The impact of principal instructional leadership on student achievement in small high schools in Virginia

Joseph Roy Geiger II

College of William & Mary - School of Education

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The impact of principal instructional leadership on student achievement in small high schools in Virginia

Geiger, Joseph Roy, II, Ed.D.
The College of William and Mary, 1994
THE IMPACT OF PRINCIPAL INSTRUCTIONAL LEADERSHIP ON STUDENT ACHIEVEMENT IN SMALL HIGH SCHOOLS IN VIRGINIA

A Dissertation
Presented to
The Faculty of the School of Education
The College of William and Mary in Virginia

In Partial Fulfillment
Of the Requirements for the Degree
Doctor of Education

by
Joseph Roy Gelger, II
April 1994
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Joseph Roy Geiger, II
THE IMPACT OF PRINCIPAL INSTRUCTIONAL LEADERSHIP ON STUDENT ACHIEVEMENT IN SMALL HIGH SCHOOLS IN VIRGINIA

by

Joseph Roy Gelger, II

Approved April 1994 by

Robert J. Hanny, Ph. D.
Chair of Doctoral Committee

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Thomas Ward, Ph. D.
DEDICATION

The process of completing a doctoral dissertation requires the support and cooperation of the members of the researcher's family. I recognize that my labor to complete this research involved the expenditure of family resources, both in terms of time and finances. I wish to thank my children, Ginny and Winfield, as well as my loving wife, Wendy, for their understanding and support. Wendy's support was invaluable as I relied on both her computer expertise as well as her experience as an instructional leader in the field of secondary education.

I also am grateful to my mother, Mary Lib Gelger, whose enthusiastic support for my personal, professional and educational growth remains a wonderful source of inspiration. Indeed, my personal drive to pursue high educational goals is a reflection of the values I learned from my mother and my late father, Bill Gelger.

It, therefore, is fitting that I dedicate this dissertation to my family.
ACKNOWLEDGEMENTS

I wish to thank three individuals who played key roles in helping me collect the data I needed for this study. Dr. Jerry Bamburg of the Center for Effective Schools at the University of Washington made this study possible by allowing me to use survey items developed by the Effective Schools Project to measure instructional leadership. In addition, Dr. Bamburg provided me with research studies that helped me develop my research proposal. Ms. Shelley Loving-Ryder of the Virginia Department of Education and Dr. David Poor of Uniscore, Inc., provided me with the results from the spring 1993 administration of the Test of Achievement and Proficiency that I used to measure student achievement. I am particularly indebted to Dr. Poor for making the data available to me at no charge.

My appreciation is expressed to the three members of my dissertation committee who helped make this research experience the most challenging and rewarding endeavor of my educational career. Dr. James H. Stronge and Dr. Thomas Ward provided me with excellent suggestions and were always willing to assist. I am most grateful for the valuable assistance I received from Dr. Robert J. Hanny, who served as the committee chair. Dr. Hanny’s professional insight and thorough understanding of the dissertation process gave me clear guidelines for completing my study.
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The Impact of Principal Instructional Leadership on Student Achievement in Small High Schools in Virginia

Abstract

The purpose of this study was to investigate the relationship between the degree to which a principal demonstrates instructional leadership and student achievement in small high schools in Virginia. This inquiry was an extension of previous research which has examined the relationship between these two variables in urban elementary schools. The study controlled for the effects of the socioeconomic status of the students, which has been demonstrated through research to have an important impact on student achievement.

Forty-four high schools with enrollments in grades 10-12 of 500 or less students participated in the study. Teacher and supervisor questionnaires were used to measure principal instructional leadership. Student Achievement was measured by the schools' results on the Test of Achievement and Proficiency, which is the 11th grade component of the Virginia State Assessment Program. The percentage of students eligible for free and reduced meals at each school served as the surrogate variable for socioeconomic status.

It was hypothesized that 1) there would be a negative relationship between student achievement and socioeconomic status (i.e., the percentage of students eligible for free and reduced meals) and 2) after controlling for the effects of socioeconomic status, there would be a positive
relationship between student achievement and principal instructional leadership.

It was concluded that there is a negative relationship between student achievement and socioeconomic status. It was further concluded that the results of the study do not support the hypothesis that principal instructional leadership has a statistically significant relationship with student achievement.

Further study is needed to examine the complex nature of the instructional leadership construct. Research should be conducted to determine how the principal's managerial efforts influence the teaching-learning process. In addition, the roles played by other individuals, such as other administrators, teachers, and parents should be investigated as to how principals can coordinate the efforts of these individuals to enhance student achievement.

Joseph Roy Geiger, II
Department of Education

THE COLLEGE OF WILLIAM AND MARY IN VIRGINIA
THE IMPACT OF PRINCIPAL INSTRUCTIONAL LEADERSHIP ON STUDENT
ACHIEVEMENT IN SMALL HIGH SCHOOLS IN VIRGINIA
Chapter I
The Problem

Introduction

In the American system of public education, the chief responsibility for the operation of each school rests on the shoulders of the building principal. This individual is asked to perform many functions that range from maintaining clean facilities and appropriate student discipline to supervising the faculty and the school's educational program. In addition to receiving the mantle of responsibility for the operation and supervision of the school, the principal inherits the expectation that he or she can make a difference in how the school and its students perform.

The expectation that the principal can make a difference in how students perform is a matter of significant concern to an American public that questions the effectiveness of public schooling. In 1977, the Michigan Department of Education asked Brookover and Lezotte to address this question of school effectiveness by studying schools in the state with improving and declining student achievement scores. The research that
ensued was entitled *Changes in School Characteristics Coincident with Changes in Student Achievement*. The researchers found:

There seems to be a clear difference in the principal's role in improving and declining schools. In the improving schools, the principal is more likely to be an instructional leader, more assertive in his/her institutional role, more of a disciplinarian, and perhaps most of all, assumes responsibility for the evaluation of the achievement of basic objectives. (p. 67)

In 1979, Edmonds, in commenting on the work of Brookover and Lezotte, as well as a number of other studies on school effectiveness completed in the 1970's, concluded that principals can make a difference in whether schools are effective in enhancing student performance. Edmonds noted that effective schools "have strong administrative leadership without which the disparate elements of good schooling can neither be brought together nor kept together..." (p. 22).

In the intervening decades, the instructional leadership role of the principal received a good deal of attention from educational researchers.
Researchers examined the time principals devoted to instructional issues (Stronge, 1988). Principals with outstanding reputations were "shadowed" as they performed their jobs by researchers who hoped to discover the secrets of strong instructional leadership (Dwyer, 1986a). The leadership of principals was analyzed by questionnaires completed by teachers and/or supervisors (Blester et al., 1985; Crawford et al., 1985; Edington & Di Benedetto, 1988; Andrews et al., 1986). While the results of this research remain open to debate, there is support for the view that principals can play an important instructional role. Smith and Andrews (1989) echoed this conclusion in the introduction to their book, *Instructional Leadership: How Principals Make a Difference*.

We believe that the research started by Ron Edmonds in 1979, the effective schools movement, supports the conclusion that what principals and teachers do collectively on a day-to-day basis has a powerful influence on the behavior of individual teachers as they interact with children in the classroom. And the role that principals play as they
Interact with teachers makes a profound impact on teacher behavior and student learning. (p. viii)

This view of the potential influence of a principal is most reassuring given the climate of crisis and reform that confronts our nation's educators. In the midst of this change, old paradigms of leadership are being altered by fresh perspectives of shared decision-making, teacher empowerment and community involvement. Principals are being asked to embrace a new leadership style that no longer conforms to a view of power as a finite commodity. As principals prepare to revise their leadership role can they truly find strength in the assertion of Smith and Andrews? Do principals make a difference in the learning of their students?

Background

The notion that principals could have an impact on student achievement was subsidiary to the larger question of whether schools impact student achievement. This question was posited by the Congress in Section 402 of the 1964 Civil Rights Act. This section required the United States Commissioner of Education, Harold Howe II,
to "attempt to discern possible relationships between students' achievement, on the one hand, and the kinds of schools they attend on the other" (Coleman et al., 1966, p. iv). In a massive study conducted by Coleman et al. (1966) entitled Equality of Educational Opportunity, the researchers found that "the larger part of school-to-school variation in achievement appears to be not a consequence of effects of school variations at all, but of variations in family backgrounds of the entering student bodies" (p. 133). The study concluded that "the school appears unable to exert independent influences to make achievement levels less dependent on the child's background ..." (p. 133).

The Coleman Report was completed after President Lyndon Johnson launched his war on poverty. During his administration, the federal government dramatically increased financial support of public education. The primary objective of this spending was the improvement of educational opportunities for the children of poor and minority families. In addition to greater funding, localities were compelled by the courts to bus children so that balanced heterogeneous
racial school populations would be achieved. Both of these strategies were supported by conclusions drawn from the Coleman Report:

The general picture that all of these results give of schools that come closest to taking full advantage of their student input is one with generally greater resources. The relations are not large, but they are all in the direction of somewhat higher achievement: higher per pupil instructional expenditure, a curriculum that offers greater challenges, more laboratories, and more activities. However, probably the most important result is the one stated in the preceding section: that characteristics of facilities and curriculum are much less highly related to achievement than are the attributes of a child's fellow students in school. (p. 141)

The work by Coleman and his associates sparked a national debate over the role schools play in affecting student achievement. The issue of busing students to achieve racial integration of public schools prompted a storm of controversy that has continued to this day. At the center of this controversy was the contention that schooling
did make a difference in student learning. However, the small achievement differences found in the study that related to characteristics of schools prompted the charge that schools were relatively unimportant in affecting student learning. This argument was further advanced by the 1972 book entitled *Inequality: A Reassessment of the Effect of Family and Schooling in America*. In this controversial work, Jencks et al. found that "qualitative differences between high schools seem to explain about 2 percent of the variation in students' educational attainment" (p. 159). The researchers concluded that family background was the most important educational determinant and that school resources "do not appear to influence students' educational attainment at all" (p. 159).

In response to the arguments advanced based on the work of Coleman and Jencks, a number of researchers initiated studies to further examine the issue of school effectiveness. Lead by Ron Edmonds, this "effective schools" research sought first to identify schools where all students, including minorities, were achieving at rates beyond what would be expected based on their family backgrounds. Once identified, the within
school characteristics of both effective and ineffective schools were studied to ascertain significant factors that explained the differences in the student achievement. In summarizing this body of work, Edmonds stated "we have concluded, pretty firmly, that the most powerful force at work in the issue of achievement is school effect" (1981, P. 25).

The effective schools research identified school factors that influenced student achievement. These factors or "correlates" included a school climate conducive to learning, emphasis on basic skills instruction, teachers who hold high expectations for all students to achieve, a system of clear instructional objectives for monitoring and assessing student performance, and a school principal who is an instructional leader. Thus, Edmonds and his colleagues offered an opposing argument to those who claimed that schools are not a significant determinant of student learning. Among the school characteristics identified as having an important bearing on achievement is the principal. In writing about this correlate of effective schools, Edmonds noted "one of our very firm conclusions
was that the principal of the school has to be the person the Instructional personnel look to for instructional leadership in the system..." (1981, p. 26).

Recent research has confirmed and clarified the important role a principal can play in impacting the achievement of students. In commenting on the work of Andrews (1990) and Smith and Andrews (1989), Andrews and Morefield claimed "a powerful body of research suggests that the key to achieving (high) expectations is school leaders who can empower the school" (1991, p. 276). In summarizing their two-year study of public schools in Seattle, Andrews and Soder "suggest that the principal plays a crucial role in the academic performance of students, particularly low-achievers" (1987, p. 9). Andrews and Soder claimed that their findings have important policy implications for practitioners regarding preservice training, selection, continuing education, and evaluation of principals.

While research has demonstrated that principals do have an effect on student achievement through their roles as instructional leaders, additional research is needed before this
assertion may be generalized to all principals. In his 1982 article entitled "Effective Schools: What the Research Tells Us," Cohen stated "with the exception of a few studies, the research base on effective junior and senior high schools is extremely limited" (p. 4). In a paper presented at the April 1988 meeting of the American Educational Research Association, Edington and Di Benedetto noted that "very few studies have been done on leadership in small and rural schools" (p. 3). Therefore, there is value in efforts made to replicate the work of Andrews and Soder in small secondary schools.

Purpose

The purpose of this study is to investigate the relationship between the degree to which a principal demonstrates instructional leadership and student achievement in small high schools.

Rationale

There are many differences between elementary and secondary schools. These differences are rooted in the age differential of the students served in each setting. Little and Bird (1987) stated that "instructional leadership in secondary schools is the toughest case. The requirements
and demands of leadership are confounded and compounded by school size, curriculum complexity, and the scale of administrative obligations" (p. 119). The nature of the secondary school may require the principal to devote more time and energy to issues of student discipline and the supervision of extra-curricular activities. The result may be that secondary principals are less involved in the effort to provide instructional leadership than their elementary counterparts.

Cusick (1983) argued that the nature of secondary schools makes it most difficult for principals to impact the instructional process. He concluded in his study of three high schools, that "almost all of the administrative and supervisory moves were efforts directed toward maintaining order and attendance, and those efforts took precedence over all other possible administrative activities" (such as instructional leadership) (pp. 107-108). Lee (1987), on the other hand, believed that good high school principals can improve a school's instructional program. The answer to this debate, she claimed, is obscured because "most recent literature discusses findings about elementary school
principals, and their applicability to the secondary level is an important and unresolved question" (p. 77).

There also are marked distinctions between large, urban high schools and small high schools in rural communities or small towns. Generally, the principal in a large, urban community is an employee of a large school division. Such divisions tend to provide support personnel, such as instructional supervisors and curriculum specialists who are responsible for assisting the principal's efforts in improving instruction. The principal in a small rural or town school system is less likely to have as many support personnel to provide instructional assistance. For example, large urban school divisions such as Richmond, Norfolk, and Virginia Beach have between 12 and 15 central office personnel assigned as instructional or curriculum directors, supervisors or specialists. No school division that participated in the study had more than five such positions. Indeed, 29 of the 34 participating divisions (i.e. 85%) had two or fewer central office personnel with designated responsibilities in the areas of instruction and curriculum.
### TABLE 1

**INSTRUCTIONAL SUPPORT FROM CENTRAL OFFICE**

<table>
<thead>
<tr>
<th>No. of Personnel to Support Instruction</th>
<th>No. of Divisions In the Study</th>
<th>Percentage</th>
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<tr>
<td>0</td>
<td>7</td>
<td>20.6</td>
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<tr>
<td>1</td>
<td>14</td>
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<td>2</td>
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<tr>
<td>4</td>
<td>1</td>
<td>02.9</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>02.9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>34</strong></td>
<td><strong>99.9</strong></td>
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Note: Positions included assistant superintendents, directors, supervisors, or specialists with designated responsibilities in the following areas: Instruction, secondary Instruction, curriculum, staff development, math, language arts, social studies, or science.

Source: 1992 Virginia Educational Directory

Does such a difference mean that the principal in the small community school is less likely to influence the instructional program?
a 1951 pamphlet published by the Association for Supervision and Curriculum Development entitled Instructional Leadership in Small Schools, Wofford et al. noted that the absence of administrative and supervisory guidance in small schools may be a disadvantage" (p. 29). Conversely, is the small school principal more likely to affect the instructional program because there are fewer support personnel, thus allowing the principal to have a more direct influence on instruction.

Bossert, Dwyer, Rowan, and Lee (cited in Wimpelberg et al., 1989) raised this contention by claiming "that urban school districts seem to limit principals' discretionary latitude more than other systems" (p. 90).

Factors such as the size and location of a school and the age of the students it serves may influence the extent to which a principal is able to impact the instructional process. Heck (1992) included the students' socioeconomic status as another contextual variable that can "constrain and shape the principal's exercise of instructional leadership" (p. 23). This concern echoes the findings of Coleman et al. (1966) and underscores the important impact that
socioeconomic background can have on a student's school performance.

Heck stated that demographic factors such as socioeconomic status must be adequately controlled in order to determine the relationship between any predictor variable and student achievement. In the absence of such control, a researcher may leap to a premature conclusion that the difference between student achievement scores of two schools is due to stronger instructional leadership provided by the principal of the school with higher student achievement. However, the achievement difference could be explained by the fact that students from the higher scoring school have a significantly better socioeconomic background than students from the lower scoring school. In order to ascertain if the relationship between a principal's instructional leadership and student achievement found at the elementary level also exists in small secondary schools, it is necessary to control for the possible effects of the students' socioeconomic status.
Statement of the Problem

This study sought to determine if the relationship found in large, urban elementary schools between the instructional leadership of the principal and student achievement exists in small high schools in Virginia.

Research Hypothesis #1

In small high schools, student achievement as measured by the Test of Achievement and Proficiency will have a positive relationship with the degree of instructional leadership demonstrated by principals as operationalized by teacher surveys.

Research Hypothesis #2

In small high schools, student achievement as measured by the Test of Achievement and Proficiency will have a positive relationship with the degree of instructional leadership demonstrated by principals as operationalized by a survey of central office personnel responsible for instructional supervision.

Research Hypothesis #3

In small high schools, student achievement as measured by the Test of Achievement and Proficiency will have a negative relationship with
the socioeconomic background of the student body as operationalized by the percentage of students who have approved applications for free and reduced meals.

**Research Hypothesis #4**

In small high schools, after controlling for the socioeconomic status of the student body as operationalized by the percentage of students approved for free and reduced meals, the degree of instructional leadership demonstrated by the principal as operationalized in hypotheses one and two will have a positive relationship with student achievement as measured by the Test of Achievement and Proficiency.

**Ethical Consideration**

This research proposal was approved by the Committee on Human Subjects in the School of Education at The College of William and Mary. This study was conducted in a manner that protected the anonymity of the school divisions and individuals who participated in the research. The research plan was developed so that there was no need to use the names of students, teachers, administrators, schools or school divisions. To protect the confidentiality of those involved, a
numbering system was employed with every school division and high school assigned a code number. The teacher and central office administrator surveys also had code numbers. These codes have been used to collect data and present the information in the text of the dissertation. The researcher is the only individual with access to the code list.

Limitations

The results of this research and its implications must be evaluated in the context of the following limitations:

1. The sample population was limited to principals of small high schools in Virginia. However, because a principal needs time to influence the instructional performance of the teaching staff, the sample was limited further to principals who had been at their current school for a minimum of three years.

2. The information used to measure the independent variable was limited to the data gathered from a single administration of a brief questionnaire. These data were limited further by the fact that only five teachers and one central office administrator completed questionnaires.
rating the instructional leadership of a given principal.

3. The information used to operationalize student achievement was limited to the spring 1993 scores for 11th graders on the state required Test of Achievement and Proficiency.

4. The information used to approximate the socioeconomic background of each school's population was limited to the percentage of students who received free and reduced price meals.

Definitions of Terms

Small high schools - the 90 high schools classified as Single A by the Virginia High School League. The league places schools in this classification if their enrollment in grades 10 through 12 is not greater than 500 students. The majority of these schools are located in counties. Nine of the schools, however, are located in small towns with populations of less than 10,000 people.

Instructional leadership - according to the work of Andrews & Soder (1987), the principal's behaviors that provide resources, expert advice, and clear communication to assist teachers improve their teaching. As a resource provider, the
principal sees that teachers have materials, information and opportunities needed to be effective in the classroom. As an instructional resource, the principal fosters teacher involvement in staff development activities that promote the improvement of teaching performance. As a communicator, the principal gives the staff a clear vision of the school's instructional goals and the standards of performance necessary for realizing these goals. As a visible presence, the principal visits classrooms, attends meetings, and works with staff in a way that signifies the fundamental importance of effective instruction.

Student achievement - the performance by 11th graders on form G, level 17 of the TAP.

Socioeconomic background of a school's student population - the percentage of students who have approved applications for free and reduced price meals.

Summary

The view that principals play an important role in helping schools meet their instructional goals is widely held by our society. Some researchers, however, have questioned whether schools in general or principals in particular
have a meaningful effect on student learning. Recent studies have found that the degree of instructional leadership demonstrated by the school principal can impact student achievement. These studies have been conducted in large, urban elementary schools. This study examined the relationship between a principal's instructional leadership and student achievement in small high schools in Virginia.
CHAPTER II

Review of Literature

During this century, views of organizational leadership have changed significantly. In the context of public education, the changing views of leadership have affected the principal's role as the instructional leader of the school. This chapter traces the evolution of organizational leadership and presents a comprehensive discussion of the instructional leadership role of the principal.

Leadership: A Brief History

Throughout history, people have turned to leaders to help them overcome adversity and achieve progress. "Providing appropriate leadership is an idea as old as civilization itself. Socrates, Aristotle, Lao Tzu all puzzled with notions about leadership- its function, its meaning, its methods, its value" (Smith & Andrews, 1989, p. 3). During the twentieth century, the leadership concept has been carefully examined within the context of organizational effectiveness. From this research, a broader
understanding of leadership has evolved.

In organizations, individuals are given administrative positions that require them to be responsible for leading the organization. During the first decades of this century, organizational leadership was based on the principles of "scientific management" that evolved from the work of Fayol and Taylor. According to Owens (1987), these principles emphasized "the organization as possessing a hierarchical structure and operating in highly rational, systematic, and logical ways" and perceived employees "as primarily passive instruments, capable of performing work and accepting directions, but not initiating or exerting influence in any significant way" (p. 32).

This view of organizational leadership was altered by research conducted by the Western Electric Company in the 1920's that illustrated the importance of staff morale in enhancing organizational effectiveness. This finding promoted the notion that leaders should be concerned with the human relations aspect of the organization. Bernard (1938) addressed the issue of balancing concerns for organizational tasks and
human relations. He challenged executives to be sensitive to the needs of workers so as to build a spirit of cooperation directed toward the achievement of organizational goals. This challenge is captured in Barnard's declaration:

I believe in the power of the cooperation of men of free will to make men free to cooperate; that only as they choose to work together can they achieve the fullness of personal development; that only as each accepts a responsibility for choice can they enter into the communion of men from which arise the higher purposes of Individual and of cooperative behavior alike." (p. 296)

Halpin (1955) expanded on the work of Bernard by describing leader behavior as consisting of two dimensions -- initiating structure and consideration. Initiating structure involved leader behavior that was directed at accomplishing organizational tasks. Consideration involved leader behavior that focused on building staff morale. Halpin's work demonstrated that leader behavior differs along these two dimensions with respect to the different situations confronting organizations.
During subsequent decades, theorists and researchers have continued to examine the aspects of leadership and leader behavior. Blake and Mouton (1965) described leader behavior as various combinations of the leader’s concern for task and concern for people. They illustrated this description by plotting these combinations on a "managerial grid." Vroom and Yetton (1973) advanced the notion that leadership styles consisted of the degree to which a leader involved staff in the decision-making process. Their Normative Contingency Theory suggested that the degree of staff involvement in decision-making should be governed by certain situational issues. Hersey and Blanchard (1977) posited that to be effective, leaders had to vary their behavior based on the degree of professional maturity (i.e., the level of skill and commitment) of each staff member. Sergiovanni (1984) identified symbolic leadership as a new perspective for achieving organizational effectiveness. He described symbolic leaders as individuals who could create and communicate a vision for the organization that captures the imagination of the staff and assists them in creating an
organizational culture that encourages professional excellence.

While ideas about the nature of organizational leadership have changed throughout the Twentieth Century, the conviction that leadership is a critical function of organizational effectiveness has not wavered. All organizations need leaders who can help the organization achieve its goals. This is as true for public schools as it is for businesses, churches or governments.

The Leadership Role of the Principal

The responsibility for providing leadership in a school rests primarily on the shoulders of the principal. Knezevich (1975) underscored this point: "The principal is the chief executive officer or administrator of the attendance center and influences to a considerable extent what occurs at this level" (p. 376). The critical task of schools is to instruct children. Thus, as the organizational leader of the school, the principal is responsible for seeing that schools accomplish their instructional mission.

The position of principal was created in the latter half of the nineteenth century as American
schools began to expand from the one room school house to serve a growing population. Through the years, as schools have become larger, more complex organizations, the role of the principal has changed. A major theme that has characterized the changing role of the principal is the extent to which the principal is involved in the organization's critical task of delivering instruction. Stronge (1990) noted that "since its inception in American education, the principalship has undergone a gradual transition from that of principal-teacher to general administrative agent of the school" (p. 1). Stronge claimed that this trend occurred as the principal assumed more complex duties that pulled attention away from the classroom.

Instructional role in early years of principalship. Beck and Murphy (1993) described the job expectations assumed by principals in the early years of the principalship: "In the second half of the nineteenth century and into the early decades of the twentieth century, the principals' primary duties were 'the performance of minor administrative tasks, ... discipline, ...some teaching', plant and building maintenance, and
some personnel supervision" (pp. 1-2). The principal during this period of time was an active participant in the teaching-learning process. The principal was considered knowledgeable about instructional issues. In contrast to the dichotomy between instructional leadership and school management that marked the principal's role in later decades, efforts to manage school affairs were viewed as contributing to the achievement of instructional objectives of the school. This holistic view of the principal's role was recognized by Cubberley (1923), who claimed:

All that he does in organization and administration should look toward bringing teachers and pupils together under conditions most likely to be conducive to good instruction, which he, by his superior knowledge and skill, may then labor to make still more effective (pp. 137-138)

The notion that the school principal was responsible for providing instructional leadership did not mean that this function was performed satisfactorily by all principals. According to Cuban (1986), Cubberley believed principals needed to be better prepared to meet their instructional
leadership role and "urged forming the principal into a scientifically trained professional who could make sound instructional decisions ..." (p. 111). Cuban indicated that while instructional leadership was a recognized responsibility, "guilt over spending too much time on clerical tasks and non-instructional work rather than on supervision surfaced repeatedly after the 1920's in reports on the principalship" (p. 111).

Instructional role diminished. Beck and Murphy (1993) observed that during the next three decades principals were forced to spend more time on administrative tasks. While principals after the 1920's acknowledged that they needed to spend more time on instructional issues, confusion surfaced as to how their instructional role should be defined. The absence of a clear and concise definition of instructional leadership is illustrated by a book entitled Instructional Leadership, which was written by MacKenzie and Corey and published in 1952. The work was based on a study of secondary principals and coordinators of instruction in Denver between 1949-52. As instructional leaders, the researchers claimed that principals were
"responsible for mobilizing the abilities and efforts of the teaching staff to provide an effective educational program. In general this means that they are expected to develop a favorable climate for staff work and to coordinate the efforts of various staff members" (p. 22). This somewhat vague assertion was more applicable to generic leadership and did little to suggest specifically how principals should address instructional issues.

Beck and Murphy (1993) suggested that during the 1950's, the principal was confronted with another role conflict that had its origin in the school decision-making process. The principles of "scientific management" had been in vogue since the 1920's and concentrated the decision-making authority in the hands of the top executives of an organization. As the top executive of the school, the principal traditionally made unilateral decisions. This tradition began to be challenged as principals were expected to accommodate staff input in order to facilitate a productive work place. Beck and Murphy (1993) stated that "In retrospect, it is clear that the uncertainty about leadership issues on the part of principals, and,
Indeed, on the part of those who wrote about them presages the conflict that permeates the literature of the next two decades" (p. 86).

Principals in the 1960's continued to experience role conflict. However, while more time was diverted from their involvement with the teaching-learning process to administrative tasks, the instructional leadership role was not abandoned. Bossert et al. (1982) cited two studies from the 1960's which foreshadowed the descriptions of instructional leader behaviors that would emerge in subsequent research. In 1962, Hemphill, Griffiths, and Fredericksen identified the major responsibilities requisite with the elementary school principalship. According to the researchers "one of the important responsibilities of the elementary school principal is the supervision of instruction" (p. 163). A second study completed three years later by Gross and Herriot determined that good principals demonstrated concern for instructional planning, methods of instruction, and involving teachers in decisions about central school issues, such as "determining the minimum level of satisfactory student performance" (p. 123).
Bossert et al. suggested that these studies provided impetus to the notion that "the managerial behavior of principals is important to school effectiveness" (p.38).

**Effective schools research: Renewed interest in instructional leadership.** The issue of school effectiveness received much attention in the 1960's as educators were expected to meet the challenges of President Johnson's "Great Society" and the consequent flow of federal funds to public schools. This expectation influenced the role of the principal who became accountable for achieving measurable educational goals (Beck & Murphy, 1993). However, the effectiveness of schools was called into question in the late 1960's and early 1970's as researchers found that schools accounted for only small differences in the achievement levels of students (Coleman et al., 1966; Jencks et al., 1972).

In the 1970's, a number of educational researchers studied schools where student achievement exceeded the expected norms. These schools were called "effective schools" and the studies labeled "effective schools research." One of the major findings of this research was that
the principals of effective schools played an important leadership role in the Instructional arena. The descriptions of effective principals provided in these studies brought greater attention to the principal's role in the teaching-learning process. Questions concerning the principal's responsibility for providing instructional leadership became an important research initiative. According to Johnson and Snyder (1986), "the central job thrust for principals has been redirected from a school maintenance focus to an instructional leadership focus" (p. 237).

**Defining Instructional leadership**

Sweeney (1982) discussed how instructional leadership was described by effective schools researchers in his article, "Research Synthesis on Effective School Leadership." His examination focused on research by pioneers of the effective schools research movement such as Weber (1971), who examined four effective inner-city schools in New York, Los Angeles and Kansas City. According to Sweeney, Weber found that "leadership appeared to be a significant factor: School administrators set the tone for the school and assumed
responsibility for instruction and allocation of resources to reach school goals" (p. 346).
Wellsch (cited in Sweeney) found that teachers credited effective school principals for demonstrating strong concern for instruction, clear communication, coordinating the instructional program, and involving teachers in the decision-making process.
Sweeney credited Edmonds, who studied schools in New York and Detroit, with identifying six behaviors of principals that contributed to higher student achievement. These behaviors were (a) maintaining an orderly school environment that promotes learning; (b) monitoring pupil progress; (c) stressing the staff's responsibility for instruction; (d) establishing clear school goals for student achievement; (e) developing plans for improving instruction; and (f) demonstrating skills in instructional and non-instructional or management issues.

The research of the 1970's helped put the principal's instructional leadership role in sharper focus. According to the research findings, the effective principal embraced the premise that the school administration and staff
were responsible for student learning. The principal communicated this responsibility with teachers and assisted them in developing goals and plans for instructional improvement. The principal marshaled resources, including his/her personal instructional expertise, to aid the faculty in implementing these plans. The principal monitored the progress in carrying out the plans based on student performance and managed the school so that the instructional mission could receive appropriate attention.

While Sweeney concluded that effective schools research provided clear evidence that the principal played a central role in the achievement of students, he acknowledged that developing a concise definition of instructional leadership was difficult. He noted that researchers used "different terminology to label leadership behavior, therefore, in a few instances categorization was somewhat of a judgment call" (p. 350). Stronge (1993) echoed this concern by suggesting "It becomes clear that one of the basic problems with the instructional leadership construct lies not with the ability to identify related behavior, but rather with the inability to
generate congruence among the sets of behavior that constitute instructional leadership" (p. 3).

Recent research and instructional leadership. In the 1980's, educational researchers continued to place emphasis on the role of the principal in providing instructional leadership. The use of different terminology remained an obstacle in the development of a clear and universal definition of the construct. Lovell and Wiles (1983) described the instructional role of the principal as performing the following functions: "goal formation, implementation, and evaluation; curriculum development; direct support and service for teachers; evaluation of personnel; inservice education; and evaluation of educational results" (p. 8). Cohen (1982a) suggested that instructional leadership included "knowledge and skills concerning effective teaching and curricular practices, goal setting, decision-making, resource allocation, staff and program evaluation, staff development and reward systems and other management behaviors" (e.g., scheduling and student discipline) (p. 14). He described goal setting as communicating a vision aimed at student achievement so that it will be
accepted by teachers, students, parents and the community.

McCurdy (1983) also emphasized the principal's responsibility in the area of setting instructional goals. He expressed this conviction by stating that to provide instructional leadership, "principals need to give their schools a personal stamp that conveys a sense of purpose and direction through well developed and clearly stated goals..." (p. 19). Blank (1986) concurred with McCurdy by noting that "education goal consensus" was an important function of instructional leadership. Blank also claimed that working and planning with teachers was a vital part of the principal's role.

Heck (1992), citing the work of Blank as well as other educational researchers, stressed the importance of several aspects of instructional leadership. These included discussing instructional issues with teachers, utilizing test data to measure improvement in the instructional program, and spending time directly observing teachers in the classroom. The idea of spending time observing teachers in the classroom would seem to be an essential component of instructional
leadership. Cohen (1982a), however, warned that simply spending time doing classroom observations was not sufficient. He believed "that instructional leadership is more than a matter of direct time in the classroom, but an attitude that underlies most of the principal's management activities and management decisions" (p. 15).

This research reinforced many of the findings of the previous decade regarding the principal's role as an instructional leader. The effective principal was described as assuming responsibility for improving the instructional program by using personal expertise in instructional matters, communicating with teachers to develop and implement plans to advance instructional goals, marshalling resources to support the instructional efforts of the faculty and managing the school so that instruction was the primary focus of the staff.

In addition, several other ideas about instructional leadership were revealed. For example, the notion that the amount of time spent by principals observing teachers teaching was a sufficient indicator of instructional leadership was called into question. To be effective, the
principal had to be able to influence teachers in instructional matters. In order to have this influence, the principal had to be a good decision-maker, develop and use rewards, and communicate a vision of the school’s instructional mission so that teachers would support the mission. Also, the effective principal used test data to evaluate the instructional program and worked with teachers in staff development activities and the teacher evaluation process to promote the instructional growth of the faculty.

The insight into the instructional role of the principal that emerged from research cited above was reflected in the description of instructional leadership advanced by Houllhan (1988). He described an instructional leader as a principal who "tended to meet with teachers often regarding instruction, encouraged teachers to attend workshops, practiced positive reinforcement, developed incentives that rewarded teachers who performed successfully in the instructional arena" (p. 47).

Case studies: Examining the leadership of individual principals. In the early 1980’s, the Far West Laboratory for Educational Research and
Development instituted the Instructional Management Program to further examine the instructional role of the principal. As a result, a number of case studies were conducted. This qualitative method of research involved an intensive examination of the principal's instructional leadership role by a researcher who shadowed a principal's daily behaviors and interactions with other people. In addition, the researcher conducted interviews with the principal and other individuals in the school setting.

The research generated by this program was presented in a conference held at Stanford University in 1985 (Dwyer, 1986b). The research helped shape the following definition of instructional leadership advanced by the Far West Laboratory:

> Principals do not affect the instructional process of their schools. We propose that their ability to have an impact varies with their capacity to link their routine management activities to their instructional systems and to perform these actions in accord with their overarching view of schooling. (Litchfield, 1986, p. 203)
The case study approach was also employed by Little and Bird (1987), who examined instructional leadership in the secondary setting. Their sample included large and small city high schools and a junior high school. Little and Bird concluded that it was possible for secondary principals to provide instructional leadership through their own efforts, by "importing" instructional experts or by facilitating the leadership of staff members. This conclusion suggested that principals did not have to be instructional experts in order to impact the teaching-learning process. Instead, they could facilitate the expertise of others to influence the instructional performance of their staffs.

The case study research reinforced the notion that principals could play an important role in impacting the instructional program of a school and thereby enhancing student achievement. Dwyer (1984) illustrated the impact effective principals could have by stating:

Teachers believed that their principals knew everything that went on in their classrooms even when logic dictated they could not. This perception of pervasiveness was the
result of the principals' visibility in and around schools, of their availability when crises occurred. (p. 37)

In describing his case study of Frances Hedges, Dwyer (1986a) cited this principal's active involvement in instructional decisions and discussions as well as her ability to create an orderly, child-centered school environment as key factors that contributed to the teaching-learning process.

While case studies supported the premise that effective principals affect the teaching-learning process, the picture of instructional leadership that emerged from this research complicated some of the earlier findings about this construct. The definition developed through the Instructional Management Program offered a vague image of instructional leadership that provided little in the way of specific behaviors principals could emulate in order to improve the achievement of their students. As a result, instructional leadership was viewed as a complex concept that could not be easily described as a simple set of actions a principal could take to enhance
learning. Litchfield (1986) summarized this sentiment by stating:

We have accepted the notion that schools are complex organizations. Far West's case studies illustrate that the role of instructional leader is equally complex and that success or effectiveness is the result of a range of subtle, content-sensitive behaviors. (p. 204)

Quantitative research: Examining the leadership of groups of principals. While the case study method was being employed to examine the work of individual principals, a number of educational researchers in the 1980's conducted quantitative research that sought to analyze the instructional performance of a sample of principals with respect to the performance of their students on achievement tests. These researchers continued to use different definitions of instructional leadership. However, there were common threads in these definitions that reflected the contributions of earlier research.

In a study of nine school principals in New Jersey, Blester, Kruse, and Heller (1985) defined instructional leadership as "Achievement Directed
Leadership" which consisted of specified behaviors principals were taught in training sessions designed to support classroom instructional efforts. The behaviors focused on developing plans to improve the school's instructional program, training teachers so that they would have the necessary skills to improve instruction, and supervising teachers so that the instructional plans were properly implemented. This behavior-specific view stood in sharp contrast with the definition of instructional leadership that evolved from the case studies conducted by the Far West Laboratory.

In a comprehensive study of 89 school principals in Oklahoma City, Crawford, Kimball, and Watson (1985) defined leadership as the principal's role in providing instructional materials and supplies as well as selecting personnel. The principal's responsibility in providing adequate supplies reflected the work of previous researchers (e.g., Cohen, 1982a; Lovell & Wiles, 1983).

Edington and Di Benedetto (1988) construed instructional leadership to be a function of five different roles. In their study of twenty-four
small, rural schools in New Mexico, the researchers considered a principal to be providing this leadership by allowing teachers to participate in decisions, encouraging teachers to work cooperatively, clarifying staff responsibilities, supervising teachers, and facilitating change. While much of this definition is reflected in earlier studies, the notion of helping teachers embrace change was particularly important. Edington and Di Benedetto called this function "Transformation" and defined it as inspiring "the faculty to increase their perception of the school's potential and of their own personal ability to contribute more significantly to that potential" (p. 8). This aspect of leadership underscores any effort to effect improvement in the performance of the staff.

The Effective Schools Project: Clarifying the definition of instructional leadership. In 1982, The Effective Schools Project was initiated through the collaborative efforts of the Seattle School District and the University of Washington's School of Education. Research sponsored through this project advanced a broad definition of
Instructional leadership that encompassed many of the concepts included in the definitions of other researchers. This definition circumscribed four general roles that principals must play in order to improve instruction and student achievement: resource provider, instructional resource, communicator and visible presence. The project’s definition of instructional leadership was described in the research of Andrews, Soder, and Jacoby (1986). This research study involved thirty-two school principals in Seattle. The researchers defined the role of resource provider as "those actions the principal takes to marshal personnel, building, district, and community resources to achieve the vision and goals of the school" (p. 2). As an instructional resource, the researchers quoted Llpham’s (1981) description: "The principal is actively involved in all aspects of the instructional program, sets expectations for continuous improvement, and collegiality, models the kinds of behaviors desired, participates in inservice training with teachers and consistently gives priority to instructional concerns" (p. 3). As communicator, Andrews et al. signified principals' behaviors
that "demonstrate a commitment to goals: they are able to articulate a vision of instructional goals as a mechanism for integrating instructional planning" (p. 2). Finally, as a visible presence, the researchers indicated routine behaviors such as "walking in the hallways, visiting classrooms, attending departmental or grade level meetings, and holding spontaneous conversations with staff members and students" (p. 3).

The definition of instructional leadership advanced by the Effective Schools Project marked an important step forward as this description is not limited to a mere listing of principal behaviors. Instead, the definition provides a framework for understanding instructional leadership as a set of interrelated behaviors that principals should perform in order to help teachers improve instruction. This definition embraced the contributions of earlier researchers such as Hemphill et al., Gross and Herriot, as well as the findings of the effective schools studies, case studies of effective principals, and recent quantitative studies.

While the definition advanced by the Effective Schools Project reflected the broad and
complex nature of the instructional leadership construct, it does not specifically take into account the interplay between the principal’s roles in instruction and school management. As Cubberley noted in 1923, these two roles must be mutually supportive if schools are to meet their instructional goals. A principal’s efforts to achieve instructional excellence will be derailed if, for example, the management function of maintaining appropriate student discipline is not accomplished. Stronge (1990) illustrated this point by stating "there is little evidence to suggest that learning would be enhanced if principals were to ignore their broad-based managerial responsibilities in favor of a narrowly focused orientation toward instruction" (p. 3).
## TABLE 2
EDUCATIONAL RESEARCH AND INSTRUCTIONAL LEADERSHIP:
HIGHLIGHTS OF IMPORTANT STUDIES

<table>
<thead>
<tr>
<th>Researcher</th>
<th>Sample</th>
<th>Method</th>
<th>Finding Re. Principal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brookover &amp; Lezotte (1979)</td>
<td>Urban Elem.</td>
<td>ESR</td>
<td>Evaluates Instructional Program</td>
</tr>
<tr>
<td>Dwyer (1986)</td>
<td>Urban Elem.</td>
<td>C.S.</td>
<td>Uses Routine Activities to Underscore Instruction</td>
</tr>
<tr>
<td>Rutter (1979)</td>
<td>Urban Secondary</td>
<td>ESR</td>
<td>Emphasizes Academics</td>
</tr>
<tr>
<td>Crawford (1985)</td>
<td>Urb. Ele.&amp;Sec.</td>
<td>COR.</td>
<td>Provides Resources</td>
</tr>
<tr>
<td>Edington &amp;</td>
<td>Rural Secondary</td>
<td>COR.</td>
<td>Facilitates Change</td>
</tr>
<tr>
<td>Di Benedetto (1988)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Andrews (1986)</td>
<td>Urban Elem.</td>
<td>COR.</td>
<td>Provides Resources, Serves as Resource, Communicates, &amp; is Visible</td>
</tr>
</tbody>
</table>

ESR - Effective schools research method where characteristics of effective schools are contrasted with characteristics of ineffective schools.

C.S. - Case Study

COR. - Correlational study
Measuring Instructional Leadership

The research conducted in the public schools of Seattle through the Effective Schools Project relied on nineteen items of the Staff Assessment Questionnaire (SAQ) to measure the construct of instructional leadership. This survey instrument was developed by a team of teachers and administrators from the Seattle School district and educational researchers from the University of Washington. As noted in Chapter Three, the SAQ is a valid instrument for measuring instructional leadership and has produced reliable results in studies involving large numbers of teachers.

The use of the SAQ to operationalize instructional leadership is based on the assumption that teachers can provide accurate judgments regarding the performance of their principal in the instructional arena. However, other methods for measuring the instructional leadership of principals have been employed by educational researchers. In a number of effective schools studies, trained teams of researchers visited school sites to observe the schooling process. The teams also conducted interviews with school personnel and students. Through their
observations and interviews, the teams made judgments regarding a school's performance with respect to the correlates of effective schools, including the leadership of the principal (Edmonds, 1980, p. 14).

Many studies have used the self-reports of principals to generate measurements of the principal's performance on instructional leadership tasks. Stronge (1988) used the time logs maintained by elementary principals to measure the time devoted by these individuals to provide leadership in the areas of curriculum and instruction. Andrews (1988) surveyed elementary and secondary principals to produce measures of the time these school leaders "actually" spent on instructional issues and how much time they thought they should "ideally" spend on instruction. Couch (1991) utilized principal self-reports to rank principals as high, middle or low in providing instructional leadership. Edington and Di Benedetto (1988) used principal self-reports and teacher questionnaires to generate two separate ratings on instructional leadership.
Surveys of supervisors have also been employed to measure the instructional leadership performance of principals. Andrews and Bamburg (1989) compared the use of supervisor and teacher surveys as a means of assessing principal leadership and academic achievement. Five supervisors of elementary principals completed the SAQ. Their responses were averaged to yield a measure of instructional leadership. Teachers also completed SAQ's to generate a second leadership score for principals. These two leadership variables were then correlated to student gain scores on the California Achievement Test.

The use of principal self-reports appears to be an ineffective method of measuring principal leadership. Couch (1991) found no statistically significant relationship between principal leadership and student achievement using principal self-reports to measure the independent variable. Couch suggested that the study's focus on time spent on instructional activities by the principal may have been a weakness. The researcher concluded "that reducing the role of instructional leadership to the amount of time spent in the
classroom would be an oversimplification of the problem" (p. 18).

The conclusion by Couch provided some insight as to why his study failed to find a significant relationship between principal leadership and student achievement. However, the researcher's reliance on principals' self-reports may be another plausible reason for the study's outcome. The work of Edington and Di Benedetto (1988) also failed to produce any statistically significant results using the principal self-reports. However, these researchers were able to find significant results using the leadership variable obtained from teacher questionnaires. In a discussion of the methods of operationalizing principal leadership, Heck (1992) stated that teachers and supervisors are more in agreement about how principals perform than how principals rate their performance.

Andrews and Bamburg (1989) concurred with Heck that teacher and supervisor ratings of principals have value. However, in their study, no statistically significant relationship was found between principal leadership and student achievement using supervisor ratings as a measure
of the independent variable. In contrast, the measure of principal leadership obtained from teacher questionnaires did yield significant results. While the researchers suggested that supervisors are in a position to judge a principal's performance with respect to functions such as community and district relations, "teacher perceptions of the principal as an instructional leader are critical to the reading and mathematics achievement of students..." (p. 9).

It would appear that the use of teacher perceptions is the most effective method for measuring the instructional leadership performance of principals. That is not to claim that teacher judgments are free from error. In his review of methodological problems involved in studying instructional leadership, Murphy (1988) claimed "that teachers in higher social composition schools rate their principals significantly higher than teachers rate principals in lower social composition schools on a wide assortment of instructional leadership and support functions" (p. 125). This claim illustrated how difficult it is to accurately measure the instructional leadership construct. Nonetheless, given the
alternatives, eliciting the opinions of teachers is a viable method for securing a measure of principal leadership in the effort to conduct educational research. Heck (1992) extended this notion further by suggesting that teacher input be incorporated into the principal evaluation process. According to Heck, "teacher perceptions of the principal’s implementation of instructional leadership activities may be useful in helping to determine the principal’s effectiveness in performing the role, both for formative and summative evaluation" (p. 31).

Effective Schools Research

As noted above, the increased attention that has been focused during the last two decades on the instructional leadership role of the principal issued from the effective schools research movement that began in the early 1970’s. The goal of the effective schools researchers was to locate schools where students from low socioeconomic backgrounds had higher achievement than would have been predicted based on their family background. Schools where student achievement was lower than the predicted norms were also identified. The researchers studied and
contrasted these schools in an attempt to discover factors that could account for the differences in student achievement. One of the factors or "correlates" that emerged from this research was strong instructional leadership. Edmonds summarized this finding in a 1979 article entitled "Effective Schools for the Urban Poor." In the article, Edmonds reviewed his work and research by Weber (1971) and Brookover and Lezotte (1977). Edmonds endorsed the conclusion of Brookover and Lezotte:

There seems to be a clear difference in the principal's role in the improving and declining schools. In the improving schools, the principal is more likely to be an instructional leader, more assertive in his/her instructional leadership role, more of a disciplinarian, and perhaps most of all, assumes responsibility for the evaluation of the achievement of basic objectives. (p. 18)

The findings of effective schools research received praise from educators throughout the nation. The results provided evidence that schools could have a positive impact on student
achievement. Caweltl (1982) summarized this sentiment by stating:

Continuing research on effective schools has verified the common sense observation that schools are rarely effective, in any sense of the word, unless the principal is a "good" leader. While the effectiveness criteria used thus far have ordinarily been test scores in reading and mathematics, the behavior patterns revealed by this research may be relevant to broader conceptions of effectiveness. (p. 3)

Criticism of effective schools research. The optimism of Caweltl was not shared by everyone. A number of educational researchers expressed concerns regarding the methods employed in the effective schools studies. Wimpelberg, Teddlie, and Stringfield (1989) suggested that the effective schools research could be divided into two distinct phases. The authors contended that research in each phase was flawed by a different set of problems.

The first phase of the effective schools research, according to Wimpelberg et al. (1989), was concerned with the "equity" issue inherent in
the notion that family backgrounds predetermined how well or poorly students learned in schools. The authors claimed that "receiving the Coleman/Jencks conclusion as a challenge, some educators set out to disprove or modify it by locating and describing schools that serve children from poor families where achievement gains were unusually high" (p. 83). Wimpelberg et al. criticized the studies in the first phase of effective schools research because they were motivated by an advocacy position on the part of the researchers and, therefore, lacked an objective perspective. Other concerns noted in their criticism were the fact that the samples were limited, for the most part, to urban elementary schools and focused only on basic skills.

The second phase of effective schools research described by Wimpelberg et al. (1989) was characterized by "efficiency." The authors suggested that this phase of research was directed at the goal of identifying and clearly describing the behaviors principals could replicate in order to improve student achievement. Wimpelberg et al. credited this research for including high and
middle schools in the samples and looking at different subject matter and students from different socioeconomic backgrounds. However, the researchers concluded that more research was needed to understand how factors such as grade level, socioeconomic status, and subject matter affect the relationship between instructional leadership and student achievement.

Criticisms of the effective schools studies have been advanced by other researchers. Hallenger and Murphy (cited in Heck, 1992) argued that "only rarely has instructional leadership been defined in studies as specific policies, practices and behaviors instituted by the principal" (p. 22). Murphy (1988) cited the absence of longitudinal studies that directly examined instructional leadership as a methodological weakness. He added, "even when studies do examine consequences of instructional leadership, information on 'effect sizes' is generally conspicuous by its absence" (p. 119). Purkey and Smith (1982) and Heck (1992) noted that effective schools research was predicated on studying schools at the two extremes of the student achievement spectrum. As a result, Heck
claimed that the research was limited by the "outlier effect," which weakened the findings because "there are much missing data from the 'middle' range of schools" (p. 28).

Zirkel and Greenwood (1987) cited the following shortcomings of the effective schools research: small sample size, inconsistent control of variables used to represent socioeconomic background, lack of a consistent definition of instructional leadership or a measurement of this construct, and difficulty generalizing findings from case studies. These writers also pointed out that the research failed to establish causality. Indeed, even Edmonds acknowledged this limitation in 1982 when he stated, "among the fundamental research issues to be studied is whether the correlates of school effectiveness are also causes of school effectiveness" (p. 10).

While Zirkel and Greenwood credited more recent studies with employing greater control for the effects of the socioeconomic background of students, they suggested that the achievement gains revealed in these studies were significant for only minority and free lunch students as opposed to other groups of students. The authors
concluded that "on balance, there appears at least as weighty research evidence against as there is for the notion that great principals make great schools" (p. 260).

Critics of the effective schools research have argued that the goal of identifying and describing factors or "correlates" which may be universally applied to schools as a strategy for improving student achievement is a simplistic approach to a complex problem. Wimpelberg et al. (1989) called for a third phase of effective schools research that would examine school effectiveness in the context of variables that impact student achievement such as parental involvement.

Other variables have been identified that may merit inclusion in a broader investigation of school effectiveness. These variables include the roles played by the superintendent, school board, assistant principal, and teachers. Cohen (1982b) indicated that the degree of support from the division superintendent may be a potentially powerful factor to assist or restrain a school's efforts to boost student achievement. Bossert et al. (1982) suggested that school board policy and
central office decisions can affect a principal's leadership role.

The notion that a school's instructional program can be shaped in significant ways at the district level by the school board and superintendent's central office administrators is not altogether clear, however. Flooden et al. (1988) examined this question in a study of school division policies regarding elementary mathematics instruction. The authors concluded, "few districts are attempting to provide leadership in content decision making .... neither are they taking seriously the job of providing clear and specific suggestions for instructional content" (p. 115).

The research of Marshall and Greenfield (1985) illustrated that instructional leadership is a complex concept that can not be understood by merely considering the behaviors of the building principal. This study suggested that the assistant principal can play an important role in the instructional arena that complements a principal's impact on student achievement. Freeston (1987) proposed that a leader's efforts to impact a school can be aided or hindered by
"leader substitutes." He suggested three general categories of potential leader substitutes: the subordinate, the task, and the organization. His research suggested that a principal's efforts to provide leadership can be influenced by factors such as a teacher's commitment to school goals, the role conflict a teacher experiences when faced with certain tasks, or the degree of support the principal receives from the superintendent.

Murphy (1988) labeled the tendency to credit instructional leadership to one or more individuals, such as the principal, as "attribution error." He underscored the complexity of this construct by suggesting "that instructional leadership may be a socially constructed factor or attribution used to explain organizational performance..." (p. 129).

In summarizing the criticism leveled against effective schools research, D'Amico (1982) stated that "effective schools exist. Hundreds of these have been described. Each one's effectiveness, however, seems to represent an intricate, perhaps idiosyncratic, phenomenon that, in turn, is probably the result of intricate, perhaps idiosyncratic, processes" (p. 62). Zirkel and
Greenwood (1987) echoed a similar view: "We join others, from Edmonds to Sirotnik, who have called for healthy skepticism, and inquiry into the complexity of schooling" (p. 263).

**Contributions of effective schools research.**

Despite the call for "healthy skepticism," the contributions of effective schools research have received support from numerous educational researchers. In responding to the criticism of D'Amico, Lezotte (1982) praised the effective schools research for providing a framework for helping schools improve. He claimed that "to the practitioner, the effective schools research framework has face validity" (p. 63).

In evaluating the effective schools studies regarding the correlate of strong leadership, Sweeney (1982) concluded that principals can play a vital role in impacting student performance. He stated that "taken as a whole, these results strongly suggest that principals who emphasize instruction, are assertive, results-oriented, and able to develop and maintain an atmosphere conducive to learning make a difference -- one reflected in elevated school outcomes" (p. 351-352). In reaching this conclusion, Sweeney
claimed that he had considered only studies that were internally valid, controlled for pupil characteristics, and involved significant relationships between a principal's instructional leadership and student achievement. Writing six years after Sweeney and summarizing the research of the past decade, Houlihan (1988) stated, "In fact, it can be reasonably stated that the principal is the one single (italics) individual that can make things happen or can hinder progress" (p. 45).

Support for the value of the effective schools studies has come from individuals who are critical of certain aspects of this body of research. Wimpelberg et al. (1989) cited the work of Rutter, Maughan, Mortimore, and Ouston (1979) as a study that did not fall prey to the methodological faults which characterized many of the studies of the first phase of the effective schools research movement. Wimpelberg et al. praised the Rutter study, which was conducted in London, England, because it included secondary schools and was not limited to analyzing student achievement of basic skills. Rutter and his colleagues used measures of student achievement,
attendance, school conduct, and delinquency as outcomes of the schooling process. Student achievement was measured by the public examinations given to all English students. Rutter et al. claimed this was a better measure of student achievement than standardized tests because the exams "focus on subjects in the curriculum which are specifically taught" (pp. 80-81).

While critical of the failure of research to identify a coherent definition of instructional leadership, Heck (1992) conducted a study to identify leadership predictors of student achievement that reflect the interaction of principals and their teachers. Principal behaviors identified by Heck included making regular visits to the classroom, fostering staff discussions of instructional issues, and using test results to gauge instructional improvement. The researcher claimed that his study provided "needed empirical support for the belief that school variables, including principal instructional leadership, are predictive of the school's academic outcome" (p. 29).
Student Achievement: The Goal of Instructional Leadership

In his discussion of the "goal preferences" Americans have for public education, Goodlad (1984) stated: "Society in general and parents as a group, I believe, assume that the primary function of schools - whatever the other functions may be - is to teach academics" (p. 61). The attainment of academic knowledge and skills is called student achievement. It is for the purpose of student achievement that principals are expected to provide instructional leadership.

Measuring student achievement. Educational researchers have traditionally used standardized tests as the vehicle for operationalizing student achievement. In the classic study commissioned by Congress, Coleman et al. (1966) relied on tests to measure how students were achieving in American public schools. The tests used in this research were developed by the Educational Testing Service, the most influential manufacturer of tests in America. The tests tried to measure 'Verbal Ability,' 'Nonverbal ability,' 'Reading Comprehension,' 'Mathematics Achievement,' and 'General Information'" (Jencks et al., 1972, p.
The Coleman research team discussed their analysis of the results from these tests in the report to Congress entitled *Equality of Educational Opportunity*. The re-examination of these test results by Jencks et al. (1972) resulted in the publication of *Inequality: A Reassessment of the Effect of Family and Schooling in America*.

The works by Coleman and Jencks provided evidence that schools had little effect on student achievement, as measured by test scores. The effective schools researchers sought to use the same method of measurement to illustrate that schools could impact student achievement. Weber (cited in Sweeney, 1982) used third graders' scores on reading tests as a measure of student achievement. Brookover and Lezotte (1979) employed the reading and math test results for fourth and seventh graders from the state of Michigan's Education Assessment Program to operationalize student achievement. Edmonds (1981) utilized test scores in his study of public schools of New York City to ascertain each school's "ability to deliver basic school skills"
to the full range of its pupil population" (p. 23).

Recent work by educational researchers continued to rely on test scores to provide measures of student achievement. The Comprehensive Test of Basic Skills (CTBS) was employed in the work of Edington and Di Benedetto (1988) as well as Schmitt (1990). Biester et al. (1985), Crawford et al. (1985), and the research sponsored by the Effective Schools Project in Seattle used the California Achievement Test (CAT). Standardized tests, like the CTBS and the CAT, are often used in educational research. However, Bouchard (1983) cautioned "that curriculum based tests are more sensitive to differences in school characteristics than are standardized tests" (p. 15).

Despite their popularity, the use of standardized tests as a method for measuring student achievement has been criticized by some educational researchers. Wimpelberg et al. (1989) argued that the effective schools research was limited by its definition of student achievement which focused on basic skills in reading and math. They noted that this limitation was related to the
fact that standardized tests are suited to measuring basic as opposed to more advanced skills. Brookover et al. (1982) noted that norm referenced tests "often do not measure what the local educational programs are designed to teach" (p. 249).

Murphy (1988) cited the loose connection between standardized tests and the curriculum of individual schools as a weakness of using such tests to measure student achievement. Murphy further criticized this method of measuring student achievement because "there are potentially serious problems when the unit of data collection (test results from individual students) is different from the unit of analysis (school effects)" (p. 120). Murphy noted that standardized tests do a better job of measuring general ability than achievement. The author criticized norm referenced and criterion referenced tests because their tendency "to use the mean student achievement can mask important within-school variance in student learning" (p. 121).

While problems exist with the use of tests to measure student achievement, there are compelling
reasons for educational researchers to employ this method. Borg and Gall (1989) addressed this issue in the fifth edition of their text, *Educational Research*. According to the authors, "although achievement tests have been criticized on social grounds, they are probably the most valid, reliable, and useful measures available to the educational researcher" (p. 302).

In addition, norm referenced test results are readily available to researchers. Phillips (1991) noted that in a 1987 Gallup Poll, the American public expressed support for a national testing program that would facilitate a state-by-state comparison of student achievement. The growing public demand to assess educational progress has resulted in state mandated testing programs. Heck (1992) claimed that "the public’s demands for educational accountability have advanced the use of achievement data to evaluate instructional efforts, because of concerns about the poor educational outcomes in many schools and the perception that America is declining as an economic power" (p. 21). As a result of the public’s demand for educational accountability, large numbers of students are tested annually in
most states. Through the Freedom of Information Act, these data are available to interested educational researchers.

In the spring of 1988, the Commonwealth of Virginia instituted the Virginia State Assessment Program which used the Test of Achievement and Proficiency (TAP) to measure student achievement of all eleventh graders throughout the state. The Virginia Department of Education adopted the TAP after reviewing a number of possible norm referenced tests. The TAP was selected because it best represented the Standards of Learning Objectives (SOL's), which the state had previously developed as the foundation for all school curricula. The relationship between the TAP and the SOL's minimized a major concern raised by Borg and Gall (1989). These authors warned that the development and or adoption of achievement tests is made difficult because of the problem of selecting content "that is sufficiently common to most school systems..." (p. 302).

As noted in Chapter Three, the TAP is considered a valid and reliable instrument for measuring student achievement. These characteristics combined with the accessibility of
the test data for all eleventh graders throughout the state, make the TAP a valuable tool for measuring student achievement of high school students in Virginia.

Socioeconomic Background of Students and Its Effect on Student Achievement

Research has demonstrated that socioeconomic factors have a strong impact on how well students achieve at school (Coleman et al., 1966; Jencks et al., 1972). The construct used to represent family factors that can influence how a student achieves at school has been labeled socioeconomic status (SES). The home can exert a powerful influence on how students perform. Some parents are well educated and possess academic skills and resources such as encyclopedias, newspapers, books and the finances to expose their children to museums, concerts, etc. The children of these parents tend to achieve better than children whose parents lack educational skills and financial resources.

Controlling the effects of SES. In order to study the impact of school factors, such as the instructional leadership of the principal, on student achievement, it is first imperative to
control the effects of the students' socioeconomic background. This concern was underscored by Koretz (1991), who argued that the results of the National Assessment Educational Progress (NAEP) are of little value because the program fails to adequately control the socioeconomic background of the students tested. According to Koretz, one must be careful in drawing conclusions regarding the quality of schooling between states because the difference in state achievement scores could be attributed to a difference in the socioeconomic status of the populations of the states.

Educational researchers have employed a number of methods to control for the effects of the socioeconomic background of students. In the early effective schools studies, researchers focused on the achievement of students from poor families. These researchers defined effective schools as schools in which "the full range of students," including students from poor families (i.e., low socioeconomic status) achieved basic skills (Edmonds, 1981, p.23). The majority of this research was conducted in large urban school divisions with a significant number of poor students. For example, in his study of schools in
New York City in the early 1970's, Edmonds included only schools where at least 16% percent of the student bodies were poor (Edmonds, 1981, p. 23). Effective schools were identified based on their ability to enhance the achievement of poor students.

In their investigation of effective and ineffective schools in Michigan, Brookover and Lezotte (1979) attempted to identify schools where achievement scores had increased or declined as a result of the school factors. The researchers, therefore, limited their study "to a selected sample of those elementary schools in which no apparent shifts in the student body composition had occurred, yet substantial shifts in measured pupil performance were apparent" (p.2). This same method was employed in the study of effective schooling by Rutter et al. (1979). In commenting on this research, Bouchard (1983) noted that the 12 secondary schools included in the study served students from similar socioeconomic backgrounds.

As noted previously, the effective schools research was criticized for not adequately controlling for the effects of SES on student achievement. Sweeney (1982) suggested that
because much of this research was carried out in urban schools with relatively large numbers of poor students, the results were not generalizable to schools which had fewer students from low socioeconomic backgrounds. Zirkel and Greenwood (1987) and Wimpelberg et al. (1989) claimed that the effective schools research conducted between 1970 and 1980 failed to provide consistent control of SES. The study by Brookover and Lezotte (1979) illustrated this point. The researchers used the percentage of Title I eligible students as a measure of SES. This percentage for the two ineffective schools involved in the study were 17% and 30%. The percentage for the study’s six effective schools ranged between 17% and 59%. This relatively large variation did not demonstrate that the researchers achieved satisfactory control of SES as a variable that could have influenced the student achievement results of the study.

Better control of the SES variable was established in some of the research conducted after 1980 (Wimpelberg et al., 1989). Crawford et al. (1985) used prior student achievement as an "exogenous" factor that included the students'
social class and aptitudes. The authors parceled out the variance in student achievement scores due to the students' prior achievement in an effort to determine the relationship between in-school variables such as "principal mean ratings" and "residualized achievement" (p. 9).

Student eligibility for free school meals was used in several studies as a surrogate measure for SES. Pellicer, Anderson, Keefe, Kelley, and McCleary (1990) found that the percentage of a school's student body eligible for free lunch was a predictor of student achievement. The researchers used this measure to predict the achievement scores of schools involved in their study of high performing and typically performing principals. Schmitt (1990) also utilized free lunch data to categorize schools. The researcher grouped schools as high or low SES based on whether schools had more or less than 50% of their student bodies on free lunch. Schmitt found that high SES schools (i.e., schools with less than 50% of their students on free lunch) had statistically higher achievement scores than low SES schools (i.e., schools with more than 50% of their students on free lunch). The study, however,
failed to find an "interaction effect between the principal style and school SES on mean NCE scores" (p. 19).

Edington and Di Benedetto (1988) used free lunch data and eligibility for Chapter I as two separate measures of SES. In this study, stepwise regression was employed to control for the effects of socioeconomic status on student achievement. The researchers found that free lunch status was significantly related to student achievement. The relationship between Chapter I eligibility and student achievement was not found to be statistically significant. Based on this finding, the researchers concluded that "the percent of students who are eligible for free lunch may be better as a socioeconomic status measure than the percent of students eligible for Chapter I funds, at least for students in small schools" (p. 27).

In a study of elementary and high schools, Heck (1992) used a system developed by the state of California to categorize schools according to socioeconomic factors. According to this system, schools were grouped in "comparison bands" with schools whose students shared similar socioeconomic backgrounds. The achievement scores
on the California Assessment Program over a three year period were then analyzed to determine which school achievement scores were above or below the average scores of the other schools in their respective comparison bands.

In the studies conducted through the Effective Schools Project in Seattle, the researchers used ethnicity and free lunch data as two separate measures of SES (Andrews et al., 1986; Andrews & Bamburg, 1989; Bamburg & Andrews, 1991). In these studies, the researchers did not make overt attempts to control the effects of SES on student achievement. However, during the period when this research was undertaken, the Seattle schools "had implemented a voluntary desegregation plan which balanced each school's population in terms of race, ethnicity and SES" (Bamburg & Andrews, 1991, P. 179). The two SES variables were used to disaggregate achievement scores so that the impact of principal leadership performance could be measured for students in four subcategories: blacks, whites, free lunch and paid lunch.

Researchers have developed a variety of methods for controlling the effects of SES on
student achievement. It is clear that school effects, such as the instructional leadership of the principal, can not be properly analyzed with respect to student achievement unless this control is exhibited in the study. The use of free lunch data to measure SES has been a strategy employed by educational researchers. Edington and Di Benedetto (1988) have claimed that this is an effective method for operationalizing the SES construct.

**Principal’s Instructional Leadership Role and Student Achievement**

During the last decade, educational researchers have continued to investigate the relationship between the instructional leadership of principals and student achievement. Some of these studies addressed a number of the criticisms leveled against the effective schools research. As a result, the sample of schools studied has broadened to include secondary schools as well as schools with average student achievement scores. The inclusion of schools with average student achievement tends to counter the argument that the effective schools research findings were subject to the outlier effect. Recent studies have been
less inclined to define instructional leadership in broad, vague terms or to generate simplistic lists of principal instructional behaviors. The emerging trend appears to define instructional leadership as a complex construct that does not create a false dichotomy between instructional behaviors and management behaviors (Stronge, 1990; Stronge, 1993).

Given the conceptual and methodological advances made in recent research, the effort to understand the relationship between instructional leadership and student achievement remained a valid quest. The need to continue this quest was underscored by De Bovolse (1984), who concluded in his article, "Synthesis of Research on the Principal as Instructional Leader," that "the desirable characteristics of effective principals have not been convincingly correlated with student achievement" (p. 18).

In the mid-1980's, educational research studies were undertaken to better understand the relationship between the instructional leadership and student achievement. Blester et al. (1985) examined this relationship in eight elementary schools and one middle school in New Jersey. The
researchers defined instructional leadership in terms of developing school plans to improve instruction, and training and supervising teachers to implement the improvement plans. Teacher surveys, interviews with school personnel and observations were employed by the research team to develop ratings of the principals. However, the researchers did not report on the reliability or validity of their instruments. While the study did not provide tests of significance, the researchers found that the students of principals who received high leadership ratings had better achievement gains on the California Achievement Test than students in schools where principals' leadership ratings were average or low.

Using a large sample of 89 schools in Oklahoma City, of which 21 were secondary schools, Crawford et al. (1985), found that students' math and reading achievement scores on the CAT were positively correlated to principal leadership ratings obtained from surveys completed by their teachers. The sample included schools with high, average, and low student achievement. The researchers' instructional leadership construct was narrowly defined as facilitating the
Instructional efforts of teachers by providing teaching supplies and materials as well as selecting a competent teaching staff. The study did not provide data to support the quality of the survey instrument used to operationalize the independent variable. While positive correlations were found, the strength of these relationships were not strong and only the correlation between instructional leadership and math achievement met the .05 alpha level for significance.

Edington and Di Benedetto (1988) examined the relationship between principal leadership and student achievement in 24 small, rural schools in New Mexico. Their sample focused on eighth grade student achievement in math and reading on the Comprehensive Test of Basic Skills. These researchers defined instructional leadership as including the following five functions: involving staff in the decision-making process, encouraging teachers to work cooperatively, clarifying staff responsibilities, supervising teachers, and facilitating change. Principal self-reports and teacher surveys were used to yield two separate measures of each of the five leadership functions.
While the principal self-reports failed to produce statistically significant results, the rating for facilitating change secured from the teacher surveys yielded a positive relationship with student achievement. The rating for role clarification obtained from the teacher surveys, however, was negatively correlated with student achievement scores. Both correlations were significant at the .05 alpha level.

These studies exhibited some of the weaknesses noted in the criticism of the effective schools research. However, on the whole, they reflect improved conceptual and methodological considerations. Like earlier research, these studies were generally concerned with student achievement in math and reading at the elementary level in large, urban school districts. Nonetheless, secondary schools were included in each of the studies and the Edington research involved small, rural schools.

While none of the studies employed a research design with the degree of sophistication required to examine a causal link between instructional leadership and student achievement, two of the studies demonstrated the need to control for the
potential effect of the socioeconomic background of the students. Crawford et al. (1985) employed the prior achievement record of students to account for this variable, while Edington and Di Benedetto (1988) used free lunch and Chapter I eligibility as two separate measures of SES.

The studies were not susceptible to the outlier effect as was much of the earlier effective schools research. Each of the studies examined schools that were not selected because they had unusually high or low student achievement scores. Indeed, the relatively large sample of schools used in the Oklahoma City and New Mexico research included schools with average student achievement data. Thus, the generalizability of these research efforts was enhanced.

The Effective Schools Project: A comprehensive analysis of the relationship between Instructional leadership and student achievement. The Effective Schools Project, initiated in 1982 as a collaborative effort between the Seattle School District and the University of Washington's School of Education, attempted to use current research to improve the effectiveness of Seattle's public schools. The central thrust of the project
was to examine the schools within the context of the indicators of school effectiveness. Particular attention was focused on the instructional leadership role of the principal (Andrews et al., 1986).

One of the project's major research efforts involved Seattle's 67 elementary schools. Andrews et al. (1986) used student NCE gains in the total reading and total mathematics sections of the California Achievement Test between spring 1982 and spring 1984 as a measure of student achievement. The researchers surveyed the teachers of these schools to ascertain a measure for the degree of instructional leadership demonstrated by the principals. Teacher responses to 19 Likert-Type questions of the Staff Assessment Questionnaire (SAQ) were used to construct the leadership score. The test scores were aggregated to obtain mean gain scores for all students and disaggregated to yield mean scores for whites, blacks, students who received free lunch, and students who did not receive free lunch.

In order to be included in the study, a school had to have a minimum of 10 students in
each of the disaggregated groups. Sufficient data was secured for 33 of the 67 elementary schools. The schools were classified into three groups of equal size using the principal leadership ratings: strong, average and weak leaders. The leadership ratings for these groups were 80.4 for strong principals, 72.2 for average principals, and 62.9 for weak principals. The researchers claimed:

Schools in each group were comparable in size, percentage of ethnic minority, and percentage of children participating in the free lunch program. The mean leadership score for each group was approximately one standard deviation higher or lower than its nearest leadership group. (p.9)

Analysis of variance results indicated "the normal equivalent gain scores of students in strong-leader schools were significantly greater in both total reading and total mathematics than those of students in schools rated as having average or weak leaders" (Andrews and Soder, 1987, p. 10). The average reading gain for students with strong principals was 4.8 as compared to 1.57 for students with average principals and 1.82 for students with weak principals. The ANOVA value of
$F=4.35$ was significant ($p < .017$). In Math, the average gain score for students with strong principals was 4.45 as compared to -.405 for students with average principals and 1.21 for students with weak principals. The ANOVA value of $F= 3.52$ was significant ($p < .034$).

The disaggregated data yielded higher gain scores in reading and math for all four student subgroups in the eleven schools where principals were rated as strong leaders. These results were statistically significant in reading for blacks ($4.8, p < .005$) and free lunch ($5.87, p < .003$). In math, significant results were achieved for whites ($3.5, p < .039$), blacks ($4.43, p < .009$), and free lunch ($5.97, p < .005$).

The results of this study were impressive for the principals rated as strong instructional leaders. The results were not as clear for principals rated as average or weak. Indeed, the gain scores for students with weak instructional leaders were, for the most part, slightly higher than the gain scores for students in schools with average instructional leaders. Nonetheless, Andrews et al. (1986) claimed:
The findings of this study suggest that perceptions of the principal as an instructional leader are critical to the reading and mathematics achievement of students, particularly among historically low-achieving groups of students. To the extent that we value the principal as an instructional leader -- and to the extent that we value improved academic achievement of all students -- the findings have major implications for educational policy. (p. 14)

Another study published by Bamburg and Andrews in 1991 used teacher responses on the SAQ as a measure of principal leadership and gain scores on the math section of the CAT as a measure of student achievement. This research contrasted data from schools with high student achievement and schools with poor student achievement. Thus, it was subject to the outlier effect that was cited by critics of the early effective schools studies. Student gain scores were computed for the 67 elementary schools in the Seattle School District. Thirty-two schools with a minimum of 10 students in each of four subcategories -- white, black, free lunch, and non free lunch -- were
Initially included. Using gain scores as a measure of achievement, 10 high and 10 low achieving schools were selected.

The schools involved in the study had 1,605 students of which 597 were black and 693 qualified for free lunch. The researchers did not report how these students were dispersed between high and low achieving schools. However, Bamburg and Andrews noted that the school district had instituted a policy of balancing school enrollment by "race, ethnicity, and SES." Thus, one may surmise that the socioeconomic backgrounds of the students from each of the two groups of schools were relatively similar.

Students in high achieving schools had mean gain scores better than 9.79 NCE higher than students in low achieving schools. The differences in gain scores ranged from 7.88 NCE for white students to 12.18 NCE for black students. These test data indicated that there were marked differences between the level of student achievement in the two groups of schools.

Three hundred eleven teachers in the 20 participating schools completed the SAQ. Their responses to the 19 questions on the SAQ provided
a measure of the instructional leadership provided by their principals. The researchers used the percentage of "Strongly Agree" and "Agree" responses to construct a principal's score on each of the 19 items. The principals' scores were then grouped according to whether the schools were high or low achieving schools and averaged to generate mean scores. The mean scores for each of the 19 items of both the high and low achieving schools were analyzed by a T-test.

The results of the T-test indicated that 13 of the items had statistically significant differences and that "the directionality for each of those items was positive in favor of High Achieving Schools" (p. 183). Bamberg and Andrews concluded from these results that:

The staff's perceptions indicate that Principals in High Achieving Schools were viewed differently than their peers. Regardless of the Area of Strategic Interaction being considered -- Resource Provider, Instructional Resource, Communicator, or Visible Presence -- the differences between the principals of these
two groups of schools were clear and unmistakable. (p. 188)

The research by Andrews et al. (1986) and Bamburg and Andrews (1991) reflected a high degree of sophistication in its conceptualization of the instructional leadership construct and methodological measurement of this variable. The researchers developed a broad definition of instructional leadership that included four general functions: resource provider, instructional resource, communicator, and visible presence. The researchers designed a valid and reliable survey instrument for operationalizing the instructional leadership construct. In both studies, the dependent variable, student achievement, was operationalized by reading and math scores on a reputable standardized test, the California Achievement Test.

While these two studies may be criticized for not doing a better job of controlling for the effects of SES, this concern is mitigated by the desegregation plan that had been instituted in Seattle's public schools. Overall, this research presents a comprehensive investigation into the relationship between the instructional leadership
role of the principal and student achievement in urban elementary schools.

Principal's Role as an Instructional Leader in Small Schools

One of the major criticisms of effective schools studies was that researchers limited their focus to elementary schools (Cohen, 1982b; Firestone & Herriot, 1982; Murphy, 1988; Wimpelberg et al., 1989). Indeed, some researchers posited that the differences between elementary and secondary schools made it questionable as to whether secondary school principals could impact student achievement (Cusick, 1983; Little & Bird, 1987; Lee, 1987). Recent research regarding the relationship between instructional leadership and student achievement has included secondary schools (Blester et al., 1985; Crawford et al., 1985; Edington & Di Benedetto, 1988). However, few studies have examined this relationship in small high schools (Edington & Di Benedetto).

The basic duties, responsibilities, and problems faced by principals in large or small schools are similar. Ubben and Hughes (1987) underscored this point by stating:
Schools vary in size and complexity. Similarly, the role of the principal and the organizational and community expectations may vary from place to place, but the functions which must be managed by the principal -- even if not personally conducted -- are similar, irrespective of where the position is located or how large the student body is. (p. 6)

In their book, *Small Districts Big Problems: Making School Everybody's House*, Schmuck and Schmuck (1992) echoed the assertion of Ubben and Hughes by stating, "Indeed, the most serious difficulties for elementary and secondary principals alike in small districts were not very different than the difficulties of their urban counterparts" (p. 73).

While principals in small schools may have similar job expectations to their colleagues in large schools, the ability of small school principals to impact the achievement of their students has received little attention from educational researchers. Even recent studies have been conducted in large, urban school divisions (e.g., Blester et al., 1985; Crawford et al.,

The importance of examining the instructional role of principals of small schools is highlighted by the large number of small school districts in the nation. Schmuck and Schmuck (1992) claimed that 75% of this country's school districts have fewer than 3,000 students and 51% can be classified as small and rural. The authors proposed that research should seek to determine if "small school districts actualize collaboration and cooperation about academic matters better than the big urban and suburban districts?" (p. 4).

Murphy (1988) suggested that the size of a school is a factor that influences how principals perform their leadership role. He noted:

Preliminary evidence suggests that smaller size (as defined by the number of students) may facilitate a more direct and personal instructional leadership role for principals, while their counterparts in schools with larger enrollments must rely on more indirect
and more structural instructional leadership mechanisms. (p. 126)

Does this mean that principals of small schools are in a better position to improve student achievement? This question merits the attention of educational researchers.

**Summary of Related Literature**

The review of related literature revealed that the role of the principal has changed during the twentieth century. A major theme that has characterized this change has been the extent to which the principal has been involved in the school's instructional program. After the 1920's, as schools became larger, more complex organizations, the principal's instructional role receded as greater administrative demands pulled the principal's attention away from the teaching-learning process. In the 1970's, as public demand increased for educational accountability, a renewed interest in the principal's instructional role ensued.

The renewed interest in the principal's instructional role was an outgrowth of the effective schools research movement which identified strong leadership as a factor that
positively impacted the achievement of students. While critics of this research questioned both conceptual and methodological aspects of these studies, educational researchers have continued to examine the relationship between the instructional leadership role of the principal and student achievement.

Recent research has addressed many of the criticisms of the effective school studies. While researchers have broadened their investigation to include secondary as well as elementary schools, the majority of this work has been directed at large, urban schools. Little effort has been made to extend this inquiry to small high schools.
Chapter III

Procedures

Introduction

During the last two decades, educational researchers have investigated the relationship between instructional leadership and student achievement. The vast majority of this research has focused on elementary schools in large, urban school districts. The purpose of this study was to extend this investigation to small high schools in the Commonwealth of Virginia.

In addition to instructional leadership and student achievement, the socioeconomic status (SES) of each school's student body was an important construct in this inquiry. Previous research has demonstrated that SES impacts student achievement (Coleman et al., 1966; Jencks et al., 1972). Consequently, this research was designed to control the effects of SES on student achievement.

Four hypotheses were advanced to guide this study. The 11th grade results from the spring 1993 administration of the Test of Achievement and Proficiency were used as the measures of student
achievement in all four hypotheses. The first two hypotheses tested the strength of relationship between instructional leadership and student achievement. The instructional leadership construct was operationalized by teacher surveys in the first hypothesis and by central office administrator surveys in the second hypothesis. The third hypothesis tested the strength of relationship between SES and student achievement using the percentage of students approved for free and reduced meals as the surrogate variable for SES.

The fourth hypothesis sought to determine the strength of relationship between instructional leadership and student achievement after controlling for the effects of SES. This inquiry was made separately for the two measures of instructional leadership used in the first and second hypotheses.

Research Hypotheses

1. In small high schools, student achievement as measured by the Test of Achievement and Proficiency will have a positive relationship with the degree of instructional leadership
demonstrated by principals as operationalized by teacher surveys.

2. In small high schools, student achievement as measured by the Test of Achievement and Proficiency will have a positive relationship with the degree of instructional leadership demonstrated by principals as operationalized by a survey of central office personnel responsible for instructional supervision.

3. In small high schools, student achievement as measures by the Test of Achievement and Proficiency will have a positive relationship with the socioeconomic background of the student body as operationalized by the percentage of students who have approved applications for free and reduced meals.

4. In small high schools, after controlling for the socioeconomic status of the student body as operationalized by the percentage of students approved for free and reduced meals, the degree of instructional leadership demonstrated by the principal as operationalized in hypotheses one and two will have a positive relationship with student achievement as measured by the Test of Achievement and Proficiency.
Ethical Consideration

This research was approved by the Committee on Human Subjects in the School of Education at The College of William and Mary. The study was conducted in a manner that protected the anonymity of the school divisions and individuals who participated in the research. Each participating school division received a supply of the researcher's notice of confidentiality for distribution to the teachers who were randomly selected to complete surveys (see Appendix D). An additional copy was provided for the principal. The research plan was developed so that there was no need to use the names of students, teachers, administrators, schools or school divisions. To protect the confidentiality of those involved, a numbering system was employed with every school division and high school assigned a code number. The teacher and central office surveys also had code numbers. These code numbers have been used to collect data and present the information in the text of the dissertation.

Sample

The target population for this study was small high schools in the Commonwealth of
Virginia. The classification system of the
Virginia High School League (VHSL) was used to
identify small high schools, where the enrollment
in grades 10 through 12 does not exceed 500
students. The VHSL is an organization that
governs interscholastic competition between public
high schools in Virginia. The VHSL classifies
small schools as "Single A." There are 90 such
high schools according to the league. The large
majority of these schools are located in counties.
However, nine of the schools are situated in small
towns with populations of less than 10,000 people
(1991-92 Superintendent's Annual Report for
Virginia, pp. 60-62).

The sample was composed of small high schools
in the Commonwealth of Virginia whose principals
had been appointed prior to August 1990.
Thirty-three of the 90 Single A high schools were
not eligible to participate in the study.
Thirty-one of these schools were ineligible due to
the fact that their principals had been appointed
after August 1990. One high school was not asked
to participate because the researcher is employed
in that school division. The other high school
was not asked to participate because its unique
educational program is designed solely for disabled youth and therefore does not reflect the general school setting that this study sought to examine. Forty-four of the remaining 57 high schools participated in the research. Thus, the sample represented 77% of the eligible small high schools in Virginia.

Instrumentation

The Staff Assessment Questionnaire. The Staff Assessment Questionnaire (SAQ) is a 94-item survey that uses a five point Likert-type scale, ranging from "Strongly Agree" to "Strongly Disagree." The instrument measures 12 characteristics of effective schools identified by the Effective Schools Project. These include such characteristics as clear school goals, dedicated staff, high expectations for students, strong instructional leadership, etc. Nineteen items on the SAQ measure the degree to which a principal demonstrates instructional leadership. These 19 questions were used as the survey instrument to operationalize instructional leadership in this study.

The 19-item survey was administered to teachers to provide one measure of instructional
leadership (see Appendix A). These same 19 items were slightly modified to create a second survey instrument that was administered to central office administrators responsible for supervising the instructional program (see Appendix B). The central office administrator survey provided a second measure of instructional leadership.

In a study involving 99 schools and 2,774 teachers in the Seattle area, the SAQ was found to be a reliable instrument. The Alpha values for the items measuring strong leadership ranged between .92 and .97, with a standard deviation of between 7.35 and 11.29. The Test-Retest reliability estimate for these 19 items was .73 with a standard deviation of 9.13 (The School Self-Assessment Services Technical Manual, 1986, pp. 8-11).

According to the literature of the Effective Schools Project, the SAQ is a valid instrument for measuring the characteristics of effective schools. The instrument is said to have content validity in that its items reflect the experience of teachers and administrators as well as "relevant literature and research on a given

Test of Achievement and Proficiency. The instrument used to measure student achievement was form G, level 17 of the Test of Achievement and Proficiency (TAP). The study included the TAP subtests for math, written expression, social studies, science, and complete total. According to the 10th edition of the Mental Measurements Yearbook, "the TAP compares favorably with other group achievement batteries and is suitable for continued use as a measure of 'basic skills'" (1989, p. 863). The editors of the yearbook stated that the TAP has adequate content validity and KR-20 reliability coefficients of .82 and higher. The Virginia Department of Education adopted this test as the 11th grade component of the Virginia State Assessment Program (VSAP) because department officials believed the TAP reflected the basic skills and concepts that schools throughout the Commonwealth of Virginia should be teaching.

Design

This study consisted of administering a questionnaire to high school teachers and central
office administrators in order to determine their perceptions of the degree to which high school principals demonstrated instructional leadership. The 11th grade test data from the Commonwealth of Virginia's spring 1993 administration of the TAP were used as the measures of student achievement.

In addition to measuring instructional leadership and student achievement, this study used the percentage of students approved for free and reduced meals as a measure of socioeconomic status (SES). Numerous studies including Coleman et al. (1966) and Jencks et al. (1972) have illustrated that there is a strong relationship SES and student achievement. This relationship suggests that students from high socioeconomic backgrounds tend to have higher achievement than students from low socioeconomic backgrounds. While not a major thrust of this study, it was important to determine how this relationship may influence the relationship between instructional leadership and student achievement. Previous studies have operationalized SES by using the percentage of students on free and reduced meals (Andrews et al., 1986; Edington & Di Benedetto, 1988; Schmitt, 1990). Schools with higher free
and reduced percentages would be assumed to have students with a poorer SES than those schools with lower free and reduced meal percentages.

Data Collection and Analysis

The superintendents of all school divisions with small high schools whose student enrollment in grades 10-12 was 500 or less were mailed a letter in March of 1993 that explained the research proposal and sought the participation of eligible schools (see Appendix E). Superintendents that failed to respond were sent a follow-up letter in April (see Appendix F). Phone calls were made to the few superintendents who did not respond to the follow-up correspondence.

School divisions that agreed to participate were mailed a packet of materials that included the following items for each participating school: five teacher surveys, a survey for the central office administrator responsible for supervising the instructional program, a school demographic form, notices of confidentiality, a set of directions, and a stamped self-addressed envelope for returning the needed data. The school demographic form sought information about the number of students enrolled in the division, the
number of students enrolled in the school, the number of students approved for free and reduced meals at the school, the age, gender, educational level and years of experience of the principal (see Appendix C).

A cover letter to the superintendent asked that a central office administrator be appointed to coordinate the distribution, collection and return mailing of the surveys and demographic forms (see Appendix G). The directions contained a specific method for randomly selecting teachers to complete the surveys (see Appendix H). According to the selection process, the central office administrator was asked to select five full-time teachers by using an alphabetized roster of staff members. Staff members whose positions on the roster corresponded to random numbers provided by the researcher were to be asked to complete the surveys. A stamped self-addressed envelope was provided for the return of completed surveys and demographic forms.

Eleventh grade test data were provided by the Department of Education and Dr. David Poor of Uniscore, Inc., whose company provides the scoring services for the state's testing program.
Correlation coefficients were computed to determine the strength of relationships between the teacher and central office administrator ratings of instructional leadership and student achievement, as well as the strength of relationship between SES and student achievement. A regression analysis was used to control the effects of SES and determine the strength of the residual relationships between the teacher and central office administrator ratings of principal leadership and student achievement.

Summary

This research sought to determine the strength of relationship between the degree to which a principal demonstrates instructional leadership and student achievement in small high schools in the Commonwealth of Virginia. This inquiry was an extension of previous research which has concluded that there is a relationship between these two variables in the context of elementary schools in urban settings. The study controlled for the effects of SES which has been demonstrated through previous research to have an impact on student achievement.
During the spring of 1993, 44 high schools (i.e., 77% of all eligible high schools) completed information packets that included teacher and central office administrator surveys, and demographic data on the schools and their principals. In addition, the Department of Education provided the 11th grade results from the state's spring 1993 administration of the Test of Achievement and Proficiency. The survey results were used to yield two independent measures of principal leadership — one as perceived by teachers and a second as perceived by the central office administrator responsible for supervising the school division's instructional program.

The school demographic data were used to compute the percentage of students receiving free and reduced meals, which served as a surrogate variable for SES. The test data provided measures of student achievement in math, written expression, social studies, science and complete total.

Bivariate correlational tests were run to reveal the strength of relationship between each independent variable and each dependent variable. A regression analysis was run to ascertain the
strength of relationship between each measure of instructional leadership and the measures of student achievement after controlling for the effects of SES.
CHAPTER IV

Analysis and Presentation of the Data

Introduction

The purpose of the study was to investigate the relationship between the degree to which a principal demonstrates instructional leadership and student achievement in small high schools. Previous research has found that principals of elementary schools in large, urban communities can have a significant effect on the achievement level of their students. This study determined whether a similar relationship existed in small high schools in the Commonwealth of Virginia.

This chapter presents data on the 44 small high schools that participated in the study. A general description of the sample is provided which includes information about school and division enrollment, number of students approved for free and reduced meals, and grade level configuration. Demographic data on the schools' principals is presented which includes age, gender, years experience in current position,
years experience as a principal, and educational level. Following the general description of the sample, the four hypotheses posited by the study are presented in sequential order with the relevant statistical data.

Sample

Information regarding the 44 participating high schools is included in Table 3. This table contains the mean, standard deviation, minimum and maximum values for the following factors: school enrollment, number of students in the sample schools eligible for free and reduced meals, the percentage of students in the sample schools eligible for free and reduced meals, and division enrollment.
### TABLE 3
DESCRIPTIVE STATISTICS OF THE HIGH SCHOOLS

<table>
<thead>
<tr>
<th>Factors</th>
<th>Mean</th>
<th>Std.Dev.</th>
<th>Min.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>School Enrollment</td>
<td>457.84</td>
<td>154.43</td>
<td>187</td>
<td>486</td>
</tr>
<tr>
<td>Free/Red. Students</td>
<td>112.70</td>
<td>64.24</td>
<td>20</td>
<td>320</td>
</tr>
<tr>
<td>Free/Red. Percentage</td>
<td>.25</td>
<td>.12</td>
<td>.08</td>
<td>.55</td>
</tr>
<tr>
<td>Division Enrollment</td>
<td>3956.89</td>
<td>3116.62</td>
<td>438</td>
<td>13398</td>
</tr>
</tbody>
</table>

Information regarding the grade level configuration of the sample schools is included in Table 4. This table lists the different types of grade level configurations of the schools in the sample, the corresponding number of schools with a given grade level configuration, and the percentage of schools in the sample with each type of grade level configuration.
### TABLE 4
GRADE LEVEL CONFIGURATIONS OF THE HIGH SCHOOLS

<table>
<thead>
<tr>
<th>Grades</th>
<th>From To</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>12</td>
<td>18</td>
<td>40.9</td>
</tr>
<tr>
<td>8</td>
<td>12</td>
<td>18</td>
<td>40.9</td>
</tr>
<tr>
<td>7</td>
<td>12</td>
<td>4</td>
<td>9.1</td>
</tr>
<tr>
<td>6</td>
<td>12</td>
<td>4</td>
<td>9.1</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>44</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Information regarding the 44 principals in the study is included in Table 5 through Table 7. Table 5 displays the mean, standard deviation, minimum and maximum values for the age of the principals, the number of years served in current position, and years experience as a principal.
### TABLE 5

**DESCRIPTIVE STATISTICS OF THE PRINCIPALS**

<table>
<thead>
<tr>
<th>Factors</th>
<th>Mean</th>
<th>Std.Dev.</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>46.91</td>
<td>5.85</td>
<td>34</td>
<td>60</td>
</tr>
<tr>
<td>Yrs in Position</td>
<td>6.70</td>
<td>4.23</td>
<td>2</td>
<td>18</td>
</tr>
<tr>
<td>Yrs as Principal</td>
<td>7.73</td>
<td>4.58</td>
<td>2</td>
<td>18</td>
</tr>
</tbody>
</table>

*Years in position and years as principal did not include the 1992-93 school year.

Data regarding the gender of the principals is contained in Table 6. The overwhelming majority, or 95.5%, of principals in the sample were male.
<table>
<thead>
<tr>
<th>Gender</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>42</td>
<td>95.5</td>
</tr>
<tr>
<td>Female</td>
<td>2</td>
<td>4.5</td>
</tr>
<tr>
<td>Total</td>
<td>44</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Information regarding the educational level of principals in the sample is contained in Table 7. The table lists three educational levels: master's degree, master's degree plus thirty credits, and doctorate. Principals according to their highest attained educational level are grouped into these three categories. The corresponding percentage of principals in each category is noted.
TABLE 7

EDUCATIONAL LEVEL OF THE PRINCIPALS

<table>
<thead>
<tr>
<th>Educational Level</th>
<th>Number</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Master's</td>
<td>29</td>
<td>65.9</td>
</tr>
<tr>
<td>Master's Plus 30</td>
<td>11</td>
<td>25.0</td>
</tr>
<tr>
<td>Doctorate</td>
<td>4</td>
<td>9.1</td>
</tr>
<tr>
<td>Total</td>
<td>44</td>
<td>100.0</td>
</tr>
</tbody>
</table>

A comparison of the demographic data with information obtained from a 1988 survey of educational administrators in Virginia by the Virginia Center for Educational Leadership suggests that principals in the sample are similar to their colleagues in the state. The survey results, which were provided to this researcher by the Virginia Association of Secondary School Principals, included the responses of two hundred forty-eight high school principals. While over 95% of the sample principals were male, 92% of high school principals who responded to the 1988 survey were male. The mean age of principals in
this study is 46.91 years. Fifty-six percent of the high school principal survey respondents were between 40 and 49 years of age. Thirty-four percent of the sample principals have attained an educational level of thirty hours or more beyond the master's degree. Twenty-five percent of the high school principals who responded to the 1988 survey had either earned an educational specialist degree, completed all course work for the doctorate, or earned a doctorate.

A major difference between the high school principals in this study and the high school principals who responded to the 1988 survey was in years experience as a principal. The mean years experience as a principal is 7.73 for the sample. Seventy-five percent of the high school principals involved in the 1988 survey had served as educational administrators for ten years or more. This large disparity, however, could possibly be explained by the fact that the participants in this study were not asked to report their years of administrative experience in positions other than the principalship.
Analysis of Data for First Hypothesis

The first purpose of the study was to determine if a positive relationship exists in small high schools between student achievement and the instructional leadership of the principal as perceived by teachers. The first 18 questions from the teacher surveys were averaged to yield a mean instructional leadership score for each principal. While five teacher surveys were sent to each school, survey results were not used if two or more responses were not answered. As a result, the number of teacher surveys used to obtain a principal's instructional leadership score varied between three and five. In cases where a single question was not answered, the mean score obtained from the other responses was substituted for the missing response. Table x-6 contains the mean and standard deviation values for the 44 instructional leadership scores obtained from the first 18 questions of the teacher survey.

In addition, Table 8 also contains the mean and standard deviation values derived from teacher
responses to the 19th and final question on the survey, which served as a check to the first 18 questions. This question asked teachers to respond to the following statement: "The principal is a strong instructional leader."

**TABLE 8**

**PRINCIPAL’S INSTRUCTIONAL LEADERSHIP AS PERCEIVED BY TEACHERS**

<table>
<thead>
<tr>
<th>Survey Questions</th>
<th>Mean</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-18</td>
<td>69.2206</td>
<td>11.1050</td>
</tr>
<tr>
<td>19</td>
<td>3.7822</td>
<td>.7581</td>
</tr>
<tr>
<td>1-19</td>
<td>73.0028</td>
<td></td>
</tr>
</tbody>
</table>

The first 18 questions from the central office administrator survey were averaged to yield a third measure of each principal’s instructional leadership. Missing responses were treated in the same manner as explained above. However, in no case was there more than a single missing response. Thus, each of the 44 principals in the study had an instructional leadership score
obtained from a single central office administrator's survey responses. Table 9 contains the mean and standard deviation values derived from the first 18 questions of the central office administrator survey.

As with the teacher survey, the 19th question on the central office administrator survey served as a check to the first 18 questions. The mean and standard deviation values derived from the central office administrators' responses to question 19th is contained in Table 9.

### TABLE 9

**PRINCIPAL'S INSTRUCTIONAL LEADERSHIP AS PERCEIVED BY SUPERVISORS**

<table>
<thead>
<tr>
<th>Survey Questions</th>
<th>Mean</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-18</td>
<td>71.4545</td>
<td>9.8233</td>
</tr>
<tr>
<td>19</td>
<td>3.9886</td>
<td>.7960</td>
</tr>
<tr>
<td>1-19</td>
<td>75.4431</td>
<td></td>
</tr>
</tbody>
</table>

The 11th grade mean scale scores for five subtests of the Test of Achievement and
Proficiency were employed as measures of student achievement for every school in the study. The subtests included: total math, written expression, social studies, science, and complete total. The mean and standard deviation values calculated from the sample's 44 schools for each subtest are contained in Table 10. It is interesting to note the relatively small amount of variance in these measures of student achievement. The sample's standard deviation values range from 4.67 for complete total to 6.54 for written expression. According to Riverside Publishing Company's Manual for School Administrators, the expected standard deviation values for the respective subtests of the Test of Achievement and Proficiency are 11.13 for total math, 14.18 for written expression, 12.11 for social studies, 11.50 for science, and 11.70 for complete total.
TABLE 10
STUDENT ACHIEVEMENT

<table>
<thead>
<tr>
<th>Subtest</th>
<th>Mean</th>
<th>Std. Dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Math</td>
<td>181.1818</td>
<td>4.9989</td>
</tr>
<tr>
<td>Written Expression</td>
<td>190.8182</td>
<td>6.5389</td>
</tr>
<tr>
<td>Social Studies</td>
<td>191.9091</td>
<td>4.8022</td>
</tr>
<tr>
<td>Science</td>
<td>194.0227</td>
<td>5.8568</td>
</tr>
<tr>
<td>Complete Total</td>
<td>189.8182</td>
<td>4.6669</td>
</tr>
</tbody>
</table>

The mean score for each principal obtained from averaging teacher responses to the first 18 questions of the survey were used as the measure of instructional leadership. The five mean scale scores on the Test of Achievement for each school served as separate measures of student achievement. Separate correlation coefficients were computed to determine the strength of relationship between the instructional leadership measure and each measure of student achievement. An alpha level of .05 was used as the test of significance.
Table 11 contains the correlation coefficients and the corresponding probability values computed for the student achievement measures and the instructional leadership score obtained from the first 18 questions on the teacher survey. A negative relationship was found between instructional leadership and science achievement \((-0.0726, p=0.639)\). The relationship between instructional leadership and the other four measures of student achievement were positive. However, all five correlation coefficients were small, ranging from -0.0726 to 0.2105. In addition, each coefficient failed to meet the 0.05 alpha level of significance.
TABLE 11
STUDENT ACHIEVEMENT AND INSTRUCTIONAL LEADERSHIP:
TEACHER SURVEY ITEMS 1-18

<table>
<thead>
<tr>
<th>Instructional Leadership</th>
<th>Math</th>
<th>Written</th>
<th>Social Express. Studies</th>
<th>Science</th>
<th>Complete Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>r</td>
<td>.0421</td>
<td>.0392</td>
<td>.2105</td>
<td>-.0726</td>
<td>.0511</td>
</tr>
<tr>
<td>P</td>
<td>.786</td>
<td>.800</td>
<td>.170</td>
<td>.639</td>
<td>.743</td>
</tr>
</tbody>
</table>

As a check to the instructional leadership measure obtained from responses to the first 18 questions of the teacher survey, teacher responses to question 19 were used as a separate measure of this construct. Correlation coefficients were computed using this measure and the five measures of student achievement. Again, the relationship between instructional leadership and student achievement was positive for all areas except science. The correlation coefficients were very small, ranging from -.0348 to .2633. Only the coefficient for social studies (.2633, p=.084),
approached the alpha level for significance. These data are displayed in Table 12.

TABLE 12
STUDENT ACHIEVEMENT AND INSTRUCTIONAL LEADERSHIP:
TEACHER SURVEY ITEM 19

<table>
<thead>
<tr>
<th>Instructional Math</th>
<th>Written Social Science</th>
<th>Complete Leadership</th>
<th>Express, Studies</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>r</td>
<td>.0009</td>
<td>.0094</td>
<td>.2633</td>
<td>-.0348</td>
</tr>
<tr>
<td>P</td>
<td>.996</td>
<td>.952</td>
<td>.084</td>
<td>.822</td>
</tr>
</tbody>
</table>

Analysis of Data for Second Hypothesis

The second purpose of the study was to determine if a positive relationship exists in small high schools between student achievement and the instructional leadership of the principal as perceived by the school division's instructional supervisor. The first 18 questions on the central office administrator's survey were averaged to obtain a mean instructional leadership score for each principal. The same data used as measures of student achievement for the first hypothesis were
employed to test the second hypothesis. Five separate correlation coefficients were computed to determine the strength of relationship between this measure of instructional leadership and each measure of student achievement. A .05 alpha level was used as the test of significance.

Table 13 contains the correlation coefficients and the corresponding probability values computed for the student achievement measures and the instructional leadership score obtained from the first 18 questions on the central office administrator survey. While all the relationships were positive, the correlation coefficients were small, ranging from .1389 and .2329. None of the coefficients met the .05 alpha level of significance.
As a check to the instructional leadership measure obtained from the central office administrators' responses to the first 18 questions of the survey, the administrators' responses to question 19 were used a separate measure of this construct. Correlation coefficients were computed using this measure and the five measures of student achievement. Again, while the relationships were positive, the correlation coefficients were small, ranging from .1087 to .2127. None of the coefficients satisfied the .05 alpha level for significance. These data are displayed in Table 14.
TABLE 14
STUDENT ACHIEVEMENT AND INSTRUCTIONAL LEADERSHIP: SUPERVISOR SURVEY ITEM 19

<table>
<thead>
<tr>
<th>Instructional Leadership</th>
<th>Math</th>
<th>Written</th>
<th>Social Express.</th>
<th>Studies</th>
<th>Science</th>
<th>Complete Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.1087</td>
<td>.1448</td>
<td>.2127</td>
<td>.1123</td>
<td>.2029</td>
<td></td>
</tr>
<tr>
<td>P</td>
<td>.483</td>
<td>.348</td>
<td>.166</td>
<td>.468</td>
<td>.187</td>
<td></td>
</tr>
</tbody>
</table>

Analysis of Data for Third Hypothesis

The third purpose of the study was to determine if a negative relationship exists in small high schools between student achievement and the students' socioeconomic status (SES). The percentage of a school's students with approved applications for free and reduced meals served as a surrogate variable for SES. This percentage was determined by dividing the number of students with approved applications by the school's enrollment. The mean percentage and standard deviation for the sample are reported in Table 3. The same data used as measures of student achievement for the
first two hypotheses were employed to test the
third hypothesis. Separate correlation
coefficients were computed to determine the
strength of relationship between the measure of
the students' socioeconomic status and each of the
five variables for student achievement.

Table 15 contains the correlation
coefficients and corresponding probability values
computed for each student achievement measure and
the variable for SES. As anticipated, the
directionality of all five correlations is
negative, suggesting that student achievement is
inversely related to the percentage of students
with approved applications for free and reduced
meals. The correlations are relatively strong for
science (-.4160, p=.005) and complete total
(-.4159, p=.005). Both of these correlations are
significant at better than the .05 alpha level.
The other three correlations range from -.2474 to
-.2857, with only the coefficients for math
(-.2857, p = .06) and written expression (-.2776,
p= .068) approaching but not quite satisfying the
.05 test for significance.
Analysis of Data for Fourth Hypothesis

The major purpose of the study was to determine if, after controlling for the effects of the socioeconomic status of the student body, a significant relationship exists in small high schools between the instructional leadership of the principal and student achievement. The five mean scale scores used in the first three hypotheses as the measures of student achievement served as the dependent variables. The percentage of students with approved applications for free and reduced meals used in the third hypothesis as the surrogate variable for the socioeconomic status of the students served as an independent
variable. The four ratings derived from the teacher and central office administrator surveys used in the first two hypotheses as measures of the principal’s instructional leadership also served as independent variables. Separate multiple regressions were calculated for each dependent variable with the SES variable and each instructional leadership variable. The SES variable was entered first in each multiple regression to control for the effects of the socioeconomic status on student achievement. An alpha level of .05 was used as the test of significance.

Table 16 through Table 19 each contain the results of the five multiple regressions computed using the SES variable, one of the four measures of instructional leadership, and each of the five variables for student achievement: total math, written expression, social studies, science, and complete total. For each multiple regression, values for Beta, T, and Significant T are provided for both the SES variable and the instructional leadership variable.
Table 16 contains the multiple regression results derived from using the measure of instructional leadership obtained from the first 18 questions on the teacher survey. The Beta values in all five multiple regressions for the percentage of students with free and reduced meals are negative and vary from -.436402 to -.290289. Only the values for complete total ($B = -0.436402$, $Slg T = 0.0039$) and science ($B = -0.415423$, $Slg T = 0.0062$) meet the .05 test for significance. Four of the Beta values for this measure of instructional leadership are positive and vary from .258649 to .087705. The Beta value for science is negative ($B = -0.003682$, $Slg T = 0.9797$). None of Beta values for instructional leadership satisfies the test for significance, with only the value for social studies ($B = .258649$, $Slg T = 0.0881$) coming relatively close to the .05 standard.
TABLE 16

STUDENT ACHIEVEMENT AND INSTRUCTIONAL LEADERSHIP

AFTER CONTROLLING FOR SES:

TEACHER SURVEY ITEMS 1-18

<table>
<thead>
<tr>
<th>Regression Variables</th>
<th>Beta</th>
<th>T</th>
<th>Sig T</th>
</tr>
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<tbody>
<tr>
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<td>.0039</td>
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<tr>
<td>IL and Complete Total</td>
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<td>.866</td>
<td>.3918</td>
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Table 17 contains the multiple regression results derived from using the measure of Instructional leadership obtained from the 19th
question on the teacher survey. The Beta values in all five multiple regressions for the percentage of students with free and reduced meals are negative and vary from -.429697 to -.279527. Only the values for complete total ($B = -.429697$, $Sig T = .0042$) and science ($B = -.417219$, $Sig T = .0057$) meet the .05 test for significance. The Beta values for this measure of instructional leadership are positive and vary from .293869 to .010832. Only the Beta value for social studies ($B = .293869$, $Sig T = .0495$) satisfies the test for significance.
### TABLE 17
STUDENT ACHIEVEMENT AND INSTRUCTIONAL LEADERSHIP
AFTER CONTROLLING FOR SES:
TEACHER SURVEY ITEM 19

<table>
<thead>
<tr>
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<td>IL and Complete Total</td>
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Table 18 contains the multiple regression results derived from using the measure of Instructional leadership obtained from the first
18 questions on the survey of central office administrators responsible for supervising the instructional program. The Beta values in all five multiple regressions for the percentage of students with free and reduced meals are negative and vary from -.412235 to -.241168. Only the values for science ($B = -.412235, \text{Sig T} = .0055$) and complete total ($B = -.409275, \text{Sig T} = .0050$) meet the .05 test of significance. The Beta values for this measure of instructional leadership are positive and vary from .220616 to .126486, with no value satisfying the test of significance.
### TABLE 18

**STUDENT ACHIEVEMENT AND INSTRUCTIONAL LEADERSHIP**

**AFTER CONTROLLING FOR SES:**

**SUPERVISOR SURVEY ITEMS 1-18**

<table>
<thead>
<tr>
<th>Regression Variables</th>
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<th>Sig T</th>
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</thead>
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<td>IL and Science</td>
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</table>

Table 19 contains the multiple regression results derived from using the measure of Instructional leadership obtained from the 19th
question on the central office administrator survey. The Beta values in all five multiple regressions for the percentage of students with free and reduced meals are negative and vary from -.429132 to -.260595. Only the values for complete total (B= -.429131, Slg T= .0033) and science (B= -.423985, Slg T= .0044) meet the .05 test of significance. The Beta values for this measure of instructional leadership are positive and vary from .227813 to .125671, with no value satisfying the test of significance.
TABLE 19
STUDENT ACHIEVEMENT AND INSTRUCTIONAL LEADERSHIP
AFTER CONTROLLING FOR SES:
SUPERVISOR SURVEY ITEM 19

<table>
<thead>
<tr>
<th>Regression Variables</th>
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CHAPTER V
Summary, Conclusions, Recommendations, and Implications

Summary of the Study

During the last two decades, educational researchers have found evidence that principals can have a positive impact on the achievement of their students. The vast majority of the research has focused on elementary schools in large, urban school districts. The purpose of this study was to determine if the relationship between instructional leadership and student achievement exists in small high schools in Virginia. A concern of this investigation was the socioeconomic status of students, which has been demonstrated through research to have a significant impact on the achievement level of students.

The purpose of the study was achieved by collecting from 44 small high schools data that were used by the researcher to operationalize instructional leadership and socioeconomic status. The schools' 1993 mean scale scores on five subtests of the 11th grade Test of Achievement and Proficiency served as separate measures of student achievement.
achievement. Test scores were provided by the Virginia Department of Education. Hierarchical regression was employed to control for the effects of socioeconomic status and determine the strength of relationship between the measures of student achievement and the measures of instructional leadership.

Limitations of the Study

The results of this research and its implications should be interpreted in light of the following limitations cited in Chapter I:

1. The sample population was limited to principals of small high schools in Virginia who had been appointed to their current position prior to August 1990.

2. The information used to measure instructional leadership was limited to the data gathered from a single administration of a questionnaire. The questionnaires were collected from no more than five teachers and one central office administrator for each principal. This data was further limited to the 19 questions posited by the survey.

3. The information used to operationalize student achievement was limited to the spring 1993
scores of 11th grades on the state required Test of Achievement and Proficiency.

4. The information used to approximate the socioeconomic background of each school's population was limited to the percentage of students who receive free and reduced meals.

Conclusions

In light of these limitations, the conclusions drawn from this study were as follows:

1. The first hypothesis is rejected. In small high schools, there is not a significant relationship between student achievement as measured by the Test of Achievement and Proficiency and the instructional leadership of the principal as operationalized by teacher surveys.

2. The second hypothesis is rejected. In small high schools, there is not a significant relationship between student achievement as measured by the Test of Achievement and Proficiency and the instructional leadership of the principal as operationalized by a survey of central office personnel responsible for instructional supervision.
3. The third hypothesis is accepted. In small high schools, there is a significant and inverse relationship between student achievement as measured by the Test of Achievement and Proficiency and the socioeconomic background of the student body as operationalized by the percentage of students who have approved applications for free and reduced meals.

4. The fourth hypothesis is rejected. After controlling for the effects of socioeconomic status as operationalized by the percentage of students approved for free and reduced meals, there is not a significant relationship in small high schools between student achievement as measured by the Test of Achievement and Proficiency and the instructional leadership of the principal as operationalized by either teacher surveys or central office administrator surveys.

The findings of this study do not support the hypothesis that the relationship found in large, urban elementary schools between the instructional leadership of the principal and student achievement exists in small high schools in Virginia. Only one of the 40 correlations computed between measures of instructional
leadership and student achievement produced a statistically significant result. The significant correlation was found for the measure of Instructional leadership obtained from the 19th question on the teacher survey and social studies achievement after controlling for the effects of the socioeconomic status of students.

Interestingly, the correlation between these two measures was not found to be statistically significant when the effects of socioeconomic status were not controlled. Such results do not substantiate the notion that small high school principals impact student achievement.

Discussion

This discussion will present the following explanations of why the study failed to find a significant relationship between instructional leadership and student achievement: characteristics of the sample; method of measuring instructional leadership; method of measuring student achievement; and the incapacity of high school principals to impact student achievement. These explanations must be carefully considered before it can be concluded that the principals of
small high schools in Virginia do not impact student achievement.

The characteristics of the sample present one plausible explanation for the statistically insignificant results of the study. As noted in Chapter Four, the variation in the student achievement scores for the sample was very restricted. The standard deviation values ranged from 4.67 to 6.54 (See Table 10). The standard deviation values for the same subtests obtained from the nationwide norming sample ranged from 11.13 to 14.16 (See Appendix I) Thus, the standard deviation values for the sample’s student achievement scores were less than half the size of the standard deviation values obtained from the norming group. Is this unexpected result related to an unusually strong or poor performance level of the principals or schools in the sample?

It does not appear that the small amount of variation in the sample’s student achievement scores can be explained by an unusually strong or poor performance by the principals in the sample. The mean leadership scores for principals in the sample were similar to the leadership scores reported for principals in research conducted
through Seattle's Effective Schools Project. The mean principal instructional leadership score obtained from surveys of central office administrators in the study was 75.44 (See Table 9). This information was not available for the research conducted in Seattle. However, the principals in the Seattle studies had mean instructional leadership scores obtained from teacher surveys that ranged between 70.34 and 71.72 (The School Self-Assessment Service: Technical Manual, p. 14). This was very close to the sample's mean principal leadership score of 73.00, which was obtained from teacher surveys (See Table 8).

It does not appear that the small amount of variation in the sample's student achievement scores can be explained by an unusually strong or poor performance by the schools in the sample. The mean achievement scores for schools in the sample were comparable to achievement scores from schools in a nationwide sample used by the test publisher to establish norms. In four of the five achievement areas, the mean scores for this sample exceeded the scores for the norming sample. The greatest difference was 4.8 ss in written
expression. Math achievement was the only area where the mean score for this sample fell below the norm (181.2 ss to 183.5 ss).

In light of the fact that the sample's measurements of instructional leadership and student achievement were comparable to measures of these constructs reported in other research, the relatively small amount of variance in the student achievement scores of the sample's schools is an unexplained phenomenon that could have influenced the findings of this study. The restricted amount of variation in achievement scores reduced the likelihood of finding variables that could be shown to have a significant impact on student achievement.

The method used to measure instructional leadership offers another possible explanation for the study's insignificant results. As noted above, the information used to operationalize this construct was limited to a single administration of a survey to teachers and central office administrators. This does not represent an extensive examination of the performance of these principals. The 19 statements of the Staff Assessment Questionnaire used in the study address
many of the instructional leadership behaviors identified by educational researchers during the past two decades. However, the statements do not reflect the managerial role principals must play in maintaining an orderly, smooth running school. Cubberley (1923) and Stronge (1990) counseled that the principal's instructional leadership performance is influenced by his/her performance of managerial responsibilities. This suggests that while a principal's instructional leadership behavior is important, such behavior alone is not sufficient to impact student achievement.

In addition, the method employed to measure instructional leadership did not account for the influence individuals other than the principal may have on the teaching-learning process. Marshall and Greenfield (1985), Freeston (1987), and Murphy (1988) illustrated the influential roles other personnel, such as the superintendent, assistant principal, and teachers, may play in enhancing or restraining the principal's efforts to impact student achievement. While the survey instrument used to measure instructional leadership did not ask the respondents to provide comments, several teachers added written statements that illustrate
how a principal's instructional leadership is dependent on other individuals. For example, one teacher said, "my principal is not the staff person who evaluates my performance - an assistant principal does this." Another teacher commented, "my principal is kept so busy by the school board office that he is rarely at school. Many answers I marked disagree or undecided were because he is not given a chance to do those things." These statements underscore the notion that instructional leadership is a complex construct. The survey instrument used in the study does not embrace these complexities, and, therefore, may not provide an adequate measure of instructional leadership.

The method used to measure student achievement is another possible reason that the study did not yield significant results. This method only included data obtained from a single administration of an achievement test. In addition, only students in the 11th grade participated in the testing. These data provide only a quick glimpse of how students are achieving. According to the editors of the 10th edition of The Mental Measurements Yearbook, the
Test of Achievement and Proficiency compared favorably to other group achievement tests. The editors praised the authors of this test by stating: "Adequate attention was paid to the content validity of the TAP; consequently, the items measure basic skills of secondary students" (1989, p. 862). However, because secondary education is not limited to basic skills instruction, the TAP may reflect only a portion of the full range of concepts, skills and knowledge that comprise a high school's curriculum. This issue is addressed by Gronlund and Linn (1990) who warned that achievement tests "provide only a limited measure of the many intended outcomes of the secondary school program" (p. 278).

Another explanation for the results of the study is that principals do not impact student achievement in small high schools in Virginia. Such a position is consistent with the arguments advanced by Cusick (1983) and Little and Bird (1987). These researchers cited an emphasis on maintaining order, the complexity of the secondary curriculum and the broad range of administrative responsibilities as factors that inhibit high
school principals from influencing student achievement.

While the results of the study may seem to suggest that principals of small high schools do not impact student learning, this researcher rejects such a conclusion. The instructional leadership scores obtained by the high school principals in the sample are comparable to the scores obtained by a large sample of principals in research conducted through the Effective Schools Project, which consisted primarily of elementary schools. This suggests that the instructional leadership performance of small high school principals in this sample was comparable to the performance of their Seattle colleagues, according to their respective teachers.

In addition to considering the evidence that principals of small high schools may perform instructional leadership responsibilities as well as their elementary counterparts, one must acknowledge the possibility that achievement tests are more sensitive to determining achievement levels of elementary than secondary students. Given this view, it is possible that principals of small high schools are providing instructional
leadership that impacts student achievement, but achievement tests do not provide educational researchers with a vehicle sensitive enough to measure this impact.

Recommendations

In light of this study, there are several recommendations that can be advanced to improve future efforts to investigate the relationship between instructional leadership and student achievement.

1. An analysis of the results of the Commonwealth of Virginia's state testing program is needed to determine if the small amount of variance found in this sample's student achievement scores is consistent with the achievement results of small high schools in previous test administrations. If such a trend is found, a study could be undertaken to investigate the reasons for such a phenomenon.

2. A broader investigation of the instructional leadership construct should be conducted to determine how the efforts of other individuals, such as the superintendent, assistant principals, and teachers influence the efforts of the principal to impact student achievement.
3. A method for operationalizing Instructional leadership should be developed that embraces both the instructional and managerial functions of school administration.

4. A method for operationalizing the achievement of students should be developed that will reflect the broad range of learning outcomes of the secondary curriculum.

5. Future efforts to measure instructional leadership could be improved by expanding the number of teachers and administrators who respond to the survey instrument.

6. Future efforts to measure student achievement could be improved by expanding the number of student test scores used in calculating a mean achievement score.

7. The use of the percentage of students approved for free and reduced meals appears to be a valid method for operationalizing socioeconomic status.

8. Given the effects of SES in this study, future research should examine the relationship between SES, family structure, and student achievement.
9. Future research should investigate the value of using teacher input as well as the input from central office administrators in the evaluation of principals' instructional effectiveness.

10. Future research should examine the concept of instructional leadership and the assumption that it directly impacts student achievement.

Implications

While the results of this study fail to provide evidence that principals of small high schools can have a significant impact on student achievement, there appear to be a number of implications from this research that are relevant to educators working in secondary schools.

First, administrators must realize that the issue of improving student achievement is complex and involves the efforts of many individuals. While the principal may play a key role in this endeavor, the actions of this individual's subordinates and superordinates can influence the teaching-learning process as well. It is prudent, therefore, for any principal who accepts the mission of improving student achievement to
carefully develop support needed from other key players in the instructional arena. Secondly, the principal who hopes to improve student achievement must also understand that his/her efforts cannot be limited to instructional issues such as providing resources to teachers. In addition, the principal must satisfy the managerial aspects of the principalship in order to provide an orderly and stimulating learning environment conducive to teaching and learning.

Thirdly, school personnel must help their parents and the community recognize that results from standardized tests provide a narrow view of student achievement at the secondary level. Support should be given to initiatives that generate more data on school effectiveness so that school officials and the public can have a better understanding of how schools and students are progressing.

Finally, this study calls into question the efficacy of the concept of the principal as instructional leader. Staff development and principal training programs should not oversimplify the expectation that high school principals can have a direct influence on the
achievement level of their students. Instead, principal training should address the complexity of the principal's role and the notion that managerial responsibilities have an important influence on the teaching-learning process. As managers, principal functions such as maintaining a safe and orderly school environment, recruiting and selecting competent teachers, as well as providing instructional materials and support should be viewed as leadership behaviors that can promote learning.
APPENDIX A

TEACHER SURVEY
TEACHER QUESTIONNAIRE

This instrument is designed to provide you the opportunity to express your opinions about your work and various ideas you may have about your school. There are no right or wrong responses, so please do not hesitate to respond frankly. It should take you no longer than fifteen minutes to complete this questionnaire.

You will notice there is no place for your name on this questionnaire. Please DO NOT RECORD YOUR NAME ANYWHERE ON THIS FORM. All responses will be strictly confidential and results will be reported by groups only.

Read each of the statements on the following pages carefully. Then indicate whether you STRONGLY AGREE (SA), AGREE (A), are UNDECIDED (UN), DISAGREE (D), or STRONGLY DISAGREE (SD) with each statement by circling the appropriate response under each statement. PLEASE DO NOT OMIT ANY ITEMS. Mark only ONE answer for each item. If you need to change an answer, please erase the first circle then mark your new choice.

This questionnaire is part of an instrument that was developed collaboratively by the Seattle School District and the University of Washington through the Effective Schools Project.
1. My principal leads formal discussions concerning instruction and student achievement.
   SA   A   UN   D   SD

2. Teachers in my school turn to the principal with instructional concerns or problems.
   SA   A   UN   D   SD

3. My principal provides frequent feedback regarding my classroom performance.
   SA   A   UN   D   SD

4. My principal assists faculty in interpreting test results.
   SA   A   UN   D   SD

5. My principal is an important instructional resource in our school.
   SA   A   UN   D   SD

6. My principal promotes staff development activities for faculty.
   SA   A   UN   D   SD

7. My principal communicates clearly to me regarding instructional matters.
   SA   A   UN   D   SD

8. My principal is accessible to discuss matters dealing with instruction.
   SA   A   UN   D   SD

9. My principal encourages the use of different instructional strategies.
   SA   A   UN   D   SD

10. My principal mobilizes support to help achieve academic goals.
    SA   A   UN   D   SD

11. Discussions with my principal result in improved instructional practice.
    SA   A   UN   D   SD

12. My principal makes frequent classroom observations.
    SA   A   UN   D   SD
13. My principal is knowledgeable about instructional resources.
   SA A UN D SD

   SA A UN D SD

15. My principal is an active participant in staff development.
   SA A UN D SD

16. My principal is a "visible presence" in our building to both staff and student.
   SA A UN D SD

17. My principal uses clearly communicated criteria for judging my performance.
   SA A UN D SD

18. My principal provides a clear vision of what our school is all about.
   SA A UN D SD

19. My principal is a strong instructional leader.
   SA A UN D SD
APPENDIX B

ADMINISTRATOR SURVEY
This instrument is designed to provide you the opportunity to express your opinions about your work and various ideas you may have about this school. There are no right or wrong responses, so please do not hesitate to respond frankly. It should take you no longer than fifteen minutes to complete this questionnaire.

You will notice there is no place for your name on this questionnaire. Please DO NOT RECORD YOUR NAME ANYWHERE ON THIS FORM. All responses will be strictly confidential.

Read each of the statements on the following pages carefully. Then indicate whether you STRONGLY AGREE (SA), AGREE (A), are UNDECIDED (UN), DISAGREE (D), or STRONGLY DISAGREE (SD) with each statement by circling the appropriate response under each question. PLEASE DO NOT OMIT ANY ITEMS. Mark only ONE answer for each item. If you need to change an answer, please erase completely, then mark your new response.

This questionnaire is part of an instrument that was developed collaboratively by the Seattle School District and the University of Washington through the Effective Schools Project.
1. The principal leads formal discussions concerning instruction and student achievement.
   SA  A  UN  D  SD

2. Teachers in this school turn to the principal with instructional concerns or problems.
   SA  A  UN  D  SD

3. The principal provides frequent feedback regarding teachers' classroom performance.
   SA  A  UN  D  SD

4. The principal assists faculty in interpreting test results.
   SA  A  UN  D  SD

5. The principal is an important instructional resource in this school.
   SA  A  UN  D  SD

6. The principal promotes staff development activities for faculty.
   SA  A  UN  D  SD

7. The principal communicates clearly to teachers regarding instructional matters.
   SA  A  UN  D  SD

8. The principal is accessible to discuss matters dealing with instruction.
   SA  A  UN  D  SD

9. The principal encourages the use of different instructional strategies.
   SA  A  UN  D  SD

10. The principal mobilizes support to help achieve academic goals.
    SA  A  UN  D  SD

11. Teacher discussions with the principal result in improved instructional practice.
    SA  A  UN  D  SD

12. The principal makes frequent classroom observations.
    SA  A  UN  D  SD
13. The principal is knowledgeable about instructional resources.
SA  A  UN  D  SD

SA  A  UN  D  SD

15. The principal is an active participant in staff development.
SA  A  UN  D  SD

16. The principal is a "visible presence" in the building to both staff and students.
SA  A  UN  D  SD

17. The principal uses clearly communicated criteria for judging teacher performance.
SA  A  UN  D  SD

18. The principal provides a clear vision of what the school is all about.
SA  A  UN  D  SD

19. The principal is a strong instructional leader.
SA  A  UN  D  SD
APPENDIX C

SCHOOL DEMOGRAPHIC DATA FORM
School Demographic Form

Part I - School Information

1. Grades included in this high school:_______
2. Student enrollment for this high school:_______
3. Number of students at this high school with approved applications for free or reduced meals:_______
4. Student enrollment for this school division:_____

Part II - Information on the Principal

1. Age of principal:_______ / Gender of principal:_______
2. Excluding 1992-93, how many years has this individual served as the principal of this high school? _______
3. Excluding 1992-93, how many years has this individual served as a high school principal? _______
4. What is the highest educational level obtained by this individual?
   Master's Degree_____
   Master's plus 30 credits_____
   Doctorate_____

------------------------------------------
Notice of Confidentiality

To: Teacher Participants and Principals

Your school division has been asked to participate in a research project that is examining the impact that principals of small, rural high schools have on student achievement. The research is being conducted by a doctoral student and supervised by Dr. Robert Hanny of The College of William and Mary.

During the past several years, a number of research studies have found that principals can have a significant effect on the achievement of students. However, the majority of this work has been done with elementary schools in large, urban areas. Your division's participation in this study will help determine if a similar relationship between principals and student achievement exists in small, rural high schools.

The study calls for teachers to complete a very brief questionnaire which poses statements about the instructional role of the principal. Teacher participation is limited to the fifteen minutes it will take to complete the questionnaire. There are no physical or psychological risks associated with participation in this study. The teachers are selected randomly using a process identified by the researcher. The completed questionnaires are returned in sealed envelopes to the central office contact person for this study, who then returns them to the researcher. Principals are not asked to complete a questionnaire.

Confidentiality is an essential part of this study. It is important that the teachers' responses and identity be kept in strict confidence to maintain the integrity of the research. In addition, the researcher has pledged to protect the privacy of the individuals, schools and school divisions involved in the study. Thus, no names will be used in the collection or reporting of this information.

Your school division's participation in this research is very much appreciated. If, however, a teacher chooses not to participate, the teacher should notify the division's central office contact person for this study so another teacher may be asked to complete the questionnaire.
APPENDIX E

INVITATION TO PARTICIPATE IN STUDY
March 12, 1993

Mr. A. B. Jones
Superintendent of Schools
Virginia County, Virginia

Dear Sir:

I am a doctoral student at The College of William and Mary and for my dissertation am studying the impact that principals of small, rural high schools have on student achievement. This research is being conducted under the supervision of Dr. Robert Hanny of The College.

During the past several years, a number of research studies have found that principals can have a significant effect on the achievement of students. However, the vast majority of this work has been done with elementary schools in large, urban areas. Your division's participation in this study will help me determine if a similar relationship between principals and student achievement exists in small, rural high schools.

With this goal in mind, I am using the Virginia High School League classification system and am seeking the participation of all school divisions which include Single A high schools. However, in light of the notion that it takes some time for a new principal to impact the instructional process, only high schools where the principal has been appointed before August 1990 should participate.

If you agree to participate, I will mail you a data packet for every Single A high school in your division. The packets will consist of six individual questionnaires, a short form for collecting demographic data about the principal and school, and a set of directions.

Each survey contains only 19 questions and may be answered in a few minutes. The questions, which have been developed and tested by the University of Washington's Center for Effective Schools, ask the respondent to make judgments regarding the instructional leadership provided by the principal. The central office administrator who supervises the secondary instructional program will be asked to complete the demographic form and one of the surveys. This individual also will be asked to randomly select five teachers at each Single A high school to complete the remaining surveys.

Once the surveys have been returned, I will compare the results with this spring's eleventh grade test scores on the Test of Achievement and Proficiency that will be available through the Department of Education. Confidentiality and privacy will be guaranteed for all individuals and school
divisions participating in the study. This study has been approved by the School of Education's Human Subjects Research Committee of The College of William and Mary.

Please return the enclosed participation response form indicating your willingness to participate in this study. If you decide to be involved in this research, I will send your materials by April 2, 1993. Participating school divisions wishing to receive a written summary of the research results should check the appropriate box. School divisions not wishing to participate are asked to note the reason(s) for this decision. If you have questions regarding this proposal, please feel free to call me (home: 804-229-2986/ work: 804-966-9646) or Dr. Hanny (office: 804-221-2334).

Thank you for your cooperation.

Sincerely yours,

J. Roy Geiger
Participation Response Form

Mr. A. B. Jones
Superintendent of Schools
Virginia County, Virginia

Please indicate your willingness to participate in this research study by checking the appropriate responses in the spaces provided. Even if you decide not to participate in this research, it is very important that you complete and return this form. Thank you.

_____ Our school division will participate in your study.

_____ As a participant in the study, we would like to receive a summary of the findings of this research.

_____ Our school division will not participate in your study due to the following reason(s):

_____________________________________________________________________________

_____________________________________________________________________________

Please list in the following spaces the names of any Single A high school in your division where the principal was appointed AFTER August 1990:

____________________________________

____________________________________

____________________________________

____________________________________

Please return this form in the enclosed stamped, self-addressed envelope. Thank you.
April 6, 1993

Dear Sir:

On March 17th I mailed you a request to participate in dissertation research I am conducting under the supervision of Dr. Robert Hanny of The College of William and Mary. The study seeks to determine if the relationship found in urban elementary schools between the instructional leadership of the principal and student achievement exists in small high schools in Virginia. Since I have not received your reply, I am sending you another copy of my initial letter and a response form. Your division's participation would strengthen my research.

While I encourage your participation, it is most important that you return the response form even if you decide not to be included in the study. I must be able to determine the number of schools eligible to participate and this can not be done unless you provide the brief information requested on this form. I have provided a stamped, self-addressed envelope for your convenience.

As a practicing school administrator in New Kent County, I realize how busy superintendents are, especially at this time of the year. I appreciate your consideration of my request.

Sincerely,

J. Roy Geiger
March 26, 1993

Mr. A. B Jones
Superintendent of Schools
Virginia County, Virginia

Dear Sir:

I appreciate your willingness to participate in my study. Enclosed please find a packet of materials for the Single A high schools in your division where the principal has been in service since at least August 1990. The packets should be forwarded to the central office administrator who supervises the secondary instructional program. I have provided a set of directions to assist this individual in distributing, collecting and returning the materials.

These materials have been developed so there is no need to use names. Every step necessary will be taken to protect the confidentiality of schools and school personnel involved in this study. The packets include a brief notice which explains the purpose of the study and the guarantee of confidentiality. A sufficient supply of this notice is provided for distribution to principals and teacher participants.

If you have any questions please feel free to call me (home: 804-229-2986/ work: 804-966-9646). Please return the completed packets using the stamped self-addressed envelopes by Friday, April 9, 1993.

Thank you for your assistance.

Sincerely,

J. Roy Geiger
APPENDIX H

DIRECTIONS
DIRECTIONS TO THE CENTRAL OFFICE ADMINISTRATOR WHO SUPERVISES THE SECONDARY INSTRUCTIONAL PROGRAM

You have been selected as the contact person for this study by your superintendent. I very much appreciate your willingness to serve in this capacity. I, too, am a full-time school administrator and recognize that this is another task you have been asked to fit into a very demanding schedule. Therefore, I have developed this material to take as little of your valuable time as possible.

The following materials are being used to collect data regarding the role principals play as instructional leaders. This information will be used in dissertation research at the College of William and Mary.

There is a separate packet for each high school in your division selected to participate in this study. There is no need to use the name of any school division, school, principal or teacher in the collection or reporting of this information. The researcher is responsible for protecting the confidentiality of all participants. This guarantee of confidentiality is explained in a brief notice enclosed in each packet. Sufficient copies of the notice are included for distribution to the principal and the teachers who you select to participate.

The schools have been assigned a code number. These codes are listed for your information only at the end of these directions. Please note that the codes correspond to the numbers on the packet covers as well as the materials inside the packets. Each packet includes six questionnaires, a school demographic form and stamped self-addressed envelopes for returning the completed material.

The questionnaire inside each packet marked with the school code followed by the letter - "A" - is to be completed by you, the central office administrator who supervises the instructional program for secondary schools in your division. The remaining questionnaires, marked by the school code followed by the numbers -1 through 5, are to be completed by teachers at that high school. You are to RANDOMLY select these teachers from the list of full-time teachers assigned to that school.

To make this selection, go down an alphabetized list of staff members assigned to the school and select full-time teachers using the following numbers: 18, 9, 2, 37, 23. To illustrate this process, if Mrs. Johnson is the 18th person listed on the roster, she would be selected to complete questionnaire -1. If Mr. Banks is the 9th person listed, he would complete questionnaire -2. Please follow this process until you have been able to select five full-time teachers. In the event a teacher chooses not to participate, please randomly select a replacement using the same procedure with the following numbers: 11, 45, 21, 16, 30, 5. Remember, use
these numbers in the order they are listed here to select
the five teachers who will complete the questionnaires.

The questionnaires contain only 19 questions. You and
the teachers should be able to complete the questionnaires
in less than fifteen minutes. It is suggested that you have
the five teachers complete the questionnaires in a central
location and at the same time, if possible. Please stress
the need for CONFIDENTIALITY by asking teachers not to share
their INDIVIDUAL responses with anyone. The completed
questionnaires should be returned directly to you, sealed in
the envelopes provided.

The school demographic form should be completed by you
as the contact person for this study. It requests
information that should be available.

Once you have collected the teacher questionnaires from
each school, please place them along with your questionnaire
and demographic form in the appropriate school envelope.
The school envelopes then should be placed in the stamped,
self-addressed return envelope for your division and mailed
to me.

Again, I appreciate your assistance. I look forward to
receiving your division's completed materials by April 23rd
or sooner, if possible. Should you have any questions,
please feel free to call me (home: 804-229-2986/ work:
804-868-9646).

Sincerely,

J. Roy Geiger

Participating High Schools Code
APPENDIX I

STANDARD DEVIATIONS FOR NORMING SAMPLE
Table 6.20: Summary Statistics for Building Averages on TAP, Forms G and H

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References
Cambridge, MA: Harvard University Press.
Bouchard, Y. (1983, April). *Cross-cultural comparative studies of effective schools: A review and


Conoley, J. C., & Kramer, J. J. (Eds.) (1989). The tenth


Leadership, 41 (5), 14-22.


Lee, J. (1987). Instructional leadership in a junior high
school: Managing realities and creating opportunities.  
In W. Greenfield (Ed.), Instructional leadership:  
Concepts, issues, and controversies (pp. 77-99).  
Boston: Allyn and Bacon.  

recipe but a framework. Educational Leadership, 40,  
63.  

Litchfield, D. J. (1986). If you want me to be an  
Instructional leader, just tell me what an Instructional  
202-205.  

Little, J., & Bird, T. (1987). Instructional leadership:  
Close to the classroom in secondary schools. In W.  
Greenfield (Ed.), Instructional leadership: Concepts,  
Issues, and controversies (pp. 118-138). Boston:  
Allyn and Bacon.  


leadership. New York: Teachers College, Columbia  
University.  

Chicago: Riverside.  

socialization of the assistant principal: Implications


Seattle: University of Washington.


Reference Notes

Richmond, VA: Virginia Department of Education.

Virginia educational directory, 1992.
Richmond, VA: Virginia Department of Education.

Vita

Joseph Roy Geiger, II

Birthdate: March 29, 1950
Birthplace: Williamsburg, Virginia

Education:

1990-1994 The College of William and Mary
Williamsburg, Virginia
Doctor of Education

1983-1986 The College of William and Mary
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1973-1977 The College of William and Mary
Williamsburg, Virginia
Master of Education

1970-1972 The College of William and Mary
Williamsburg, Virginia
Bachelor of Arts in History

1968-1970 Christopher Newport College
Newport News, Virginia