovations (Berman et al., 1977).

Lacking has been evidence which would address the question, "How do the behaviors and actions of the building principal impinge on the teachers' sense of efficacy?" Denbo and Gibson (1985), Guskey (1986), and Bandura (1986) have cited

the need for investigating how the behaviors of a leader impact employee efficacy. The purpose of this study was to determine (1) if collective teacher efficacy was different in schools identified by student achievement and (2) what behaviors of an instructional leader influence teachers' sense of both collective and individual efficacy. The following questions became the bases for the hypotheses:

1. Is teachers' sense of pedagogical efficacy significantly greater in improving schools than in stable or declining schools?
2. Is teachers' sense of teaching efficacy significantly greater in improving schools than in stable or declining schools?
3. Will the principals of improving schools be viewed as stronger instructional leaders than the principals of stable or declining schools?
4. Can the behaviors of an instructional leader account for the variation in teachers' sense of collective pedagogical efficacy?
5. Can instructional leader behaviors account for the variation in teachers' sense of collective teaching efficacy?

A secondary purpose of the study was to determine which instrument--the Principal Instructional Management Rating Scale (PIMR) (Hallinger, 1984) or the Staff Assessment Questionnaire (SAQ) (Andrews' et al., 1986)--was the better predictor of instructional leader behaviors.

Elementary schools in Michigan were identified as either improving, stable, or declining, based upon the change classifications given by the Michigan Educational Assessment Program (MEAP). Stable schools were included in this study to address the criticism in the effective schools research of using contrasted groups, in which schools were judged as "effective" or "ineffective" (Rowan, Bossert, and Dwyer, 1982). Fourth grade MEAP scores for 1986 and 1987 in reading and mathematics were used in the selection process. Forty-one schools were involved in the study. Analysis of variance and multiple regression techniques were employed in the testing of the hypotheses.

The following decisions were made for the five questions which this study addressed based on the data analyses:

1. Teachers' sense of pedagogical efficacy was not significantly greater in the improving schools than in the stable or declining schools.
2. Teachers' sense of teaching efficacy was not significantly greater in the improving schools than in the stable or declining schools
3. It was found using the PIMR that principals of both improving and stable schools were viewed by their faculties as significantly stronger instructional leaders than the principals of the declining schools. The SAQ did not find significant differences between instructional leaders of improving, stable, and declining schools.

Hallinger's PIMR appeared to discriminate instructional leader behaviors better than Andrews' SAQ based upon the results obtained for question three.

4. Eight of the eleven behaviors measured by the PIMR seem to explain 44% of the variation in teachers' sense of collective pedagogical efficacy between improving, stable, and declining schools. All eleven behaviors measured by the PIMR could account for 17.9% of the variation in teachers' sense of individual teaching efficacy.

Instructional leader behaviors measured by the SAQ accounted for 13.9% of the variation in teachers' sense of collective pedagogical efficacy and 3.6% of the variation in teachers' sense of individual pedagogical efficacy.

5. Instructional leader behaviors as measured by the PIMR could not significantly account for the variation in teachers' sense of collective and individual teaching efficacy.

Instructional leader behaviors as measured by the SAQ accounted for 24.8% of the variation in teachers' sense of collective teaching efficacy and 8.5% of the variation in teachers' sense of individual teaching efficacy.

Discussion

Teacher Efficacy

Teacher efficacy is comprised of two constructs. Pedagogical efficacy is how a teacher judges his/her own teaching skills and the ability to organize and execute courses of action. The second component, teaching efficacy, deals with the person's judgement that the desired outcome will be the result of his/her actions.

It was hypothesized that teachers in improving schools would have stronger views regarding both their teaching skills (pedagogical efficacy) and the impact that their actions have on students (teaching efficacy). Findings for both pedagogical and teaching efficacy were not statistically different between improving, stable, and declining schools, $F(2,38) = 1.24$, $p = .302$ and $F(2,38) = .026$, $p = .77$ respectively.

These findings were unexpected considering previous empirical evidence. Armour et al. (1976) asked eighty-one teachers two questions which dealt specifically with teacher efficacy: one question addressing teaching efficacy and the other with pedagogical efficacy. The responses from these two questions strongly and significantly showed that the more efficacious a teacher felt, the greater were the gains in reading achievement for students.

Berman et al. (1977) used the same two questions while investigating the implementation and continuation of federal programs. Results indicated that teachers' sense of efficacy was a strong positive variable which had an impact on the percentage of project goals accomplished, improved student learning, teacher change, and continuation of method and materials advanced by the project.

Ashton, Webb, and Doda (1982) reported a correlation between teacher efficacy and mathematics of $r = .78$, $p = .003$ and a correlation of $r = .83$, $p = .02$ between teacher efficacy and communication based upon the Metropolitan Standardized Test.

Gibson and Denbo (1984) after administering their own scale observed teachers in the classroom. Their field observations led them to conclude that highly efficacious teachers used certain teacher behaviors in the classroom which have shown to yield positive achievement gains.

The conclusion, then, is to treat the findings of this study with caution. Two reasons are offered for the discrepancy between these findings and the results of others. The first deals with the manner in which schools were selected. Gibson and Denbo (1984) stated that teacher efficacy is likely to be situation specific and may not generalize to other aspects of teaching. All the studies cited had teacher involvement that was related to a specific program or content area. School selection for this study was based upon one point, fourth grade MEAP scores over a two-year period. An assumption was made that any change happening at this point would be indicative of change throughout the school. Teachers were not asked to respond with a particular subject such as reading or mathematics in mind.

A second possibility for not finding a significant difference may be due to what Cervone and Peake (1986) refer to as social demand: the pressure individuals experience because of the organization's performance expectations. Cervone and Peake also state in high social demand situations individuals will become overly conservative in their self-appraisals. Schools that are instructionally effective tend to have a higher level of social demand for performance (Brookover and Lezotte, 1977).

It is possible, then, that teachers in the improving schools rated themselves more conservatively than the teachers in the stable and declining schools.

Instructional Leadership

A significant difference in the behaviors of instructional leaders of improving, stable, and declining schools was another issue which this investigation addressed. Using Hallinger's PIMR, it was found that a significance difference does exist $F(2,32) = 4.98$, $p = .013$) among the three groups of schools. Improving schools and stable schools were significantly different from declining schools. There was not a significant difference between improving and stable schools however ($n = 17$, $x = 3.25$ and $n = 11$, $x = 3.32$ respectively).

Obtaining a higher instructional leader mean for the stable schools using the PIMR over the improving schools was not anticipated. The level of conflict that exists in the schools offers an explanation for this unexpected finding. Schools that are instructionally effective tend to have more conflict (Blumberg and Greenfield, 1980, and Brookover and Lezotte, 1977). Problems in the more instructionally effective schools are addressed openly and more quickly, resulting in the faculties, experiencing anxiety and/or frustration. If there is a tendency to have more conflict in the improving schools, then it is likely that teachers would rate the principal lower. Likewise, less conflict in the stable schools would lead to the teachers rating the principal higher. This is known as the halo effect.

The data generated by Andrews' SAQ failed to discriminate among the principals of improving, stable, and declining schools and therefore failed to support the hypothesis. The mean for the improving group was higher than the mean for either the stable or declining groups but it was not significant (Refer to table 4.15). This was unexpected since the SAQ had been used to correlate instructional leader behaviors with student achievement (Andrews et al., 1986).

Hallinger's PIMR appears to be a more sensitive instrument. Three reasons are offered in support of this conclusion: (a) method of school selection, (b) specificity of identified principal behaviors, and (c) instrument design.

The manner of school selection is the first reason. Andrews et al. calculated individual gain scores using normal curve equivalents for each student and aggregated these scores within the schools by ethnicity and free-lunch status. By aggregating gain scores at the school, Andrews was able to capture a very specific picture of how students were or were not benefiting from instruction. This investigation, on the other hand, did not study schools pupil by pupil but took a more general view of student achievement by using the learning gains over time based on the number of students who were scoring in the top quartile on the MEAP. Schools were also placed into one of three categories (improving, stable, or declining). Such a classification loses the subtleties that may have existed in the Andrews et al. study.

A second reason, which is related to the instrument sensitivity issue, centers on the number of questions used by each instrument. The SAQ used only eighteen questions while the PIMR used 55 questions, five questions for each of the eleven job functions.

The design of the instruments is the third reason. Hallinger's PIMR is based upon a behaviorally anchored rating scale (BARS) and was developed following the procedures outlined by Latham and Wexley (1981). A BARS scale relies on critical job related behaviors. Raters can base their appraisal of the individual's performance on the type and frequency of the behavior. The SAQ on the other hand asked the rater to express a level of agreement regarding what the principal does. Latham and Wexley maintain that more reliable ratings will occur using a behaviorally anchored rating scale.

Results obtained using the PIMR are congruent with the findings from other studies. Weber (1971) found strong instructional leadership in four inner-city schools that had exceptionally strong reading scores. Armour et al. (1976) concluded after studying twenty elementary schools in the Los Angeles area that the leadership role of the principal was one of the most important factors in those schools judged to be successful. After a three-year study, Andrews et al. (1986) concluded that students

who attended schools administered by strong instructional leaders exhibited significantly better gain scores than students who attended schools which had average or weak instructional leaders.

With evidence suggesting there is a relationship between instructional behaviors and student achievement, the question becomes: "Which behaviors have the greatest impact on student learning?" Six of the ten job functions identified by the PIMR (an eleventh function was added for this study: collaboration and problem-solving) obtained a significance level of $p < .05$ for distinguishing between improving, stable, and declining schools. Those six job functions are: Framing School Goals, $F(2,32) = 5.12$, $p = .011$; Communicating School Goals, $F(2,32) = 4.84$, $p = .014$; Supervising and Evaluating Instruction, $F(2,32) = 3.76$, $p = .034$; Coordinating Curriculum, $F(2,32) = 9.48$, $p = .0006$; Monitoring Student Progress, $F(2,32) = 3.45$, $p = .044$; and Protecting Instructional Time, $F(2,32) = 5.73$, $p = .0075$. Hallinger (1985, p. 220) states, "Research on effective schools suggests that principals in instructionally effective schools maintain tighter coupling among the goals, technology, and outcomes of schooling." It is interesting to see that all six of the job functions which discriminated among improving, stable, and declining schools fit into one of the three categories mentioned.

Figure 5.1.

Job Functions Related to Goals, Technology, and Outcomes

<u>Goals</u>	<u>Technology</u>	<u>Outcomes</u>
•Framing School Goals	•Supervising and Evaluating Instruction	•Monitoring Student Progress
•Communicating School Goals	•Protect Instructional Time	
	•Coordinate Curriculum	

Figure 5.1 is congruent with Leithwood and Montgomery's (1984) Paradigm of a Principal's Role discussed in Chapter Two. Effective instructional leaders monitor both classroom-related factors and school-related factors and utilize different strategies to ensure that the goals of the school are being met.

Pedagogical Efficacy and Instructional Leadership

Table 5.1 provides a comparison of how instructional leader behaviors as measured by the PIMR and the SAQ can account for the variation in collective and individual pedagogical and teaching efficacy. Although the results of both instruments are included in this discussion, the primary emphasis of the discussion will focus upon Hallinger's PIMR. The rationale for this is twofold. First, it was the PIMR that discriminated between the leadership in improving, stable, and declining schools. Second, the PIMR breaks the behaviors of an instructional leader into eleven groups as compared to the four groups found in the SAQ.

Table 5.1

Comparison Between PIMR and SAQ with Teacher Efficacy

	Pedagogical Efficacy		Teaching Efficacy	
	Collective	Individual	Collective	Individual
PIMR	$R^2 = .44$ $p = .03$	$R^2 = .17$ $p = .001$	$R^2 = .115$ $p = .139$	$R^2 = .032$ $p = .06$
SAQ	$R^2 = .13$ $p = .02$	$R^2 = .036$ $p = .008$	$R^2 = .248$ $p = .046$	$R^2 = .07$ $p = .0002$

A significant relationship was found among the behaviors of the instructional leader as measured by the PIMR and the collective pedagogical efficacy of the school. Eight of the eleven behaviors (frame school goals, communicate school goals, monitor student progress, protect instructional time, maintain high visibility, provide incentives for teachers, promote professional development, and provide incentives for learning) explained 44% of the variance between schools regarding teachers' sense of collective pedagogical efficacy ($E(8,26) = 2.61, p = .03$). Of the eight behaviors, communicate the school's goals, monitor student progress, and provide incentives for teachers accounted for 38% of the variation between schools.

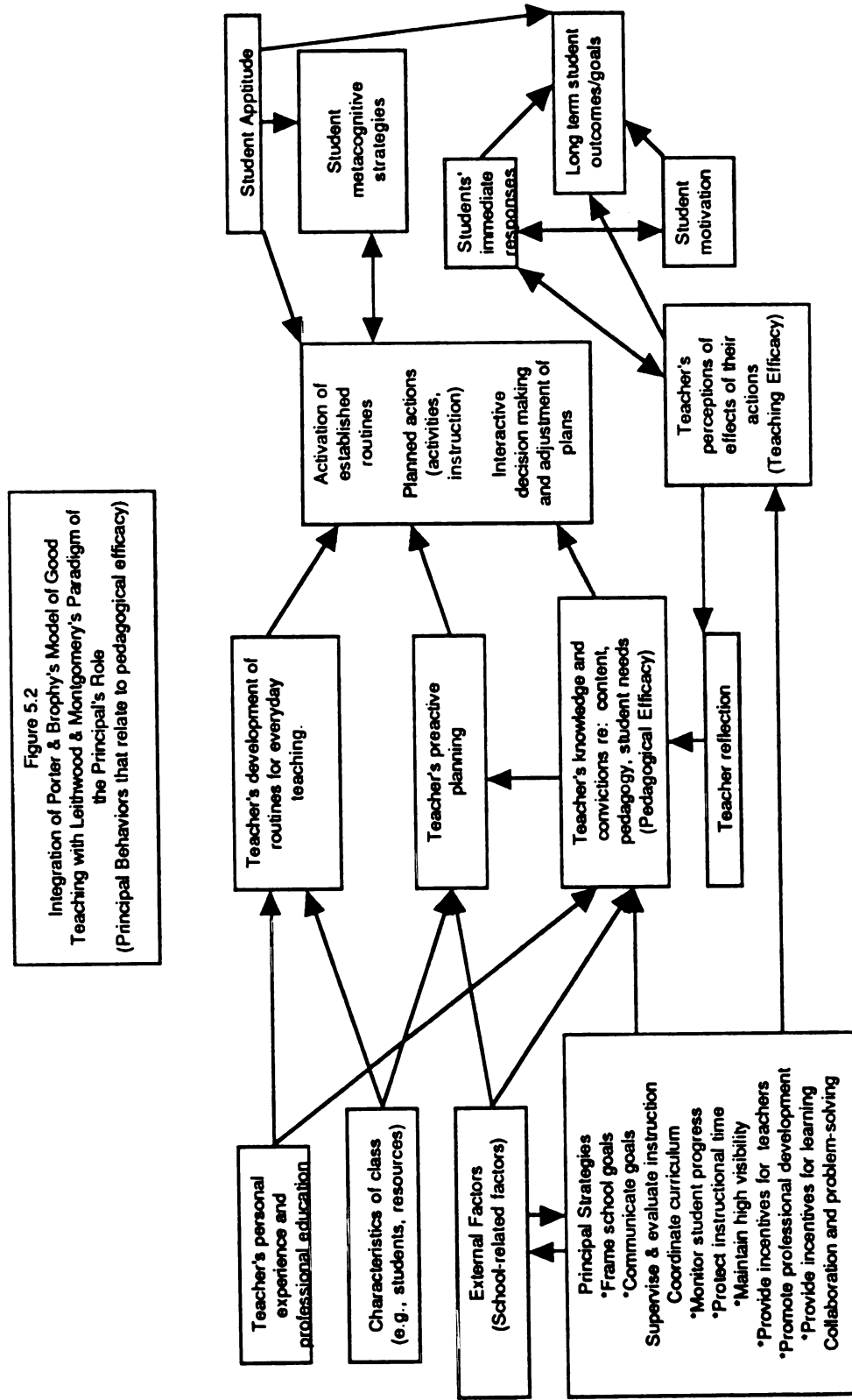
Also found was a significant relationship between individual pedagogical efficacy and the behaviors of instructional leaders ($E(11,154) = 3.06, p = .001$). All eleven behaviors could account for 17.9% of the variation in teachers' sense of pedagogical efficacy.

The instructional leader aspect of communication measured by the SAQ accounted for 13% of the variation in teachers' sense of collective pedagogical efficacy. Only 3.6% of the variation in teachers' sense of individual pedagogical efficacy was accounted for by the SAQ aspect called resource provider.

Pedagogical Efficacy

Both instruments reflected the same pattern: a lower percentage of variation in individual pedagogical efficacy which could be accounted for by principal behavior. These findings seem reasonable when one considers all the factors that can affect a teacher's view of his pedagogical skills (personal experiences, professional training, professional experiences, etc.).

In Figure 5.2, "Principal Strategies" directly affect both "external factors" and "teachers' knowledge." This suggests that the behaviors a strong instructional leader performs impacts the teacher's perception of their pedagogical efficacy both directly and indirectly through school related factors.



To enhance collective efficacy one must bring together the diverse interests of all the participants into a common goal and reorganize the structure of the institution so that different performances can be obtained from the same participants (Bandura, 1986). Findings from this study lend support to Bandura's theory. The eight job functions that were found to be significantly related to collective pedagogical efficacy all relate to either focusing upon a common goal or promoting the chance for different behaviors to develop (see Figure 5.3).

Figure 5.3.

Job Functions Which Impact Collective Pedagogical Efficacy

<u>Factors which promote</u> <u>collective efficacy</u>	<u>Instructional leader</u> <u>behaviors</u>
•Focusing on common goal •Promoting different behaviors	•Framing school's goals •Communicating school's goals •Monitor student progress •Protect instructional time •Maintain high visibility •Provide incentives for teachers •Promote professional development •Provide incentives for learning

The variation in discrepancy between the impact that a principal has on individual pedagogical efficacy and collective pedagogical efficacy also lends support to Bandura's argument. Strong instructional leaders work at bringing together the diverse interests of several teachers (as can be seen in their own views regarding pedagogical efficacy) through specific goals that are articulated; being involved in instructional issues; and recognizing and encouraging good work. Through framing and communicating explicit goals, monitoring outcomes, and adjusting the technologies which are available, a strong instructional leader can influence the group's judgement regarding its capability to make group decisions, utilize resources, and devise strategies which will result in the group's attaining its established goals.

Teaching Efficacy and Instructional Leadership

The percent of variation in either collective or individual teaching efficacy that could be accounted for by the behaviors of the principal as measured by the PIMR did not reach significance. Although not significant, the amount of variance was 11.5% and 3.2% respectively. The results, therefore, did not support the stated hypothesis.

One of the four instructional-leader behavior aspects measured by the SAQ accounted for 21.4% of the variance in teachers' sense of collective teaching efficacy. All four of the instructional-leader behavior aspects of the SAQ accounted for 24.8% of the variance in teachers' sense of collective teaching efficacy.

The amount of variance accounted for in teachers' sense of individual teaching efficacy using the SAQ's aspect of "resource provider" was 7%.

Teaching Efficacy

Porter and Brophy's (1988) Model of Good Teaching along with Leithwood and Montgomery's (1982) Paradigm of the Principal's Role helps to explain these findings from a conceptual point (Figure 5.2). The integration of these two models (as proposed in Chapter Two) suggests that principal behaviors have more of a direct impact on pedagogical efficacy or "teacher's knowledge and convictions" and an indirect impact on

teaching efficacy or "teacher's perceptions." The schematic also suggests that "teacher's perceptions" or teaching efficacy is more influenced by students' immediate responses and long-term student outcomes. This seems plausible since teachers receive direct feedback from students on a daily basis by the work that is performed in the classroom. Feedback on student achievement that a principal provides a teacher is more indirect and not as frequent.

The finding regarding teaching efficacy (outcome expectancy) can also be explained by teachers' general belief dealing with external factors. Ashton (1984, p. 30) points out that "a dramatic change in performance [is] required before teachers assume responsibility for the students' performance." Teachers tend to attribute student learning to factors such as ability, socio-economic characteristics, and parental support instead of their own pedagogical skills.

Conclusions

The quality of leadership that is exhibited by the principal does influence how the school will function. This conclusion is congruent with the findings of Likert (1967), Weber (1971), Armour et al. (1976), and Andrews et al. (1986). Based upon the results obtained in this study, it can be argued that teachers in schools experiencing a decline in student learning have a leader who is not focusing the group, monitoring the outcomes, or working at adjusting the instructional technologies to which they have access. The stronger instructional leader maintains a clearer focus which is communicated to the faculty and works with the teachers to achieve the identified goals.

Evidence found in this study appears to support the theoretical relationship between leadership and efficacy that was advocated in Chapter Two. A positive relationship seems to exist between the behaviors of an instructional leader and both

individual and collective pedagogical efficacy. While an instructional leader can, to a certain extent, influence an individual teacher's perception of his/her own pedagogical efficacy, an instructional leader does play an important role in altering the collective pedagogical efficacy perceptions held by a faculty. In other words, the instructional leader is vital in helping a faculty to organize and utilize the expertise which exists within itself to execute a concerted course of action. Behaviors that Bandura advocated were the sources of information which influence efficacy are the same behaviors which have been attributed to strong instructional leaders.

Hallinger's (1984) Principal Instructional Manager Rating Scale (PIMR) appears to discriminate better among schools than does Andrews et al. (1986) Staff Assessment Questionnaire (SAQ). The findings that Andrews obtained were not replicated in this study.

Implications for Practice

From empirical evidence cited and from the findings of this study, it is important for school districts to look closely at the behaviors exhibited by individuals who are principals or who are aspiring to be principals. One of the most critical components of successful schools is the role that the person who is filling the position of principal takes. Principals play a vital role in the change and improvement process that schools experience. Therefore it is necessary to coach and help refine the skills of existing principals. Bossert et al. (1982) suggest four broad categories (goals and production, power and decision making, organization and coordination, and human relations) which address the same job functions used in the PIMR. One way to help existing principals is to incorporate these job functions into the principal evaluation that the district uses. A second approach is to see that discussion takes place concerning the gains or lack of gains

that each building is making in relation to the district's goals (provided the district's goals are explicit and articulated). Selection of new principals should also concentrate on identifying those individuals who have skills and abilities in these job functions.

For school improvement to occur, the unit of change has to be the school. The key to success centers on the fact that the group has a common purpose, holds the perception that the group indeed has the skills and capabilities to devise a plan and can execute it in an efficient manner.

The unifying purposes must be explicit and attainable through concerted effort.

Because success calls for sustained effort over a long time, proximal subgoals are needed to provide incentives and evidence of progress along the way (p.453).

A sense of collective efficacy is difficult to develop and to sustain when the effects of group effort are not so noticeable (Bandura, 1986, p.451).

It is only the school that can tap into the expertise that exists within the faculty and it is the instructional leader who can orchestrate the actions so that the group begins to work together. Schools in which a perception of collective efficacy is not developed will view themselves as helpless and unable to improve their situation through a concerted effort.

Recently there has been considerable discussion regarding school-based decision making. The success or failure of the notion of school-based decision making could rest on how groups view their ability to improve the existing situation. For some schools, it may be very difficult to implement the concept of site-based decision making because of certain underminers as dependence on technologies that govern their actions and layers of bureaucratic structures (Bandura, 1986). Care will be needed to insure that a school faculty is given the skills to problem-solve cooperatively and make decisions. Goodlad (1975) stated that teachers have been in a subordinate role so long that assuming a greater role in decision making will be difficult.

Recommendations for Further Research

If this study was to be replicated, the recommendation would be made that some form of personal contact be made with each school. A response rate greater than 20% would enhance the credibility of the conclusions drawn from this study. Attempts to overcome this problem were made by following Dillman's (1974) suggestions for conducting mail survey questionnaires. (The procedure used was discussed in Chapter 3). Goodlad (1975) suggested that teachers see little value in research and data collection and therefore choose not to participate. At any rate, a face-to-face interaction would help to increase the return rate.

One of the problems with this study was that teachers were not asked to respond to the questions regarding pedagogical and teaching efficacy with a particular focus. It was suggested that this flaw is what contributed to the fact that neither efficacy construct discriminated among the three types of schools. For this reason, it is suggested that further study be conducted between instructional leadership and teacher efficacy focusing on a specific area such as reading or math. The two questions used in the studies by Armour et al. (1976) and Berman et al. (1977) which found a significant relationship between teacher efficacy and student learning should also be included besides the questions developed by Gibson and Denbo (1984).

There was no difference found between the leadership of improving and stable schools. One of the explanations offered suggested that this could be due to the level of conflict that exists in improving schools. Research that centers on instructional leadership in improving, stable, and declining schools should also include some measure for the level of conflict which exists in the buildings.

Research dealing with collective efficacy is minimal. As Bandura (1986) suggests, great gains in understanding this concept could be made if organizations were studied where collective efficacy was developing, declining, or where it had been restored. Not only would this add to the understanding of the theory of efficacy but would also contribute to the understanding of the school improvement process.

This study used a state criterion referenced text for school selection. It would be desirable if additional forms of student performance were used in classifying schools as either improving, stable, or declining.

APPENDICES

APPENDIX A

Principal Instructional Management Rating Scale

Appendix A
Principal Instructional Management Rating Scale
 (Used with permission from Philip Hallinger)

	Almost Never					Almost Always				
<u>I. FRAME THE SCHOOL GOALS</u>										
1. To what extent does your principal develop a focused set of annual school-wide goals?	1	2	3	4	5					
2. To what extent does your principal frame the school's goals in terms of staff responsibilities for meeting them?	1	2	3	4	5					
3. To what extent does your principal use needs assessments or other systematic methods to secure staff input on goal development?	1	2	3	4	5					
4. To what extent does your principal use data on student academic performance when developing the school's academic goals?	1	2	3	4	5					
5. To what extent does your principal develop goals that are easily translated into classroom objectives by teachers?	1	2	3	4	5					
<u>II. COMMUNICATE THE SCHOOL GOALS</u>										
6. To what extent does your principal communicate the school's mission effectively to members of the school community?	1	2	3	4	5					
7. To what extent does your principal discuss the school's academic goals with teachers at faculty meetings?	1	2	3	4	5					
8. To what extent does your principal refer to the school's academic goals when making curricular decisions with teachers?	1	2	3	4	5					
9. To what extent does your principal ensure that the school's academic goals are reflected in highly visible displays in the school (e.g. posters or bulletin boards emphasizing reading or math)?	1	2	3	4	5					
10. To what extent does your principal refer to the school's goals in student assemblies?	1	2	3	4	5					

	Almost Never					Almost Always				
<u>III. SUPERVISE & EVALUATE INSTRUCTION</u>										
11. To what extent does your principal ensure that the classroom priorities of teachers are consistent with the stated goals of the school?	1	2	3	4	5					
12. To what extent does your principal review work products when evaluating classroom instruction?	1	2	3	4	5					
13. To what extent does your principal conduct informal observations in classrooms on a regular basis (informal observations are unscheduled, last at least 5 minutes, and may or may not involve written feedback or a formal conference)?	1	2	3	4	5					
14. To what extent does your principal point out specific strengths in teacher instructional practices in post observation feedback (e.g., in conferences or written evaluations)?	1	2	3	4	5					
15. To what extent does your principal point out weaknesses in teacher instructional practices in post observation feedback (e.g., in conferences or in written evaluations)?	1	2	3	4	5					
<u>IV. COORDINATE THE CURRICULUM</u>										
16. To what extent does your principal make clear who is responsible for coordinating the curriculum across grade levels (e.g., the principal, the vice principal or teacher-leader)?	1	2	3	4	5					
17. To what extent does your principal draw upon the results of school-wide testing when making curricular decisions?	1	2	3	4	5					
18. To what extent does your principal monitor the classroom curriculum to see that it covers the school's curricular objectives?	1	2	3	4	5					
19. To what extent does your principal assess the overlap between the school's curricular objectives and the school's achievement tests?	1	2	3	4	5					
20. To what extent does your principal practice actively in the review of curriculum materials?	1	2	3	4	5					

	Almost Never			Almost Always		
<u>V. MONITOR STUDENT PROGRESS</u>						
21. To what extent does your principal meet individually with teachers to discuss student academic progress	1	2	3	4	5	
22. To what extent does your principal discuss the item analysis of tests with the faculty to identify curricular strengths and weaknesses?	1	2	3	4	5	
23. To what extent does your principal use test results to assess progress toward school goals?	1	2	3	4	5	
24. To what extent does your principal inform teachers of the school's performance results in written form (e.g., in a memo or newsletter)?	1	2	3	4	5	
25. To what extent does your principal inform students of school's test results?	1	2	3	4	5	
<u>VI. PROTECT INSTRUCTIONAL TIME</u>						
26. To what extent does your principal limit interruptions of instructional time by public address announcements?	1	2	3	4	5	
27. To what extent does your principal ensure that students are not called to the office during instructional time?	1	2	3	4	5	
28. To what extent does your principal ensure that tardy and truant students suffer specific consequences for missing instructional time?	1	2	3	4	5	
29. To what extent does your principal encourage teachers to use instructional time for teaching and practicing new skills and concepts?	1	2	3	4	5	
30. To what extent does your principal limit the intrusion of extra- and co-curricular activities on instructional time?	1	2	3	4	5	
<u>VII. MAINTAIN HIGH VISIBILITY</u>						
31. To what extent does your principal take time to talk with students and teachers during recess and breaks?	1	2	3	4	5	

	Almost Never			Almost Always		
32. To what extent does your principal visit classrooms to discuss school issues with teachers and students?	1	2	3	4	5	
33. To what extent does your principal attend/participate in extra- and co-curricular activities?	1	2	3	4	5	
34. To what extent does your principal cover a class for teachers until a late or substitute teacher arrives?	1	2	3	4	5	
35. To what extent does your principal tutor students or provide direct instruction to class?	1	2	3	4	5	

VIII. PROVIDE INCENTIVES FOR TEACHERS

36. To what extent does your principal reinforce superior performance by teachers in staff meetings, newsletters, and/or memos?	1	2	3	4	5	
37. To what extent does your principal compliment teachers privately for their efforts or performance?	1	2	3	4	5	
38. To what extent does your principal acknowledge teachers' exceptional performance by writing memos for their personnel files?	1	2	3	4	5	
39. To what extent does your principal reward special efforts by teachers with opportunities for professional recognition?	1	2	3	4	5	
40. To what extent does your principal create professional growth opportunities for teachers as a reward for special contributions to the school?	1	2	3	4	5	

IX. PROMOTE PROFESSIONAL DEVELOPMENT

41. To what extent does your principal ensure that in-service activities attended by the staff are consistent with the school's academic goals?	1	2	3	4	5	
42. To what extent does your principal actively support the use of skills acquired during in-service training in the classroom?	1	2	3	4	5	

	Almost Never			Almost Always	
43. To what extent does your principal obtain the participation of the whole staff in important in-service activities?	1	2	3	4	5
44. To what extent does your principal lead or attend teacher in-service activities concerned with instruction?	1	2	3	4	5
45. To what extent does your principal set aside time at faculty meetings for teachers to share ideas or information from in-service activities?	1	2	3	4	5
<u>X. PROVIDE INCENTIVES FOR LEARNING</u>					
46. To what extent does your principal recognize students who do superior academic work with formal rewards such as an honor roll or mention in the principal's newsletter?	1	2	3	4	5
47. To what extent does your principal use assemblies to honor students for academic accomplishments or behavior or citizenship?	1	2	3	4	5
48. To what extent does your principal recognize superior student achievement or improvement by seeing students in the office with their work?	1	2	3	4	5
49. To what extent does your principal contact parents to communicate improved or exemplary student performance or contributions?	1	2	3	4	5
50. To what extent does your principal support teachers actively in their recognition and/or reward of student contributions to and accomplishments in class?	1	2	3	4	5

APPENDIX B

Enhancing Collaboration and Support

Appendix B
Enhancing Collaboration and Support
(Adapted from Azumi and Madhere, 1982)

	Almost Never			Almost Always	
1. To what extent does your principal seek teacher input concerning changes which affect their job?	1	2	3	4	5
2. To what extent does your principal encourage and promote the sharing of ideas among teachers?	1	2	3	4	5
3. To what extent does your principal utilize a team oriented approach to problem solving?	1	2	3	4	5
4. To what extent does your principal communicate so that effective two-way exchanges occur between administrators and teachers?	1	2	3	4	5
5. To what extent does your principal share information with teachers which assists them in their own problem solving?	1	2	3	4	5

APPENDIX C

Staff Assessment Questionnaire

Appendix C
Staff Assessment Questionnaire
 (Used with permission from Richard Andrews)

	Strongly Disagree			Strongly Agree	
1. *District-adopted textbooks guide my planning of instruction.	1	2	3	4	5
2. *Our school provides its students with a strong multiethnic-multicultural education.	1	2	3	4	5
3. *I teach basically the same content that is taught in other classes at the same grade or same course in my school.	1	2	3	4	5
4. *Staff members of our school are sensitive to the needs and concerns of both sexes.	1	2	3	4	5
5. *Staff at our school have the same expectations of academic achievement for both female and male students	1	2	3	4	5
6. Criterion-referenced tests are used to assess basic skills throughout the school.	1	2	3	4	5
7. *The curriculum of our school is multiethnic and multicultural.	1	2	3	4	5
8. Student assessment information (such as criterion-referenced tests, skill checklists, etc.) is used regularly to give specific student feedback and plan appropriate instruction.	1	2	3	4	5
9. My school has effective programs for students who are in need of remediation.	1	2	3	4	5
10. *Our school's staff examines instructional materials for ethnic and racial bias.	1	2	3	4	5
11. *Assemblies and special activities at our school reflect the ethnic and cultural diversity in the community.	1	2	3	4	5
12. The principal uses test results to recommend changes in the instructional program.	1	2	3	4	5
13. My school has effective procedures for identifying students with special learning needs.	1	2	3	4	5

	Strongly Disagree			Strongly Agree	
14. *The teaching styles in our school are sensitive to the needs and concerns of both sexes.	1	2	3	4	5
15. Multiple assessment methods are used to assess student progress in basic skills (e.g., criterion-referenced tests, work samples, mastery checklists, etc.).	1	2	3	4	5
16. Teachers in my school frequently assess the progress of students in basic skills.	1	2	3	4	5
17. The principal in my school is aware of student progress in relation to instructional objectives.	1	2	3	4	5
18. *What I teach in my class contributes to the content of the grade or course that follows it.	1	2	3	4	5
19. *Our school's curriculum helps students view ideas from diverse ethnic perspectives and points of view.	1	2	3	4	5
20. *Staff members of our school are sensitive to ethnic and cultural differences.	1	2	3	4	5
21. My school is responsive to students with special learning needs.	1	2	3	4	5
22. Staff review and analyze test results to plan instructional program changes.	1	2	3	4	5
23. Students with special learning needs in my class are not receiving the instructional program they need.	1	2	3	4	5
24. *The teaching styles in our school are sensitive to the ethnic and cultural diversity of our students.	1	2	3	4	5
25. *District curriculum documents guide my planning of instruction.	1	2	3	4	5
26. *The atmosphere of our school is responsive to cultural, ethnic and language differences.	1	2	3	4	5
27. *Procedures used to motivate students are fair to both sexes.	1	2	3	4	5

	Strongly Disagree			Strongly Agree	
28. *What I teach in my class builds upon the content of the grade or course that precedes it.	1	2	3	4	5
29. *Bulletin boards and other displays in our school reflect ethnic and cultural pluralism.	1	2	3	4	5
30. People in my school are willing to listen to the ideas and feelings of others, even when they disagree.	1	2	3	4	5
31. Most students in my school will perform at about the national average in academic achievement.	1	2	3	4	5
32. Students cut a lot of classes.	1	2	3	4	5
33. No challenge is too tough for our staff.	1	2	3	4	5
34. My principal leads formal discussions concerning instruction and student achievement.	1	2	3	4	5
35. Many of my students will probably leave school before high school graduation.	1	2	3	4	5
36. Most students in my school are capable of mastering grade-level academic objectives.	1	2	3	4	5
37. Vandalism is a problem in my school.	1	2	3	4	5
38. People in our building seek out training experiences that increase their ability to educate students.	1	2	3	4	5
39. Teachers in my school turn to the principal with instructional concerns or problems.	1	2	3	4	5
40. Teachers know and treat students as individuals.	1	2	3	4	5
41. I would transfer to another school if I could.	1	2	3	4	5
42. My principal provides frequent feedback regarding my classroom performance.	1	2	3	4	5
43. Teachers in my school generally believe most students are able to master the basic reading/math skills.	1	2	3	4	5

	Strongly Disagree			Strongly Agree		
44. I expect that most students in my school will perform above the national average in academic achievement.	1	2	3	4	5	
45. Our staff holds itself to the highest professional standards.	1	2	3	4	5	
46. My principal assist faculty in interpreting test results.	1	2	3	4	5	
47. We are committed to working together as a faculty.	1	2	3	4	5	
48. Nearly all of my students will be at or above grade level by the end of the year.	1	2	3	4	5	
49. Drug and alcohol abuse are problems in this school.	1	2	3	4	5	
50. My principal is an effective disciplinarian.	1	2	3	4	5	
51. People in our building work hard to maintain good relations with parents.	1	2	3	4	5	
52. Discipline is fair and related to violations of agreed-upon rules.	1	2	3	4	5	
53. Teacher in other schools would rate my school's level of academic achievement as good.	1	2	3	4	5	
54. Stealing is a problem in this school.	1	2	3	4	5	
55. My principal is an important instructional resource in our school.	1	2	3	4	5	
56. A positive feeling permeates this school.	1	2	3	4	5	
57. I am satisfied with the variety of extracurricular activities at this school.	1	2	3	4	5	
58. My principal promotes staff development activities for faculty.	1	2	3	4	5	
59. My principal communicates clearly to me regarding instructional matters.	1	2	3	4	5	
60. Teachers and staff members take a real interest in their students' future.	1	2	3	4	5	

	Strongly Disagree			Strongly Agree	
61. Staff in our building have a great deal of trust.	1	2	3	4	5
62. My principal is accessible to discuss matters dealing with instruction.	1	2	3	4	5
63. My principal encourages the use of different instructional strategies.	1	2	3	4	5
64. I enjoy working at this school.	1	2	3	4	5
65. Student behavior is generally positive at this school.	1	2	3	4	5
66. Most of my students will show at least one year's growth in academic achievement this year.	1	2	3	4	5
67. My principal mobilizes support to help achieve academic goals.	1	2	3	4	5
68. Discussions with my principal result in improved instructional practice.	1	2	3	4	5
69. If a person in the building runs into trouble, someone helps him or her out.	1	2	3	4	5
70. The academic ability of students in my school compares favorably with students in other schools.	1	2	3	4	5
71. I expect most students in my school will perform below the national average in academic achievement.	1	2	3	4	5
72. My principal makes frequent classroom observations.	1	2	3	4	5
73. Most of the students in my school will ultimately graduate from high school.	1	2	3	4	5
74. My principal is knowledgeable about instructional resources.	1	2	3	4	5
75. Students can count on staff members to listen to their side of the story and be fair.	1	2	3	4	5
76. The district can count on us to give our best.	1	2	3	4	5
77. My principal's evaluation of my performance helps me improve my teaching.	1	2	3	4	5

	Strongly Disagree			Strongly Agree	
78. Students in my school abide by school rules.	1	2	3	4	5
79. My principal is a strong instructional leader.	1	2	3	4	5
80. My school building is neat, bright, clean and comfortable.	1	2	3	4	5
81. Staff in our school are proud of what they do.	1	2	3	4	5
82. My principal is an active participant in staff development.	1	2	3	4	5
83. We are ready to learn to do our jobs in a new way if it will meet the needs of students.	1	2	3	4	5
84. Staff and students do not view security as an issue in my school.	1	2	3	4	5
85. Staff in this school really care about how much students learn.	1	2	3	4	5
86. This school makes students enthusiastic about learning.	1	2	3	4	5
87. My principal is a "visible presence" in our building to both staff and students.	1	2	3	4	5
88. Whatever it takes, people in our building solve problems.	1	2	3	4	5
89. I feel there are procedures open to me to go to a higher authority if a decision has been made that seems unfair.	1	2	3	4	5
90. My principal uses clearly communicated criteria for judging my performance.	1	2	3	4	5
91. My principal provides a clear vision of what our school is all about.	1	2	3	4	5
92. The physical condition of my school is generally pleasant and well-kept.	1	2	3	4	5
93. Problems in this school are recognized and worked on.	1	2	3	4	5
94. People in this building are willing to help out wherever they are needed.	1	2	3	4	5

APPENDIX D

Teacher Efficacy Scale

Appendix D
Teacher Efficacy Scale
 (Used with permission from Sherri Gibson)

	Strongly Disagree					Strongly Agree				
<u>I. PEDAGOGICAL EFFICACY</u>										
1. If a student masters a new math concept quickly, this might be because I knew the necessary steps in teaching that concept.	1	2	3	4	5					
2. When the grades of my students improve it is usually because I found more effective teaching approaches.	1	2	3	4	5					
3. When I really try, I can get through to most difficult students.	1	2	3	4	5					
4. If a student did not remember information I gave in a previous lesson, I would know how to increase his/her retention in the next lesson.	1	2	3	4	5					
5. When a student does better than usual, many times it is because I exerted a little extra effort.	1	2	3	4	5					
6. If a student in my classroom becomes disruptive and noisy, I feel assured that I know some techniques to redirect him/her quickly.	1	2	3	4	5					
7. If one of my students could not do a class assignment, I would be able to accurately assess whether the assignment was at the correct level of difficulty.	1	2	3	4	5					
8. When a student is having difficulty with an assignment, I am usually able to adjust it to his/her level.	1	2	3	4	5					
9. When a student gets a better grade than he/she usually gets, it is usually because I found better ways of teaching that student.	1	2	3	4	5					
<u>II. TEACHING EFFICACY</u>										
10. A teacher is very limited in what he/she can achieve because a student's home environment is a large influence on his/her achievement.	1	2	3	4	5					

	Stongly Disagree			Strongly Agree	
11. If students are not disciplined at home, they aren't likely to accept any discipline.	1	2	3	4	5
12. The hours in my class have little influence on students compared to the influence of their home environment.	1	2	3	4	5
13. The amount that a student can learn is primarily related to family background.	1	2	3	4	5
14. The influence of a student's home experience can be overcome by good teaching.	1	2	3	4	5
15. If parents would do more with their children, I could do more.	1	2	3	4	5
16. Even a teacher with good teaching abilities may not reach many students.	1	2	3	4	5

APPENDIX E

Form A - Questionnaire for Study

National Center For Effective Schools Research and Development

2199 Jolly Road, Suite #160 Okemos, Michigan 48864 (517)349-8841

Dear Teacher,

Thank you for taking approximately 20 minutes out of your busy schedule to complete this questionnaire. This study is being conducted under the supervision of Michigan State University and is being funded in part by the National Center for Effective Schools.

Please notice that there is no place for your name on this questionnaire. All responses will be treated with strict confidence and you will remain anonymous in the findings. All results will be reported by groups. Findings of this study will be made available to participants on request using the above guidelines.

The purpose of this questionnaire is to see if a relationship exists between the behaviors of the building principal and beliefs about teaching held by teachers. This questionnaire is designed to provide a profile of principal instructional leadership as well as give you the opportunity to express your views on some beliefs held by teachers. There are no right or wrong answers, so please do not hesitate to respond frankly.

Read each statement carefully. Then circle the number that indicates your feelings. 5 represents "Almost Always", 4 represents "Always", 3 represents "Sometimes", 2 represents "Seldom", and 1 represents "Almost Never". PLEASE DO NOT OMIT ANY ITEMS. After completing the questionnaire, slip it into the envelope provided, seal it, and return it to the school secretary. The sealed envelopes will then be returned to the National Center for Effective Schools.

Questions or concerns that you might have by participating in the study can be answered by contacting the National Center for Effective Schools. You indicate your voluntary agreement to participate by completing and returning this questionnaire.

PLEASE PROVIDE THE FOLLOWING INFORMATION.

(A) School Name: _____

(B) Years working with the current principal at the end of this school year:

☐ 1-2 ☐ 3-4 ☐ 5-9 ☐ 10-15 ☐ more than 15
 (1) (2) (3) (4) (5)

(C) Years experience as a teacher at the end of this school year:

☐ 1-2 ☐ 3-4 ☐ 5-9 ☐ 10-15 ☐ more than 15
 (1) (2) (3) (4) (5)

(D) Grade level you teach:

☐ K-1 ☐ 2-3 ☐ 4-6 ☐ Special Education ☐ Specials
 (1) (2) (3) (4) (5)

Thank you.

	Almost Never			Almost Always	
I. FRAME THE SCHOOL GOALS					
1. To what extent does your principal develop a focused set of annual school-wide goals?	1	2	3	4	5
2. To what extent does your principal frame the school's goals in terms of staff responsibilities for meeting them?	1	2	3	4	5
3. To what extent does your principal use needs assessments or other systematic methods to secure staff input on goal development?	1	2	3	4	5
4. To what extent does your principal use data on student academic performance when developing the school's academic goals?	1	2	3	4	5
5. To what extent does your principal develop goals that are easily translated into classroom objectives by teachers?	1	2	3	4	5
II. COMMUNICATE THE SCHOOL GOALS					
6. To what extent does your principal communicate the school's mission effectively to members of the school community?	1	2	3	4	5
7. To what extent does your principal discuss the school's academic goals with teachers at faculty meetings?	1	2	3	4	5
8. To what extent does your principal refer to the school's academic goals when making curricular decisions with teachers?	1	2	3	4	5
9. To what extent does your principal ensure that the school's academic goals are reflected in highly visible displays in the school (e.g. posters or bulletin boards emphasizing reading or math)?	1	2	3	4	5
10. To what extent does your principal refer to the school's goals in student assemblies?	1	2	3	4	5

Almost
Never

Almost
Always

III. SUPERVISE & EVALUATE INSTRUCTION

- | | | | | | |
|---|---|---|---|---|---|
| 11. To what extent does your principal ensure that the classroom priorities of teachers are consistent with the stated goals of the school? | 1 | 2 | 3 | 4 | 5 |
| 12. To what extent does your principal review work products when evaluating classroom instruction? | 1 | 2 | 3 | 4 | 5 |
| 13. To what extent does your principal conduct informal observations in classrooms on a regular basis (informal observations are unscheduled, last at least 5 minutes, and may or may not involve written feedback or a formal conference)? | 1 | 2 | 3 | 4 | 5 |
| 14. To what extent does your principal point out specific strengths in teacher instructional practices in post observation feedback (e.g., in conferences or written evaluations)? | 1 | 2 | 3 | 4 | 5 |
| 15. To what extent does your principal point out weaknesses in teacher instructional practices in post observation feedback (e.g., in conferences or in written evaluations)? | 1 | 2 | 3 | 4 | 5 |

IV. COORDINATE THE CURRICULUM

- | | | | | | |
|---|---|---|---|---|---|
| 16. To what extent does your principal make clear who is responsible for coordinating the curriculum across grade levels (e.g., the principal, the vice principal or teacher-leader)? | 1 | 2 | 3 | 4 | 5 |
| 17. To what extent does your principal draw upon the results of school-wide testing when making curricular decisions? | 1 | 2 | 3 | 4 | 5 |
| 18. To what extent does your principal monitor the classroom curriculum to see that it covers the school's curricular objectives? | 1 | 2 | 3 | 4 | 5 |
| 19. To what extent does your principal assess the overlap between the school's curricular objectives and the school's achievement tests? | 1 | 2 | 3 | 4 | 5 |

	Almost Never			Almost Always	
20. To what extent does your principal practice actively in the review of curriculum materials?	1	2	3	4	5

V. MONITOR STUDENT PROGRESS

21. To what extent does your principal meet individually with teachers to discuss student academic progress	1	2	3	4	5
22. To what extent does your principal discuss the item analysis of tests with the faculty to identify curricular strengths and weaknesses?	1	2	3	4	5
23. To what extent does your principal use test results to assess progress toward school goals?	1	2	3	4	5
24. To what extent does your principal inform teachers of the school's performance results in written form (e.g., in a memo or newsletter)?	1	2	3	4	5
25. To what extent does your principal inform students of school's test results?	1	2	3	4	5

VI. PROTECT INSTRUCTIONAL TIME

26. To what extent does your principal limit interruptions of instructional time by public address announcements?	1	2	3	4	5
27. To what extent does your principal ensure that students are not called to the office during instructional time?	1	2	3	4	5
28. To what extent does your principal ensure that tardy and truant students suffer specific consequences for missing instructional time?	1	2	3	4	5
29. To what extent does your principal encourage teachers to use instructional time for teaching and practicing new skills and concepts?	1	2	3	4	5
30. To what extent does your principal limit the intrusion of extra- and co-curricular activities on instructional time?	1	2	3	4	5

Almost Never					Almost Always
-----------------	--	--	--	--	------------------

VII. MAINTAIN HIGH VISIBILITY

- | | | | | | |
|---|---|---|---|---|---|
| 31. To what extent does your principal take time to talk with students and teachers during recess and breaks? | 1 | 2 | 3 | 4 | 5 |
| 32. To what extent does your principal visit classrooms to discuss school issues with teachers and students? | 1 | 2 | 3 | 4 | 5 |
| 33. To what extent does your principal attend/participate in extra- and co-curricular activities? | 1 | 2 | 3 | 4 | 5 |
| 34. To what extent does your principal cover a class for teachers until a late or substitute teacher arrives? | 1 | 2 | 3 | 4 | 5 |
| 35. To what extent does your principal tutor students or provide direct instruction to class? | 1 | 2 | 3 | 4 | 5 |

VIII. PROVIDE INCENTIVES FOR TEACHERS

- | | | | | | |
|---|---|---|---|---|---|
| 36. To what extent does your principal reinforce superior performance by teachers in staff meetings, newsletters, and/or memos? | 1 | 2 | 3 | 4 | 5 |
| 37. To what extent does your principal compliment teachers privately for their efforts or performance? | 1 | 2 | 3 | 4 | 5 |
| 38. To what extent does your principal acknowledge teachers' exceptional performance by writing memos for their personnel files? | 1 | 2 | 3 | 4 | 5 |
| 39. To what extent does your principal reward special efforts by teachers with opportunities for professional recognition? | 1 | 2 | 3 | 4 | 5 |
| 40. To what extent does your principal create professional growth opportunities for teachers as a reward for special contributions to the school? | 1 | 2 | 3 | 4 | 5 |

Almost Never					Almost Always
-----------------	--	--	--	--	------------------

IX. PROMOTE PROFESSIONAL DEVELOPMENT

- | | | | | | |
|--|---|---|---|---|---|
| 41. To what extent does your principal ensure that in-service activities attended by the staff are consistent with the school's academic goals? | 1 | 2 | 3 | 4 | 5 |
| 42. To what extent does your principal actively support the use of skills acquired during in-service training in the classroom? | 1 | 2 | 3 | 4 | 5 |
| 43. To what extent does your principal obtain the participation of the whole staff in important in-service activities? | 1 | 2 | 3 | 4 | 5 |
| 44. To what extent does your principal lead or attend teacher in-service activities concerned with instruction? | 1 | 2 | 3 | 4 | 5 |
| 45. To what extent does your principal set aside time at faculty meetings for teachers to share ideas or information from in-service activities? | 1 | 2 | 3 | 4 | 5 |

X. PROVIDE INCENTIVES FOR LEARNING

- | | | | | | |
|---|---|---|---|---|---|
| 46. To what extent does your principal recognize students who do superior academic work with formal rewards such as an honor roll or mention in the principal's newsletter? | 1 | 2 | 3 | 4 | 5 |
| 47. To what extent does your principal use assemblies to honor students for academic accomplishments or behavior or citizenship? | 1 | 2 | 3 | 4 | 5 |
| 48. To what extent does your principal recognize superior student achievement or improvement by seeing students in the office with their work? | 1 | 2 | 3 | 4 | 5 |
| 49. To what extent does your principal contact parents to communicate improved or exemplary student performance or contributions? | 1 | 2 | 3 | 4 | 5 |
| 50. To what extent does your principal support teachers actively in their recognition and/or reward of student contributions to and accomplishments in class? | 1 | 2 | 3 | 4 | 5 |

	Almost Never					Almost Always				
XI. COLLABORATION AND PROBLEM-SOLVING										
51. To what extent does your principal seek teacher input concerning changes which affect their job?	1	2	3	4	5					
52. To what extent does your principal encourage and promote the sharing of ideas among teachers?	1	2	3	4	5					
53. To what extent does your principal utilize a team oriented approach to problem solving?	1	2	3	4	5					
54. To what extent does your principal communicate so that effective two-way exchanges occur between administrators and teachers?	1	2	3	4	5					
55. To what extent does your principal share information with teachers which assists them in their own problem solving?	1	2	3	4	5					

The following statements deal with beliefs held by most teachers. Please respond to each statement by marking how strongly you agree or disagree.

	Strongly Disagree					Strongly Agree				
XII. TEACHER BELIEFS										
56. If a student masters a new math concept quickly, this might be because I knew the necessary steps in teaching that concept.	1	2	3	4	5					
57. When the grades of my students improve it is usually because I found more effective teaching approaches.	1	2	3	4	5					
58. When I really try, I can get through to most difficult students.	1	2	3	4	5					
59. If a student did not remember information I gave in a previous lesson, I would know how to increase his/her retention in the next lesson.	1	2	3	4	5					
60. When a student does better than usual, many times it is because I exerted a little extra effort.	1	2	3	4	5					

	Strongly Disagree			Strongly Agree	
61. If a student in my classroom becomes disruptive and noisy, I feel assured that I know some techniques to redirect him/her quickly.	1	2	3	4	5
62. If one of my students could not do a class assignment, I would be able to accurately assess whether the assignment was at the correct level of difficulty.	1	2	3	4	5
63. When a student is having difficulty with an assignment, I am usually able to adjust it to his/her level.	1	2	3	4	5
64. When a student gets a better grade than he/she usually gets, it is usually because I found better ways of teaching that student.	1	2	3	4	5
65. A teacher is very limited in what he/she can achieve because a student's home environment is a large influence on his/her achievement.	1	2	3	4	5
66. If students are not disciplined at home, they aren't likely to accept any discipline.	1	2	3	4	5
67. The hours in my class have little influence on students compared to the influence of their home environment.	1	2	3	4	5
68. The amount that a student can learn is primarily related to family background.	1	2	3	4	5
69. The influence of a student's home experience can be overcome by good teaching.	1	2	3	4	5
70. If parents would do more with their children, I could do more.	1	2	3	4	5
71. Even a teacher with good teaching abilities may not reach many students.	1	2	3	4	5

APPENDIX F

Form B - Questionnaire for Study

Thank you

	Strongly Disagree			Strongly Agree		
1. If a student masters a new math concept quickly, this might be because I knew the necessary steps in teaching that concept.	1	2	3	4	5	
2. A teacher is very limited in what he/she can achieve because a student's home environment is a large influence on his/her achievement.	1	2	3	4	5	
3. When the grades of my students improve it is usually because I found more effective teaching approaches.	1	2	3	4	5	
4. If students are not disciplined at home, they aren't likely to accept any discipline.	1	2	3	4	5	
5. When I really try, I can get through to most difficult students.	1	2	3	4	5	
6. Criterion-referenced tests are used to assess basic skills throughout the school.	1	2	3	4	5	
7. The hours in my class have little influence on students compared to the influence of their home environment.	1	2	3	4	5	
8. Student assessment information (such as criterion-referenced tests, skill checklists, etc.) is used regularly to give specific student feedback and plan appropriate instruction.	1	2	3	4	5	
9. My school has effective programs for students who are in need of remediation.	1	2	3	4	5	
10. If a student did not remember information I gave in a previous lesson, I would know how to increase his/her retention in the next lesson.	1	2	3	4	5	
11. When a student does better than usual, many times it is because I exerted a little extra effort.	1	2	3	4	5	
12. The principal uses test results to recommend changes in the instructional program.	1	2	3	4	5	

	Strongly Disagree			Strongly Agree	
13. My school has effective procedures for identifying students with special learning needs.	1	2	3	4	5
14. If a student in my classroom becomes disruptive and noisy, I feel assured that I know some techniques to redirect him/her quickly.	1	2	3	4	5
15. Multiple assessment methods are used to assess student progress in basic skills (e.g., criterion-referenced tests, work samples, mastery checklists, etc.).	1	2	3	4	5
16. Teachers in my school frequently assess the progress of students in basic skills.	1	2	3	4	5
17. The principal in my school is aware of student progress in relation to instructional objectives.	1	2	3	4	5
18. The amount that a student can learn is primarily related to family background.	1	2	3	4	5
19. If one of my students could not do a class assignment, I would be able to accurately assess whether the assignment was at the correct level of difficulty.	1	2	3	4	5
20. The influence of a student's home experience can be overcome by good teaching.	1	2	3	4	5
21. My school is responsive to students with special learning needs.	1	2	3	4	5
22. Staff review and analyze test results to plan instructional program changes.	1	2	3	4	5
23. Students with special learning needs in my class are not receiving the instructional program they need.	1	2	3	4	5
24. When a student is having difficulty with an assignment, I am usually able to adjust it to his/her level.	1	2	3	4	5
25. If parents would do more with their children, I could do more.	1	2	3	4	5

	Strongly Disagree			Strongly Agree	
26. When a student gets a better grade than he/she usually gets, it is usually because I found better ways of teaching that student.	1	2	3	4	5
27. Even a teacher with good teaching abilities may not reach many students.	1	2	3	4	5
28. People in my school are willing to listen to the ideas and feelings of others, even when they disagree.	1	2	3	4	5
29. Most students in my school will perform at about the national average in academic achievement.	1	2	3	4	5
30. Students cut a lot of classes.	1	2	3	4	5
31. No challenge is too tough for our staff.	1	2	3	4	5
32. My principal leads formal discussions concerning instruction and student achievement.	1	2	3	4	5
33. Many of my students will probably leave school before high school graduation.	1	2	3	4	5
34. Most students in my school are capable of mastering grade-level academic objectives.	1	2	3	4	5
35. Vandalism is a problem in my school.	1	2	3	4	5
36. People in our building seek out training experiences that increase their ability to educate students.	1	2	3	4	5
37. Teachers in my school turn to the principal with instructional concerns or problems.	1	2	3	4	5
38. Teachers know and treat students as individuals.	1	2	3	4	5
39. I would transfer to another school if I could.	1	2	3	4	5
40. My principal provides frequent feedback regarding my classroom performance.	1	2	3	4	5
41. Teachers in my school generally believe most students are able to master the basic reading/math skills.	1	2	3	4	5

	Strongly Disagree			Strongly Agree	
42. I expect that most students in my school will perform above the national average in academic achievement.	1	2	3	4	5
43. Our staff holds itself to the highest professional standards.	1	2	3	4	5
44. My principal assist faculty in interpreting test results.	1	2	3	4	5
45. We are committed to working together as a faculty.	1	2	3	4	5
46. Nearly all of my students will be at or above grade level by the end of the year.	1	2	3	4	5
47. Drug and alcohol abuse are problems in this school.	1	2	3	4	5
48. My principal is an effective disciplinarian.	1	2	3	4	5
49. People in our building work hard to maintain good relations with parents.	1	2	3	4	5
50. Discipline is fair and related to violations of agreed-upon rules.	1	2	3	4	5
51. Teacher in other schools would rate my school's level of academic achievement as good.	1	2	3	4	5
52. Stealing is a problem in this school.	1	2	3	4	5
53. My principal is an important instructional resource in our school.	1	2	3	4	5
54. A positive feeling permeates this school.	1	2	3	4	5
55. I am satisfied with the variety of extracurricular activities at this school.	1	2	3	4	5
56. My principal promotes staff development activities for faculty.	1	2	3	4	5
57. My principal communicates clearly to me regarding instructional matters.	1	2	3	4	5

	Strongly Disagree			Strongly Agree	
58. Teachers and staff members take a real interest in their students' future.	1	2	3	4	5
59. Staff in our building have a great deal of trust.	1	2	3	4	5
60. My principal is accessible to discuss matters dealing with instruction.	1	2	3	4	5
61. My principal encourages the use of different instructional strategies.	1	2	3	4	5
62. I enjoy working at this school.	1	2	3	4	5
63. Student behavior is generally positive at this school.	1	2	3	4	5
64. Most of my students will show at least one year's growth in academic achievement this year.	1	2	3	4	5
65. My principal mobilizes support to help achieve academic goals.	1	2	3	4	5
66. Discussions with my principal result in improved instructional practice.	1	2	3	4	5
67. If a person in the building runs into trouble, someone helps him or her out.	1	2	3	4	5
68. The academic ability of students in my school compares favorably with students in other schools.	1	2	3	4	5
69. I expect most students in my school will perform below the national average in academic achievement.	1	2	3	4	5
70. My principal makes frequent classroom observations.	1	2	3	4	5
71. Most of the students in my school will ultimately graduate from high school.	1	2	3	4	5
72. My principal is knowledgeable about instructional resources.	1	2	3	4	5
73. Students can count on staff members to listen to their side of the story and be fair.	1	2	3	4	5

	Strongly Disagree			Strongly Agree	
74. The district can count on us to give our best.	1	2	3	4	5
75. My principal's evaluation of my performance helps me improve my teaching.	1	2	3	4	5
76. Students in my school abide by school rules.	1	2	3	4	5
77. My principal is a strong instructional leader.	1	2	3	4	5
78. My school building is neat, bright, clean and comfortable.	1	2	3	4	5
79. Staff in our school are proud of what they do.	1	2	3	4	5
80. My principal is an active participant in staff development.	1	2	3	4	5
81. We are ready to learn to do our jobs in a new way if it will meet the needs of students.	1	2	3	4	5
82. Staff and students do not view security as an issue in my school.	1	2	3	4	5
83. Staff in this school really care about how much students learn.	1	2	3	4	5
84. This school makes students enthusiastic about learning.	1	2	3	4	5
85. My principal is a "visible presence" in our building to both staff and students.	1	2	3	4	5
86. Whatever it takes, people in our building solve problems.	1	2	3	4	5
87. I feel there are procedures open to me to go to a higher authority if a decision has been made that seems unfair.	1	2	3	4	5
88. My principal uses clearly communicated criteria for judging my performance.	1	2	3	4	5
89. My principal provides a clear vision of what our school is all about.	1	2	3	4	5

	Strongly Disagree			Strongly Agree	
90. The physical condition of my school is generally pleasant and well-kept.	1	2	3	4	5
91. Problems in this school are recognized and worked on.	1	2	3	4	5
92. People in this building are willing to help out wherever they are needed.	1	2	3	4	5

APPENDIX G

Cover Letter Sent to Principal

National Center For Effective Schools Research and Development

2199 Jolly Road, Suite #160 Okemos, Michigan 48864 (517)349-8841

Dear _____,

I am requesting your help and cooperation by allowing the teachers at your school to participate in this study which is being conducted under the supervision of Michigan State University and is being funded in part by the National Center for Effective Schools.

As a building principal myself, I realize that this request is one more thing to do. That is why the study has been designed so there is minimal work for you. I also recognize the importance of confidentiality and anonymity. Responses from each school will be treated with strict confidence and all participants will remain anonymous. Your name, the teachers' names, nor the school name will not be used in the findings.

The purpose of this study is to investigate whether a relationship exists between the behaviors exhibited by principals and beliefs about teaching held by most teachers. There are no right or wrong answers to the items on the questionnaires (there are two different forms to the questionnaire).

Your involvement will consist of the following:

- 1) Complete the two questions on the enclosed card and return it with the teacher questionnaires. (If this is your first year at this building, please return the questionnaires in the box provided to the National Center for Effective Schools.)
- 2) Ask the school secretary if she/he would collect the sealed envelopes from the teachers, package them in the box provided and return the completed questionnaires to the National Center.
- 3) Distribute to each teacher an envelope and questionnaire. (I would be grateful if this could be done at the end of one of your faculty meetings.)

In recognition of you and your staff's professional efforts, your school will receive a complimentary sample of the Effective School Abstracts upon return of the completed questionnaires. These abstracts review current articles related to instruction, curriculum, and school improvement. Results of the study will also be available to participating schools upon request.

Thank you for your time and effort. I truly appreciate your cooperation in this venture.

Sincerely,

APPENDIX H

Demographic Card Sent to Principal

PLEASE PROVIDE THE FOLLOWING INFORMATION:

A. SCHOOL NAME _____

B. At the end of this school year, how many years have you served as principal for this school?

___1___ ___2-4___ ___5-9___ ___10-15___ ___15+___

C. At the end of this school year, how many years of experience will you have as a building principal?

___1___ ___2-4___ ___5-9___ ___10-15___ ___15+___

D. Has this school experienced any significant changes (30% or more) since 1984 in the nature of clients (SES, minority, etc.) which the school serves?

___NO___ ___YES___

If so, please describe those changes:

E. Would you like a summary report of this study's findings?

___NO___ ___YES___

APPENDIX I

Reminder Card Sent to Teachers

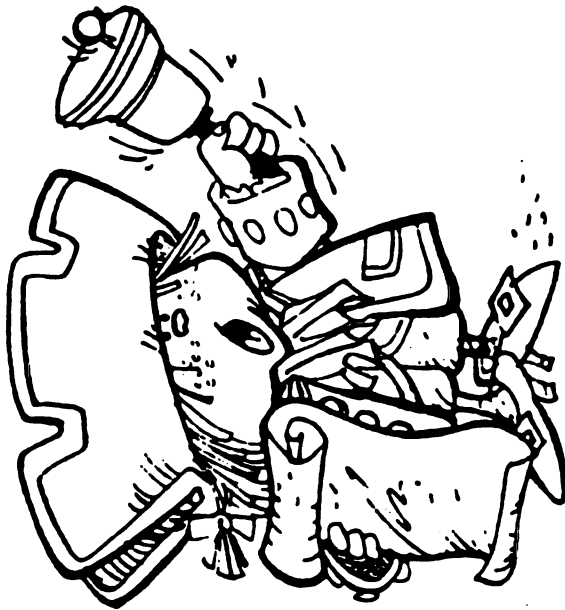
THANK YOU

A few days ago you received a questionnaire for a doctoral study. Thank you if you have already completed and returned your survey.

PLEASE RESPOND

Please take a few minutes to complete your questionnaire if you have not already done so. Your responses are important and will remain confidential.

Your cooperation is greatly appreciated.



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