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A Comparison Of Self-Perceived Leadership Behaviors Between Ipla And Non-Ipla Trained Principals And The Relationship Between Those Self -Perceived Behaviors And Student Achievement

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A COMPARISON OF SELF-PERCEIVED LEADERSHIP BEHAVIORS BETWEEN PRINCIPALS WHO ARE IPLA TRAINED AND THOSE WHO ARE NOT AND THE RELATIONSHIP BETWEEN THOSE SELF-PERCEIVED BEHAVIORS AND STUDENT ACHIEVEMENT

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by

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APPROVAL SHEET

The dissertation of Alice A. Neal, Contribution to the School of Graduate Studies, Indiana State University, Series III, Number 784, under the title *A Comparison of Self-Perceived Leadership Behaviors Between IPLA and Non-IPLA Trained Principals and the Relationship Between Those Self-Perceived Behaviors and Student Achievement* is approved as partial fulfillment of the requirements for the Doctor of Philosophy Degree.

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ABSTRACT

Purpose of the Study. The purposes of this study were to 1) investigate if there were differences in self-perceived scores on selected leadership behaviors between IPLA and non-IPLA trained principals and 2) investigate the relationship between student achievement scores and self-perceived leadership behaviors after controlling for IPLA training.

Procedures. 1. A sample of 200 Indiana principals was drawn from data acquired from the Director of the Indiana Principal Leadership Academy and the Indiana Department of Education. The sample reflected approximately equal numbers of 1) principals who had or had not completed IPLA prior to 1995, 2) males and females, 3) elementary and secondary level principals, and 4) principals of small, medium, and large schools. All had 5) four or more years of experience as a building principal and had 6) administered the same building at least since the fall of 1995. The sample size was limited by the size of the pool of Indiana principals meeting the requirement of having completed IPLA training prior to 1995 and having remained in the same building for the next four years.

In May of 1999, principals responded to a survey measuring self-perceptions of instructional leadership behaviors with a survey return rate of 38.5 percent. Indiana State Test for Educational Progress (ISTEP) scores from 1995 through 1998 were collected for buildings of principal respondents. The data from the leadership behaviors instrument and the ISTEP scores were tabulated

and used to determine if there were differences in self-perceived leadership behaviors between the IPLA and non-IPLA group and to determine if there was any relationship between student achievement scores and the self-perceived leadership behavior scores between the two groups.

Findings. Statistical analysis of the data included descriptive statistics regarding the mean and Independent Sample t-tests and Pearson product moment correlation. No significant difference was found between the self-perceived leadership behavior scores of those principals who had attended IPLA and those who had not. No significant relationship was found between ISTEP scores and self-perceived leadership behavior scores of those principals who had attended IPLA and those who had not.

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Chapter 1

THE PROBLEM

Introduction

As the outcry to restructure public schools continues from business and education leaders and the public in general, there is immense pressure placed upon school principals to practice strategies that will improve our nation's schools. Keeping pace with changes in educational practice and applying new tactics extolled to increase teacher productivity have become a major challenge for the building-level education practitioner.

As late as 1985, Peterson and Finn (1985) reported that, while the nation showed deep concern for the accomplishment of schools and closely scrutinized the credentials and performance of teachers, little attention had been given to the qualifications and preparation of those who lead them. Joseph Murphy cites the works of The National Commission on Excellence in Educational Administration (NCEEA) and the report of the National Policy Board for Educational Administration (Murphy, 1992) both of which target the disillusionment with current principal preparation programs and suggest prescriptions for improvement. Milstein and Associates (1993) state that newly trained principals

describe their educational program as "irrelevant" and in need of more opportunities for hands-on-experience and practical training.

Murphy and Hallinger (1987), Daresh and LaPlant (1985), and many others have described the limitations of the typical educational administration leadership program. "Abstract theorizing, lack of problem and skill focus, distance from actual settings, and absence of mechanisms for application and follow-through have made university-based programs relatively ineffective," according to Fullan (1991, p. 93).

The National Commission for the Principalship (1991) has recognized a mismatch between preparation programs and job requirements. The Commission has attempted to develop a new framework for preparing principals—one that focuses on programs and operations that are realities of the workplace. "In the United States, 18 states passed new legislation between 1983 and 1986 concerning certification requirements; 24 states enacted legislation for in-service training for administrators, establishing leadership academies, administrative training centers, and the like" (Murphy & Hallinger, 1987 p. 97).

Also recognizing the deficiencies in current principal training practices, the Interstate School Leaders Licensure Consortium (ISLLC) recently developed a set of standards for school administrators. The Council of Chief State School Officers published these principles in 1996 and "many states are adopting all or part of these new standards as new guidelines for licensing/degree programs" (Coutts, 1997 p. 20).

Clearly, there are major problems in providing the appropriate training for new principals as they accept the diverse and difficult challenges of the principalship. The issue is that of how this crucial task can be accomplished for not only newly trained principals but for the equally great need of the many practitioners who are operating in the flurry of this changing society and increasing expectations of accountability.

A 1997 article in the ERS Spectrum (Coutts, Fall 1997) describes a study that examines the extent to which Indiana principals who had been released from their jobs showed deficiencies in meeting Interstate School Leaders Licensure Consortium standards. The single area in which these principals failed most often, according to their superintendents, was that of Standard 2 "which relates to sustaining a good school culture and instructional program" (Coutts, Fall 1997, p. 24).

Clearly, standards are being established for principal training and inservice programs and efforts are being made to hold principals accountable for these standards. Linked with meeting standards and achieving accountability is the need to identify principal behaviors that will assure effective schools and student achievement. A number of researchers have begun focusing on identifying principal leadership behaviors that will bring about the desired outcomes.

Statement of the Problem

Delineated by Krug (1993) and supported by Maehr & Ames (1988) and selections Research, Inc, (1989), there are five categories that serve to describe a wide array of specific, effective behaviors performed by principals: 1) Defining Mission, 2) Managing Curriculum and Instruction, 3) Supervising Teaching, 4) Monitoring Student Progress, and 5) Promoting Effective Instructional Climate.

Studies by Krug (1993), Donmoyer (Schmidt, 1990), Nelson (Schmidt, 1990), McGee (1997), and Bulach (1994) suggest a direct link between instructional leadership behaviors, effective schools, and student achievement. There is also a body of literature which describes various principal inservice and professional development models including The Indiana Principal Leadership Academy (Heck, 1990), The Danforth Programs for Preparation of School Principals (Murphy, 1992), and The Administrator Case Simulation Project (Claudet, 1998). Yet, as cited earlier, Peterson and Finn (1985), Murphy and Hallinger (1987), Daresh and LaPlant (1985), and Murphy & Hallinger (1987) indicate that principals are not being well-trained in pre-service programs or supported by inservice programs and that they are not meeting the needs of today's schools.

Reflecting upon the need for insight into principal leadership training and inservice growth opportunities and need for school improvement gained from the research, this research focuses on principal professional growth while in service. It would be useful to know if principals who have completed professional development activities in selected leadership behavior development score higher

on their perceptions of those behaviors than those who have not completed such inservice activities. It would be further beneficial to determine whether there is a relationship between performance scores measuring principal perceptions about selected leadership behaviors and student achievement.

Purposes of the Study

The purposes of this study were to 1) investigate if there were differences in self-perceived scores on selected leadership behaviors between principals trained in the IPLA and those who were not and 2) investigate the relationship between student achievement scores and self-perceived leadership behavior scores after controlling for IPLA training.

Significance of the Study

A changing society and demands for school improvement today challenge principals. Research shows that many practitioners feel as if they are being short-changed by schools of education or professional development activities which prepare or re-train them for the principalship. This study is designed to contribute to the body of literature surrounding the issue of best practice in principal leadership training and inservice programs. It is intended to provide to the Director of the Indiana Principal Leadership Academy data upon which to base revision in the design and /or assessment of the Academy activities. Furthermore the study is designed to produce data that could reveal to the

Indiana State Legislature facts which could affect decisions related to fiscal support for the program. Furthermore, the results of this study may provide guidance for advancement in principal leadership training programs to university educational leadership and administration faculties. In addition, any data supporting that training in any particular area of principal leadership showed a positive relationship to student achievement would be a significant discovery based on lack of evidence from current existing studies.

Research Questions

Are there differences of self-perceptions on selected leadership behaviors between IPLA trained principals and those who are not? Is there a relationship between student achievement scores and self-perception on selected leadership behaviors of principals who are IPLA trained and those who are not?

Null Hypotheses

Ho1: There is no significant difference in self-perceived scores on selected leadership behaviors (Defines Mission, Manages Curriculum, Supervises Teaching, Monitors Student Progress, and Promotes Instructional Climate) between principals who are IPLA trained and those who are not

Ho2: There is no significant relationship between student achievement scores and self-perceived principal leadership behavior scores, (Defines Mission, Manages Curriculum, Supervises Teaching, Monitors Student Progress, and Promotes Instructional Climate) after controlling for IPLA training.

Definition of Terms

Defines Mission. Principals who score high on this array of behaviors discuss school goals, purposes, and mission with staff. They stress and communicate goals, make themselves visible in the school, recognize good teaching in formal school ceremonies, and communicate excitement about future possibilities to students and staff.

Indiana Principal Leadership Academy (IPLA). A professional development school mandated by the Indiana Legislature in 1985 to train Indiana principals in the areas of leadership, school programs, culture, and communication.

ISTEP. The Indiana Statewide Test for Educational Progress is an achievement test developed by CTB McGraw-Hill to test student progress at grades 3, 6, 8, and 10. The test is composed of both norm-referenced and application items. Student scores in reading, language arts, and mathematics progress are evaluated yearly.

Instructional Leadership. This is the process of strategically applying knowledge to solve contextually specific problems and to achieve the purposes of schooling through others.

Instructional Leadership Inventory. This inventory is designed to assess behaviors considered important in schooling. It yields eight scores: five on the primary dimensions of instructional leadership and three that measure contextual variables of staff, school, and community. The instructional leadership dimensions include the following: ability to define the mission, manage the

curriculum, supervise teaching, monitor student progress, and promote instructional climate.

Manages Curriculum. Administrators who score high on these behaviors emphasize educational issues rather than administrative ones. They work to ensure articulation between curriculum, instruction, and testing and support the curriculum development process. They have a good knowledge of instructional methodology and are able to effectively critique their staff's work.

Monitors Student Progress. People who score high on this behavior scale focus on high achievement and evaluation of assessment data to gauge progress toward the school's goals. These administrators provide teachers with easy access to the data and discuss item analysis to assist the teacher in determining strengths and weaknesses in the instructional program.

Principal. For the purposes of this study, a principal is defined as the administrative leader of an elementary, middle, or high school.

Promotes Instructional Climate. Individuals who score high in this set of behaviors hold teachers responsible for teaching the curriculum. They establish and communicate clear guidelines about the school's policies and procedures. They will enforce these guidelines even at the expense of good human and public relations. These administrators publicly praise teachers for work well done by writing letters of commendation, nominating them for awards, and by asking parents to praise them for their good work. These administrators clearly have high standards and high expectations.

Supervises Teaching. Individuals who score high on this array of behaviors are supportive of teachers and attempt to serve as mentor rather than evaluator. They spend time with teachers by sitting in on their classes and encouraging them to try their best. They encourage teachers to set goals for their own growth and to evaluate their own performance.

Delimitations

Delimitation of the study exist in the following manner:

1. The time frame established during which data will be collected is the 1998-99 school year.
2. Principals to be included in the study must have led respective buildings for four years.

Limitations

Generalizations from the study will be limited to the degree that:

1. Principals included in the population of this study are representative of principals in Indiana.
2. The accuracy of the scores on the Instructional Leadership Inventory is contingent upon the perceptions of the principals completing the survey.
3. The sample size was 200 reflecting the limited size of the pool of principals completing IPLA prior to 1995 and still administering the same building in the fall of 1998.

4. Thirty-eight and one-half (38.5) percent of respondents returned usable surveys.
5. Principal participation in IPLA was not verified.

Summary and Organization of the Study

This study is divided into five chapters. Chapter One presents the introduction to the study, a statement of the problem, the purpose of the study, significance of the study, research questions, null hypotheses, definition of related terms, delimitation, and limitations. Chapter Two presents a review of related literature and include research on the history of principal preparation programs, the changes in knowledge base and delivery systems, model programs for principal preparation and development, and the trends toward improvement of standards for principal training programs. Chapter Three presents information about the population sample, research methods, and the instrument used. Chapter Four provides evidence of the findings to answer the hypotheses and questions presented in Chapter One. Chapter Five presents a report of the findings and conclusions and a discussion of the ramifications of those findings.

Chapter 2

REVIEW OF RELATED LITERATURE

Introduction

The review of related literature examines research carried out to date in four major areas of study. The first is a review of the historical development of administrative leadership training programs. This review tracks the history of leadership programs from their inception, examining the process of refinement and improvement of such programs over time.

The second area of study is that of principal professional development / inservice models. It explores current standards and best practice in leadership training and development and reviews specific types of staff development / inservice models. The third area examined through the review of literature is that of principal leadership behaviors and the critical role those behaviors play in effective instructional leadership. Finally, literature investigating the relationship between principal leadership behaviors and student achievement is explored.

Principal Preparation History

Leadership preparation for educational administrators has evolved from virtually no training prior to 1875 to the more sophisticated, though often considered inadequate, methods currently being practiced by universities, professional associations, and states today.

From a historical perspective, Murphy (1992) classifies the development of administrative training programs into three broad eras. The Ideological Era continues from approximately 1820 through 1900; the Prescriptive Era dominates from roughly 1900-1945; and the Behavioral Science Era/ Era of Professionalization extends from approximately 1946 to 1985. Over this period of time training programs "increased in formality, structure, and complexity, much as did the school system: from amateur to professional, from simple to complicated, and from intuitive to 'scientific,' under various rubrics--'efficiency,' 'business management,' 'scientific management,' and later the 'behavioral sciences.'" (Cooper & Boyd, 1987, p. 7). Each of these basic philosophies of administrative preparation has had important implications for the development of the One Best Model (Cooper & Boyd, p. 12). Though it lacked training in skills for understanding, predicting, and controlling human behavior necessary to earn it academic respectability, the One Best Model dominated principal training program through the late 1960's.

Limited information is available about the training of early superintendents and principals. However, these were not only practical men concerned about finding teachers and getting enough books but they were also philosophers. The

first teachings to administrators were "theories " about exemplary school leaders who were studied as great men with traits to be emulated. Their formal training included some basic pedagogy but not much concern for their roles as leaders or administrators.

Around the turn of the century "business ideology was spread continuously into the bloodstream of American life" (Callahan, 1962, p. 43), and educational administrators were expected to apply business practices and effectiveness in schools. The glut of immigrants flowing into the public schools and rising inflation from the period of 1900 to 1913 put much pressure on the administrator to produce more with less. The philosophy of Frederick Taylor, the "scientific management system" (Cooper & Boyd, 1987, p. 7) became the gospel to improve managerial efficiency in the schools. A 1913 School Board Journal reported, "No recent year has seen such wholesale changes in superintendencies and other high school positions there has been a perfect storm of unrest culminating in wholesale resignations, dismissals and new appointments" (Cooper & Boyd, 1987, p. 10). Administrators unfamiliar with Taylor's principles of management simply could not compete.

Following this wholesale dismissal of administrators who had no formal training and were devoid of business management skills, the universities began to develop their coursework to stress the "science" of Taylor' principles. It was during this time in the early 1900's that a link was developed between business efficiency and school management that laid the groundwork for the development of quantifiable administration of schools through dollar amounts, IQ scores,

achievement scores, and other methods to measure effectiveness (Cooper & Boyd, 1987, p. 10). Also inherent in this business model was the need for the control of behavior of teachers to ensure efficiency. The essential components of the foundation for training school executives were in place: science, the language of management, the tools for efficiency, and the need for central control and authority. These components developed into what is recognized as the "One Best Model."

During the period from 1915 to 1929, formal graduate training for administrators was practical, applied, and direct. "The notion of formal graduate training for school administrators was increased and institutionalized under, for example, Cubberley at Stanford University and George Strayer at Teachers College, Columbia" (Cooper & Boyd, 1987, p. 10). At this point, the focus of training was still on the business model stressing techniques of graphs, calculating, and accounting. There was no empirical body of knowledge as an intellectual anchor nor was there any emphasis on the social sciences to make school administration recognizable as a profession.

After the hardships of the Great Depression and World War II, the belief in the business world declined. Educational administrators were forced to deal with the economic and social issues so prevalent in their schools. Administrators were expected to mediate "between classroom learning-teaching and the purpose or function of schools" (Cooper and Boyd, 1987, p. 11). Though many administrators held graduate degrees by 1950, educational administration did not have credibility as a profession because the vocation still lacked academic

respectability, which emerged in the next phase of development through the study of the social sciences.

The administrator as behavioral scientist completed the evolution of the "One Best Model." By the late 1950's and 1960's, administrators were being trained as social scientists. The school administrator was on par with the business manager and the public administrator.

> The more the professor of school administration looked at the social sciences for help, the more the process of administering schools appeared to be like the processes of administering other organizations. The skills applicable to understanding, predicting, and controlling human behavior appeared to hold with generality in administering organizations of all kinds (Cooper & Boyd, 1987, pp. 11-12).

Although educational leadership training programs were in place and the One Best Model flourished in university schools of education, the dilemma of how to train effective practitioners remained. The reliance on credits and lack of practical application to the real world of the practitioner brought the One Best Model under attack during the 70's and 80's and into the 90's.

Professional Development / Inservice Models

Review of professional development research reflects an effort to improve the effectiveness of principals and to better prepare them to meet the demands of the principalship. While state departments of education and professional organizations have conducted studies and set standards for administrative

licensure, other research has been aimed at developing the most effective methodologies and delivery systems to prepare principals to meet these standards.

Following Virginia in 1993 and Colorado in 1994, the Indiana Association of School Principals Standing External Committee on the Principalship, a joint effort of Indiana Professional Standards Board and IASP, developed its draft standards in February of 1997, basing its requirements, in part, on the Interstate School Leaders Licensure Consortium (ISLLC) standards for school administrators. These standards, published by the Council of Chief State School Officers in 1996, enumerate the six general principles adopted by the IASP Standing External Committee on the Principalship.

1. Vision of Learning. A school administrator is an educational leader who promotes the success of all students by facilitating the development, articulation, implementation, and stewardship of a vision of learning that is shared and supported by the greater school community.
2. School Culture and Instructional Program. A school administrator is an educational leader who promotes the success of all students by advocating, nurturing, and sustaining a school culture and instructional program conducive to student learning and staff professional growth.
3. Management. A school administrator is an educational leader who promotes the success of all students by ensuring management of the

organization, operations, and resources for a safe, efficient, and effective learning environment.

4. Collaboration with Families and the Community. A school administrator is an educational leader who promotes the success of all students by collaborating with families and community members, responding to diverse interests and needs, and mobilizing community resources.
5. Acting with Integrity, Fairness, and Ethics. A school administrator is an educational leader who promotes the success of all students by acting with integrity, fairness, and in an ethical manner.
6. Political, Social, Economic, Legal, and Cultural Context. A school administrator is an educational leader who promotes the success of all students by understanding, responding to, and influencing the larger political, social, economic, legal, and cultural context (IASP Standing External Committee on the Principalship, 1998, pp. 5-6).

For each of these six standards the IASP Standing External Committee has listed the "knowledge, dispositions (or basic beliefs) which guide the application of those knowledges and performances (evidence of the application of knowledge)" (IASP Standing External Committee on the Principalship, 1998, p. 2). Much of the work that remains is on the part of university personnel who develop the curriculum and formulate the strategies and teaching techniques to

translate these standards into a program which produces reflective leaders with the skills needed to function in today's schools.

A review of research related to best practice in principal pre-service, professional development, and inservice models, points to a number of activities that are being incorporated into best practice in principal preparation and renewal. These include *reflection-in-action*, *reflection-on-action*, *mentorships*, methods for the acquisition of empirical knowledge, educational leadership theory, and changes in university delivery systems.

People, in general, accept that a great deal of workplace skill and knowledge are gained from experience. Professionals of educational leadership are no exceptions. According to Hart (1990), principals say that, under the pressure of daily work, they rely more on experience than on the content of formal courses or in-service education to guide their actions. Schon (1987) asserts that professionals apply two formats to structure learning from experience. Those are reflection-in-action and reflection-on-experience.

The former is a form of simultaneous application of knowledge and learning while adjusting behavior in the midst of action. Watching a building leader walking down a hallway while dealing consecutively with a custodian who is angry over graffiti in a bathroom, a teacher who needs to leave early, and at the same time congratulating students on winning an academic competition is an example of the principal performing reflection-in-action.

Reflection-on-action is returning to an experience carefully and thoughtfully after it is over to see what can be learned from the outcome to

assess the outcomes of their decisions. Inherent in this process are returning to the experience, attending to feelings, and reevaluating the experience. (Boud, Keogh, and Walker, 1985). Through this process, the learner can concentrate on what happened by reviewing the significant elements of the experience (talking about it), and by determining whether his/her emotions have become barriers to sound decision making (attending to feelings.) Finally, the learner can concentrate on what happened by attending to the experience which will help to protect him or her from reaching premature closure to a problem thereby obscuring important issues (shooting from the hip). From this reflection-on-action an effective principal begins to recognize patterns of failure among selected groups of students and acts to examine school structures, processes, and resources to rectify the conditions contributing to the failure (Hart & Bredeson, 1996).

Accepting the research that a relationship between professional knowledge and pattern recognition exists has further implications for principal training. Including carefully structured and examined professional experiences in a professional development program for the training of principals can greatly contribute to their success. According to Hart and Bredeson (1996), this growth can occur in three ways.

> First as experiences and learning accumulate and inappropriate inferences and judgments are reduced, knowledge (and pattern recognition) improves. Second, as knowledge increases and the principal learns to draw associations between past problems and features of new

> situations, the ability to draw appropriate inferences improves. Difficult problems and surprises (a critical feature of professional socialization identified by veteran and novice principals) that challenge existing preconceptions bring with them hidden benefits. The surprise of having to place an express order for student graduation tassels provided an important lesson in planning as well as a better understanding of the sometimes hidden role expectations held by teachers for the principal (Hart & Bredeson, 1996, p. 21).

As principals continue to reflect upon experiences and to make thoughtful, systematic adjustments in their professional behaviors based upon that reflection, the more productive their learning becomes. The key to the success of this practice is that of systematic deliberateness coupled with research and theory.

Much of today's research extols the benefits of including a mentorship or coaching strand in the professional development of principals. Heck (1991) points out the significance of the peer facilitator as an integral part of the IPLA. Milstein, Bobroff, and Restine state that leadership preparation programs are "a balance between learning about and learning how, rooted in a solid foundation of learning why" (Milstein, Bobroff, & Restine, 1993, p. 6). They go on to state that their "bias is to emphasize active learning over passive learning" and a "balance between knowledge and the ability to perform effectively" (Milstein, Bobroff, & Restine, 1993, p. 5). They advocate accomplishing this through mentorships.

Schon (1987), however, asserts that professional educators who have become very adept as using experience as a source of knowledge have difficulty in explaining their reasoning to beginners. Furthermore, the experts may come to see their skill more as intuitive and innate than as knowledge based. Though research provides guidelines for how a particular principal's actions might be reasonably understood, each situation is unique in content and outcome. The profession has not yet determined how to teach the systematic development of practical knowledge.

A process for the acquisition of empirical, or experiential, knowledge is needed in the training of the principals and is best acquired through evidence systematically collected and analyzed. It can be derived from either controlled experimentation or from actual field practice. Hart and Bredeson (1996) point out that highly controlled experiments may produce valid and reliable data; however, those data are not generally transferable to natural settings that contain many variables. Concomitantly, data that is derived from natural settings may be more generalizable but is less reliable. Haller and Knapp (1985) point out that rigorous field research produces context-based information about how systematic patterns develop in natural settings.

Another source of empirical knowledge that allows for the development of patterns occurring among groups of people or types of schools is the study of actuarial data. These data include such evidence as standardized tests. Though the picture is evident in such large bodies of data, the details of the people and

events are obscured. Principals may use these kinds of data to improve the likelihood that a desired outcome will occur in a given set of circumstances.

The case study or problem-solving learning is the final source of empirical data. Comparability and pattern recognition come from multiple case studies of similar settings. (Yin, 1985) Once again, patterns can be determined from several case studies that have similar settings. The usefulness of this knowledge to the principal depends upon its quality and how well it fits the given set of circumstances.

Though practitioners often see theory as vaguely useful in their daily activities, Hart and Bredeson state that "theory can serve as the basis from which practitioners and scholars organize the search for new facts, establish their relationships to existing knowledge, and explain generally observed phenomena "(Hart and Bredeson, 1996, p. 23). Theories become useful to those practicing educational administration only when they are used as broad, organizing principles. Theories become maps for recognizing types or patterns of problems and choices in the administration of schools. Like maps, theories are only guidelines and should be continually questioned and modified as they are guided by experience.

Changes in the sources and development of knowledge in the preparation of leaders must be accompanied by changes in the delivery system. The following principles in restructuring the instructional strategies used in administrative preparation programs are espoused by Murphy.

1. Learning should be student-centered (as opposed to professor-centered).
2. Active learning should be stressed (as opposed to passive consumption).
3. Personalized learning should be emphasized (as opposed to collective consumption).
4. A balance of instructional approaches is needed (as opposed to dominant reliance on the lecture-discussion model).
5. Cooperative approaches to learning and teaching should be underscored (as opposed to individualistic competitive strategies).
6. Outcome-based (or mastery-based) learning should be stressed (as opposed to process-based learning).
7. Delivery built on developmentally based learning principles (as opposed to universally applicable principles. (Murphy, 1992, p. 155).

The restructured preparation program will have as its core the demonstration of skills, knowledge, and human relations. There will be a movement away from the current emphasis on seat time and units completed. The calendar will no longer determine credits earned; completion of preparation programs will be based on the student's ability to demonstrate mastery in a variety of ways. Written exams will replace authentic assessments such as videotapes of students demonstrating skills such as running a meeting or defusing a negative situation between students or adults. Furthermore,

responsibility for trainee learning will be passed on to colleagues who serve as mentors during internships.

University faculty must work together as teams to shape preparation programs. Professors need to be able to bring recent experience and knowledge to the preparation mix. The ideal professor will be a competent scholar as well as a teacher, counselor, researcher, field worker, and professional leader (Murphy, 1992, p. 161).

The Danforth Programs for Preparation of School Principals

The Danforth Foundation has been a catalyst for nearly all of the major activities unfolding in the reform of administrator preparation in recent years. This organization has long influenced the pre-collegiate and collegiate ranks through grant awards, seminars, and partnerships with colleges and universities.

In 1985, foundation leadership launched a movement to emphasize the need for change in administrative training programs and to find school leaders who could facilitate such change. The innovation was entitled "The Danforth Programs for Preparation of School Principals (DPPSP)," and twenty-two universities were selected to participate. The basic components of the new principal training program were assessment, candidates, curriculum, internship, mentors, and university/school partnership and steering committee (Murphy, 1992, p. 8).

The original purpose of assessment in the DPPSP was to screen candidates. However, as the program developed it was concluded that many of

the attributes of the new leader were not necessarily quantifiable and that traditional assessment did not work. Assessment developed into a tool to be used for diagnostic purposes in planning the educational program for the individual candidates.

Much emphasis was placed upon the emerging pool of women and minorities as candidates for DPPSP. Tactics that were used in recruiting individuals from these populations included distributing applications to all teachers in a school system. Teachers were also asked to nominate anyone from their building who they felt had strong leadership qualities.

Foundation staff members sought input from school districts who would be hiring newly prepared principals and from university educational administration faculty to establish a new curriculum for DPPSP. Foundation staff members suggested that the curriculum committees consider topics including ethics, interpersonal relations, planning, speaking, writing, and facilitating. The Foundation personnel also recommended that emphasis be placed on the delivery of curriculum and improvement teaching techniques. Finally, each university educational administration department, along with local public school district personnel, analyzed the principal preparation curriculum and developed plans for improvement. Included in these plans were internships, mentorships, broad-based steering committees, and program facilitators

As a part of the DPPSP plan, each participant was required to complete an internship that provided experiences at the elementary, middle, and high school levels. Interns who were placed in situations that did not support their

growth were removed and placed elsewhere. Site administrators, a university facilitator, and the mentor were charged with planning the internship experiences and evaluating the aspiring principal.

Mentors in the program were school administrators; however, the interns often worked with other mentor leaders from the business world. The mentors were trained to support and evaluate the aspiring principals.

The participating university and the public schools formed steering committees that included representatives from the department of education, community service organizations, business and industry, and school boards. After the first year of operation, graduates of the program were included on the steering committee. This committee guided the implementation, feedback, and evaluation of the program.

The program facilitator was responsible for disseminating information about the DPPSP to the university staff and for serving as liaison between the university and the Danforth Foundation.

In a study completed five years after the DPPSP program was initiated in the twenty-two schools, the following five key strengths are cited:

1. A more effectively integrated series of courses (University of Oklahoma)
2. Modified course content and enrichment programming (University of Central Florida)
3. Improved teaching and presenting; [having] every professor in the department [work] with the program (East Tennessee State)

4. Modular format and presentations by practitioners (University of Alabama, University of Connecticut, and University of Tennessee)
5. Field trips, especially to prisons and juvenile homes (City College of New York)
6. Curriculum improvements; schedule and faculty changes (University of Washington)
7. Curriculum and performance of faculty (University of Virginia) (Milstein & Associates, 1993).

Survey data from the study further suggest that participating universities have established programs that are considerably different from their predecessors, particularly in the areas of internship experiences, collaborating with school districts, the use of cohorts, and the value of mentoring relationships.

The Inservice Education Academy

The inservice education academy is yet another model for improving principal training. It is an "arrangement wherein a school district, a state department of education, or some other educational agency provides structured learning experiences to educators on an ongoing basis" (Daresh & Playko, 1992, p. 153). Structurally, it is a combination of the traditional university course and the institute. Participants are generally motivated by their own desire for personal growth. The inservice education academy content is changed periodically, generally based on needs assessments completed by potential members.

There are a number of advantages to the inservice academy. One is that it is a permanent structure designed to meet the ongoing needs of the practitioner. Often the academy has a regular faculty made up of university professors and consultants. A second advantage of the academy is that there is a clear and immediate relevance to local needs since the curriculum is based upon the initial survey of the practitioner's needs.

One disadvantage of this model is the fact that much of the instruction resembles the one-way communication of the traditional university course or the institute. A second drawback to this model is the external consultant hired by the district or department of education who may lack a genuine understanding of the context of the local or state organization sponsoring the academy. The final, and perhaps the most severe, disadvantage of this model for the delivery of inservice education is that the focus of the curriculum is generally the here and now and that long-term solutions to complex problems are never developed.

The Administrator Case Simulation Project

The Administrator Case Simulation Project is based in the College of Education at Texas Tech University and was developed to address issues/problem areas relating to several important facets of school administrative leadership. "The goal of the ACS Project was to develop an initial set of CD-ROM cases informing an eventual case simulation library for school leaders' career-long assessment and professional growth keyed to National Policy Board for Educational Administration Standards" (Claudet, 1998, p. 82). These case

simulations addressed issues relating to several important facets of school administrative leadership, both instructional and organizational. Includes were ways in which principals and staff:

1. Accurately (and inaccurately) define school problems;
2. Navigate the gray area (complicated and fuzzy) problems of school practice;
3. Chart options and analyze consequences within an overall problem frame; and
4. Make ethical decisions and engage in valuative judgments, affecting the processes and outcomes of individual, context-specific problems.

The study of principals and other school leaders that formed the research base for the ACS project recognized that school principals learn and lead in context and through time as was pointed out in the work of Hart and Bredeson. As was pointed out earlier in this review of literature, the chance to learn through reflective leadership is often not available because of the lack of appropriate experiences that prompt such reflection.

This model of training/professional development permits principals to make logical connection among the "content of national standards knowledge and skill bases, and their application and assessment within individual professional leading and learning contexts" (Claudet, 1998, p. 83). Claudet is careful to point out that the topics of the cases are those that are considered to be situations that the principal would not encounter routinely.

Preliminary results of the study showed a number of positive benefits that emerged from initial field-testing of the CD-ROM case simulations. Vicariously thinking and acting within the case simulations prompted users to engage in more reflective analysis of their leadership strategies. The simulations also provided administrators with more opportunities for both individual and group learning. Furthermore, the results of responses to the real world simulations were translated into personal performance profiles highlighting the strengths and weakness of the participants. These results provided useful data in formulating meaningful professional growth plans.

The preliminary results also showed that the case simulations seemed to serve equally as well for both preservice and inservice training. Whereas preservice interns used the cases to "contemplate and refine their repertoire of mental leadership strategies and responses to a variety of school challenges, practicing principals analyzed their own leadership actions and envisioned alternative leadership strategies" (Claudet, 1998, p. 85).

In conclusion, results from the initial field tests indicate that the ACS Project may have some usefulness to both preservice and inservice school administrators as a career-long learning resource to foster reflective thinking and decision-making.

The Indiana Principal Leadership Academy

In 1986 the State of Indiana, in its effort to respond to demands for excellence in principal leadership training, established the Indiana Principal Leadership Academy (IPLA) through House Enrolled Act 1236. The IPLA was designed to "strengthen leadership and management skills of practicing Indiana public school principals to achieve excellence in teacher and student performance" (Indiana House Acts, 1986). The vision statement developed by the over seventy individuals charged with this task is as follows:

> The IPLA is a national model for the training of principals as leaders of instructors. Through Academy experiences and educational challenges, these leaders are empowered with effective behaviors and proficiencies. Graduates of the IPLA set the pace for state-wide educational improvements and reform and are recognized as exemplary educational leaders in Indiana and throughout the country." (Rodriguez, 1989)

Indiana principals have proclaimed this organization as providing the "best staff development activity available to them." (Duffey, 1991). Dissertations by Heck (1991), McCandless (1993) and Hawkins (1992) have shown that participating principals, their teachers, and/or the principal's leaders' perceptions are that the academy is an effective tool in re-training practitioners. Heck (1991, pp. 55-62) identifies and defines the four phases of principal development addressed in the IPLA. The four include Leadership, Communication, Culture, and Programs. He states that what is defined as *leadership* in the Academy has

a "generic" application; however, for IPLA purposes a leader is defined as one who "effectively communicates a vision of what might be and mobilizes other to carry out the vision" (Heck, 1991, p. 56). He further emphasizes that an integral part of the leadership phase is the concept of vision, which the principal must construct in cooperation with key stakeholders within the school community. He also describes that leadership as "passionate and caring" (Heck, 1991, p. 60).

Heck goes on to define the emphasis of the IPLA Communication Phase. He states, "During this phase, emphasis has been placed upon enhancing our oral and written communication skills, as well as developing effective communication strategies for the publics with whom we routinely interact" (Heck, 1991, p. 56). Additional topics within that phase include the following: "effective marketing strategies, conducting a referendum, communicating with staff and students, parent involvement, developing newsletters and publications, and creating partnerships with business" (Heck, 1991, p. 57). Principals are trained by experts in written, oral, and nonverbal communication and practice those skills with their peers.

Heck describes the IPLA Culture phase as placing "emphasis on creating and maintaining a climate and culture which brings out the best in people" (Heck, 1991, p. 57). He goes on to say that the "culture of a school affects such things as student achievement, staff morale, and community support, to name only a few" (p. 57). According to Heck, the characteristics of cultures in which people and programs improve as espoused by the IPLA include the following: "efficacy, collegiality, high expectations, trust and confidence, appreciation and recognition

of improvement, open and honest communication and protecting what's important" (Heck, 1991, p. 59). He goes on to say, "The IPLA contends that the principal, as the key change agent and instructional leader, can and does have substantial impact upon a school's culture, including its rituals, traditions, and ceremonies (Heck, 1991, p.58).

Yet another element of the Culture Phase is that of the role of the principal in creating a collaborative climate. The visible presence of the principal is also emphasized as a key component in creating a positive school climate. In order to assess the culture of a school, which Heck asserts affects such things as student achievement, staff morale, and community support, IPLA principals learn to conduct the climate audit. The purpose of this activity is to assess the school's atmosphere for learning and to develop priorities for improvement. Also inherent in the Culture Phase are building based staff development programs designed and implemented at the local level. These programs are planned to encourage teachers and principals to observe and coach one another in areas that will contribute to improved performance. Heck also emphasizes the need for evaluation of the desired program outcomes.

The final phase of IPLA principal staff development is the Programs Phase. Implicit to the phase are clinical supervision and program evaluation. Heck (1991, p. 61) points out that an effective school requires "agreement on a school-wide instructional model and frequent visitations to observe instruction, with an emphasis on instructional improvement."

Another component of the Programs Phase is that of program evaluation. Principals are encouraged to look at student achievement, standardized test scores, graduation/dropout rates, college entrance exams, substance abuse rates, teen pregnancy rates, student and adult absenteeism rates, and discipline/truancy rates, as appropriate, to evaluate the effectiveness of their school programs.

Heck goes on to identify twenty-three proficiencies to be reached by principals attending IPLA.

1. Understand my personal values as a leader and their effects on the organization.
2. Understand and apply the principles of leadership styles as they relate to effecting change.
3. Understand and apply the principles of learning styles in planning curriculum and instruction.
4. Understand and apply the principles of time/stress management as they relate to performing under pressure.
5. Understand and apply the principles of shared decision making, creative problem solving, and consensus building.
6. Understand and apply the principles of future forecasting in effecting change.
7. Understand and apply the principles of effective schools, resulting in organizational change and improvement.

8. Understand and apply the principles of designing a long-range staff development plan in harmony with the school's vision.
9. Understand and apply the principles of assessing a school's culture and climate.
10. Understand and apply the principles of reward systems designed to recognize effective and creative practices.
11. Understand apply the principles involved in a collaborative climate, which results in improved job satisfaction and greater pride in the school.
12. Understand and apply the principles of clinical supervision, including observation, diagnosis/prescription, conferencing, as well as formative and summative evaluation.
13. Understand and apply the principles of technology as they relate to curriculum and instruction.
14. Understand and apply the principles of establishing a base of community support.
15. Understand and apply the principles of program evaluation.
16. Understand and apply the principles of effective instructional strategies.
17. Understand and apply the principles of effective classroom management.
18. Understand and apply the principles of effective communication, which results in community support.

19. Understand and apply the principles of effective non-verbal communication.
20. Understand and apply the principles of conducting effective meetings.
21. Understand and apply the principles of effective oral communication.
22. Understand and apply the principles of effective written communication.
23. Understand and apply the use of technology toward enhancing effective communication (Heck, pp. 94-5).

Imbedded in the process of assisting participating principals in achieving these twenty-three proficiencies are eight Goal Action Plans (GAP). These are entitled 1) Self-Improvement, 2) Assisting Another, 3) Enhancing Communication, 4) Marketing Schools, 5) Climate Audit, 6) School Improvement Team, 7) Staff Development Plan, and 8) School Improvement Plan (continued).

Goal Action Plans 1 and 2 are designed to facilitate the improvement of leadership. Principals are asked in GAP 1 to reflect upon insights gained from the first three days of the Academy and identify one area in which they would like to improve. The challenge of GAP 2 is to identify a member of the building staff and collaboratively develop a plan for realizing improvement.

Goal Action Plans 3 and 4 support development in the area of Communication. To fulfill GAP 3 principals are given the option of 1) preparing an article for publication, 2) developing or substantially revising a handbook

designed to communicate the mission or vision of the school, or 3) making a presentation to an audience outside of education. GAP 4 focuses on effective community / public relations and also provides the principal with three options. Those are 1) Develop a presentation to market the school, 2) Develop a marketing brochure which reflects vision, mission, and values of your school, and 3) Develop and implement a strategy which is intended to more effectively inform a segment of the school community.

Goal Action Plans 5 and 6 support the Culture Phase of the IPLA. GAP 5 directs the principal to utilize the information, insights, and experiences shared during the first two days of Culture to organize a Climate Audit in his/her building and to assist other IPLA team members by serving on their audit teams. GAP 6 requires the principal to organize a well-balanced team for the purpose of short-term and long-term school improvement initiatives.

The final two Goal Action Plans, 7 and 8, utilize skills developed during the Programs Phase. GAP 7 requires that the principal organize a full one-year staff development plan for his/her school's staff. The final GAP requires that the principal develop and implement a school improvement project during the next school year utilizing the team developed in GAP 6 (Indiana Principal Leadership Academy, 1995).

Leadership Behaviors

There is a growing body of literature that focuses on effective leadership behaviors of principals. Though each study attempts to contain the array of

behaviors in four to seven different categories, the behaviors discussed tend to be quite consistent.

Effective schools research has identified several factors that promote higher student achievement and among these is a school principal who is an instructional leader. Lovell and Wiles (1983) describe the instructional leader as one who does the following: 1) coordinates the efforts to define and evaluate local school goals; 2) plans, implements and evaluates instructional programs to achievement those goals; 3) attracts, selects, and facilitates the professional growth of staff members; 4) evaluates and coordinates the work of professional personnel; 5) and sees that adequate and appropriate instructional materials, equipment and facilities are provided.

Litchfield (1986) contends that the instructional leader must hold pre- and post- observations conferences with teachers and conference with them on long-range curriculum goals. He also believes that the excellent principal leaves instruction in the hands of expert teachers but ensures an instructional climate that is conducive to learning.

Deal and Kennedy (1982) purport that principals demonstrate a high level of instructional leadership by establishing a clear mission for their school, performing classroom visitations, communicating with parents and students about student progress, and being highly visible to teachers and the student body.

Hall et al. (1983) list and describe seven principal leadership behaviors that are associated with effective schools. The first is vision, which they describe

as establishing a framework of expectations for the school and involving others in setting goals within that framework. Second is structuring the school as a work place that requires the principal set high standards of achievement for all and direct the ongoing operation of the school with instruction as the focus. Third is structuring involvement with change which requires that the principal set expectations for change, monitor the change, provide direct feedback about progress, and set the next steps for reaching the goal or improvement of past efforts.

Fourth on the list of behaviors from Hall et al. (1983) is sharing of responsibility. This behavior requires that the principal determine to whom he/she can delegate, then establishes responsibilities, determines how they will be accomplished, and monitors the carrying out of the tasks. The fifth behavior is decision making which requires that the principal shares the decision making process by allowing others to make decisions based on carefully delineated parameters of established goals and expectations. Guiding and supporting is the sixth behavior exhibited by the most effective principals. The principal provides increased knowledge or skills needed by teachers through possible utilization of resources from within the building. He/she also keeps ever-present demands on the teacher to maintain focus on program implementation. The last principal behavior is structuring his/her professional role. This requires that the principal see himself/herself as responsible for the instructional program and for being aware of all that is going on in his/her building. He/she also develops sufficient knowledge about school programs to make specific teaching suggestions and to

troubleshoot problems. He or she is not afraid to sacrifice short-term feelings of staff if what must be done now will bring about long-term benefit. He/she must also be able to interact with teachers seeking their opinions and/or reactions before setting priorities.

Rossow (1990) has analyzed the effective schools research conducted by the New York State Department of Education, the Maryland state Department of Education, Lezotte, Edmonds, Ratner, Brookover and Schneider, and Spartz (Rossow, 1990, pp.3-4) to determine seven variables that contribute to effective schools. He goes on to describe what the principal does to facilitate each of these variables in his or her school.

The first variable is high expectations. The principal of an effective school believes that students can master their academic work and spends most of the school day on instructional activities. He or she is responsible for inculcating that value into the belief system of the building. The second variable is a safe and orderly environment. Rossow (1990) describes the principal's responsibility as having developed cooperatively with the staff a set of consistent disciplinary policies that are well communicated to students and staff. The principal should also provide for a strong reward structure within the school. Clear and focused mission is the third variable. The principal is responsible for assuring that faculty, administration, students, and parents are aware of the instructional goals and assessment procedures for the school and for specific grade levels. The fourth variable pointed out by Rossow (1990) is strong leadership. Indigenous to instructional leadership are variables five, six and seven—monitoring student

progress, staff training, and staff control over instructional decisions. He states that an effective principal has a purpose in mind in running the school and that he/she must emphasize academic standards. The principal should also provide support through inservice training and opportunities to coordinate actions in the areas of discipline and curriculum. Finally, the principal must regularly observe classrooms and confer with teachers on instructional matters.

In a study prepared for the Delaware Department of Public Distribution by Research for Better Schools, Inc. (1987), the role of the principal was described in two dimensions based on Roe's (1980) job analysis of the principal. Those two broad dimensions are administrative-managerial and educational leadership.

The administrative-managerial dimension the principal limits the principal to overseeing and supervising the programs and teaching processes required by the central office. The major duties involved with this dimension are enforcing student discipline, monitoring programs and instructional processes, and communicating to the students, staff, and the school's community. The educational leadership dimension is much broader as it is" concerned with 1) changing the behavior of those involved in teaching-learning acts toward greater achievement of the goals of the school, and 2) building a cohesive social system within a school that 'pulls together' to the school's goals (Roe 1980) " (Research for Better Schools, Inc., 1987, p, 9). The purpose of this system is for the principal, faculty, and students to work cooperatively and collaboratively to define, interpret, and establish school goals; develop a powerful curriculum; and implement educational methodologies that create an exciting and productive

learning environment for students. It is the responsibility of the principal to "motivate the staff to maximum performance, provide channels for involvement with the community in the operation of the school, and develop cooperatively with the faculty a dynamic professional development and inservice education program (Roe, 1980)" (Research for Better Schools, Inc, 1987, p.10).

The study from Research for Better Schools (January 1987) also identifies the behaviors of principals that are associated with the eight characteristics of effective schools. They are as follows:

School-wide Measurement and Recognition of Academic Success

1. Principals make special or unusual efforts to recognize academic achievement (Hallinger, 1983).
2. Principals set up ongoing systems to recognize success (Russell et al., 1984).
3. Principals encourage the use of standardized testing (Russell et al., 1984).
4. Principals give personal recognition to individual students for specific academic achievements (Russell et al., 1984).

High Emphasis on Curriculum Articulation

1. Principals ensure that scope and sequence exist and are being adhered to (Russell et al., 1984).

2. Principals expect teachers to be aware of the school's various curricula (Russell et al., 1984)
3. Principals demonstrate knowledge and interest in each curriculum (Hallinger, 1983).

Support for Instructional Tasks

1. Principals respond to teacher decisions and needs with direct action (Russell et al., 1984)
2. Principals provide atmosphere and resources to complete staff instructional tasks (Weber 1971).

High Expectations and Clear goals for Student Performances

1. Principals encourage student to pursue challenging goals (Russell et. al., 1984).
2. Principals establish school-wide academic requirements (Russell et al, 1984).
3. Principals set instructional standards for teachers.
4. Principals evaluate student progress frequently.

Collaborative Planning with Faculty

1. Principals listen actively to faculty ideas and create opportunities for faculty to express ideas (Russell et al., 1984)

2. Principals provide resources and a supportive environment for collaborative planning (Russell et al., 1984).
3. Principals establish school-wide goals and programs through faculty input and participation (Russell et al., 1984)

Instructional Leadership

1. Principals take an active role in planning, conducting, implementing, and evaluating inservice training (Russell et al., 1984).
2. Principals provide direction and support for individual teachers to eliminate poor instructional performance (Russell et al., 1984).
3. Principals provide direct instructional leadership in one-to-one interactions with individual teachers (Russell et al., 1984)
4. Principals develop instructional strategies (Madden, 1976)

An Orderly and Studious School Environment

1. Principals enforce discipline personally (Russell et al., 1984).
2. Principals establish and enforce a clear code of conduct rules such as attendance and absence policies (Russell et al., 1984).
3. Principals provide support and back-up for enforcement of discipline (Russell et al., 1984).
4. Principals do what is necessary to ensure that the school's climate is conducive to learning (Edmonds 1978).

Parental Support for the Education of Students

1. Principals obtain active parental involvement in school activities (Russell et al., 1984).
2. Principals communicate personally with parents of individual students (Russell et al., 1984).
3. Principals inform parents of special programs and activities (Russell et al., 1984). (Research for Better Schools, Inc., 1987 pp. 2-9)

Krug (1993) identifies five essential categories that serve to classify the myriad behaviors in which an effective principal engages. He specifies these as 1) defining a mission, 2) managing curriculum and instruction, 3) supervising teaching, 4) monitoring student progress, and 5) promoting an effective instructional climate.

He believes that a mission is critical to the success of a school. The school is an institution that has served the masses and it is often assumed that its mission is understood. This, however, is not the case unless the purpose is stated and communicated by the principal. Instruction is the essence of the school and the school administrator must be aware of current best instructional practice to provide supervision and direction for teachers to grow. He/she must also be continually aware of the progress being made by students in the school and have skills in goal setting and program evaluation to improve the instructional program. The principal must also provide an environment that is conducive to teaching and learning. "Leadership involves getting things done

through people. Working through people involves communication, team building, and motivational skills, among other capacities" (Krug, 1993, p. 242).

Krug's categories for principal leadership behaviors as discussed above provide a structure in which to contain the many actions performed by principals and will be utilized for the purposes of this study

Leadership Behavior and Student Achievement

This review of literature indicates that with respect to the relationship between leadership and student achievement, the findings are inconsistent. Brookover and Lezotte (1979) found that high achieving schools are characterized by high evaluations and expectations, academic time allocation, accountability, satisfied teachers, parent interest, limited use of special programs, and principal leadership. Ellett and Walberg (1979) reported that principal performance affects student achievement through the mediating influence of school climate. Wesner (1993) found that principal leadership as mediated by school climate corresponds to an improvement in student achievement. However, Secumski-Killigian (1993), Hardie (1993) and Willard (1993) found no relationship between leadership style and student achievement.

Krug found that there is a positive relationship between student achievement and leadership. "Student learning outcomes correlated most highly with the principal's skillful supervision of teachers and ability to define and communicate a school mission" (Gullat & Lofton, 1996, p. 9).

Hallinger (1990) studied the consequences of principal leadership and three sets of variables: student outcomes, instructional climate, and instructional organization. The study revealed a statistically significant ($p<.01$), positive relationship between principal leadership and the constellation of school climate variables. "Specifically, the model indicates a strong relationship between principal leadership and the existence of a clear school mission. Mission, in turn influences student opportunity to learn and teacher expectations. These instructional climate variables have a positive effect on student achievement in reading ($p<.05$)" (Hallinger, 1990, p 25). The data suggests that principals who are perceived by their teachers as strong instructional leaders shape the school-wide learning climate and, thereby, influence student learning.

Gullatt & Lofton (1996) cite a 1993 study done by Heck and Marcoulides that had as one purpose to estimate the effect of instructional leadership on student achievement. The findings suggest that the principal's instructional leadership behavior may be critical to the academic achievement of the school. The study revealed that the way in which the principal governs the school, builds strong school collaboration, and monitors the school's instructional program are important means of predicting academic achievement.

Silins (1993) conducted an Australian study to examine the effects of leadership practices on student performance outcomes, curriculum outcomes, teacher outcomes, and school culture. She found that "leader behaviours associated with Goal Achievement were the strongest predictors of Student Performance [$p=0.41$] and influenced Curriculum Outcomes [$p=0.23(0.09)$] and

School Culture [p=0.22(0.09)]. Leadership behaviours concerned with building a school Ethos were the only other influences of Student Performance [p=0.20(0.10)] " (Silins, 1993, p. 8).

Couch (1991) conducted a study that examined the relationship between the degree of a principal's instructional leadership and student achievement. The results of her study indicate that the degree to which the principal demonstrates instructional leadership has no effect upon student achievement scores. She goes on to point out that the study may have been flawed in that it was based upon the amount of time actually spent on duties directly related to instructional leadership. What may be more important is the amount of knowledge the principal has in relationship to instruction and what is going on in the classroom.

Summary

This review of related literature has examined related research carried out to date on the variables within the study. This review tracked the history of leadership programs from their inception, examining the process of refinement and improvement of such programs over time. It also explored professional development and inservice models utilized in principal leadership training and professional growth. The investigation of research also examined principal leadership behaviors as they are identified in a number of studies. Finally, the review of literature explored the relationship between principal leadership behaviors and student achievement.

Chapter 3

RESEARCH METHODS

Introduction

The two purposes of the study were to 1) investigate if there were differences in self-perceived scores on selected leadership behaviors (Defines Mission, Manages Curriculum, Supervises Teaching, Monitors Student Progress, and Promotes Instructional Climate) between principals trained in the IPLA and those who were not and 2) investigate the relationship between student achievement scores and self-perceived leadership behavior scores after controlling for IPLA training.

The following steps were taken to procure data for this research project:

1. An electronic database of IPLA trained principals and participants was acquired from the Director of the Indiana Principal Leadership Academy. An electronic database of Indiana principals was drawn from the Indiana Department of Education electronic directory for 1998-99. Database fields identifying the school, school size, school level, gender, principal name, number of years in the school, and Indiana school code were developed.
2. The IPLA electronic listing of principals who had completed IPLA or were participating in IPLA was cross referenced with the random sample of Indiana

principals to identify the pool from which non-IPLA trained principals was determined.

3. A random sample of 200 principals reflecting approximately equal numbers of 1) principals who had or had not completed IPLA prior to 1995, 2) males and females and 3) elementary and secondary level principals and 4) large, medium and small schools was selected and a database was developed based on the pool available. All had principals had 5) four or more years of experience as a building principal and had 6) administered the same building at least since the fall of 1995.
4. Principal instructional leadership behavior data was collected from each principal identified in the total sample of 200 principals using the Instructional Leadership Inventory (Maehr & Ames, 1988). The survey verified gender, school, size and experience. The average of these scores was utilized to determine if there were differences in perceived scores on selected leadership traits between those principals who were IPLA trained and those who were not.
5. Normal Curve Equivalent Total ISTEP scores at grades 3, 6, 8, and 10 for buildings of principal respondents for the 1995, 1996, 1997, and 1998 test administrations were obtained from the IDOE Department of Performance-Based Accreditation. These scores were correlated with scores on the five categories of leadership behaviors to determine if there was a relationship between principal self-perceived leadership behaviors and student achievement.

Null Hypotheses

Ho1: There is no significant difference in self-perceived scores on selected leadership behaviors (Defines Mission, Manages Curriculum, Supervises Teaching, Monitors Student Progress, and Promotes Instructional Climate) between principals who are IPLA trained and those who are not.

Ho2: There is no significant relationship between student achievement scores and self-perceived principal leadership behavior scores, (Defines Mission, Manages Curriculum, Supervises Teaching, Monitors Student Progress, and Promotes Instructional Climate) after controlling for IPLA training.

Quantitative data were collected and analyzed with appropriate statistical procedures to fail to reject or reject each null hypothesis.

Data Collection Process

The Instructional Leadership Inventory (ILI) was sent to the principals identified in the sample. Principals were asked to complete the survey and return it in a stamped envelope provided by the researcher. Those principals who did not return the survey instrument after the first request were sent a follow-up letter and a second copy of the survey to complete. Results from each of the two sets of principal surveys were tabulated on the five classifications of principal behaviors.

Total ISTEP Mean Normal Curve Equivalent scores for the 1995, 1996, 1997 and 1998 test administrations were gathered from the IDOE ISTEP statistical web site for each of the buildings of responding principals at grades 3,

6, 8, and 10. Scores were tabulated into two categories--buildings having principals who had completed IPLA training and those who had not.

Scores from each of the five dimensions of behaviors on the ILI were utilized to examine the differences between instructional leadership behaviors of principals who had completed IPLA training and those who had not. Those same scores and the Total ISTEP NCE scores were utilized to examine any relationship between student achievement and five categories of IPLA principal and non-IPLA principal instructional leadership behaviors.

Instrumentation

The Instructional Leadership Inventory (Maehr & Ames, 1988) identifies five essential categories that describe a wide array of behaviors in which a principal engages: defining a mission, supervising teaching, managing curriculum and instruction, monitoring student progress, and promoting an effective instructional climate.

Principals who score high on Defines Mission are goal oriented and take every opportunity to communicate school goals. They are visible in the building and recognize teacher and student accomplishment in formal school ceremonies. They reflect an attitude of excitement about the potential of students and staff.

High-scorers in the category Manages Curriculum provide information to help their teachers plan effectively. They provide support for curriculum development and have a good knowledge of instructional methodology.

Individuals who have strength in this area of Supervises Teaching encourage teachers to set goals for professional growth. They serve as mentors and counsel teachers to do they're best. They spend time developing teachers' skills.

Principals who score high in this dimension of leadership referred to as Monitoring Student Progress confer with teachers about student assessment information and item analysis to determine instructional and curricular strengths and weaknesses. They set high standards and monitor progress toward goals.

Principals who score high on Promoting Instructional Climate create a positive climate for teaching and learning. They set and enforce guidelines and policies, encourage teachers to experiment with new ideas and to compete for awards, and praise teachers frequently.

The remaining three scales, which are Staff, School, and Community, assess administrator perceptions of their work context. These scales were not included in this study.

The five dimensions of instructional leadership inventory reflect ways in which the principal or instructional leader can act to impact student learning outcomes directly. Studies cited have utilized different categories in classifying principal behaviors, yet the behaviors are very similar. The Indiana Principal Leadership Academy categorizes principal leadership behaviors into twenty-three proficiencies under the four categories of Leadership, School Programs, and Culture, and Communications. Scrutiny of these proficiencies and leadership classifications reflects that the same array of principal behaviors measured by the Instructional Leadership Inventory Survey. Parallels between the behaviors

measured by ILI and those taught in the IPLA training as outlined earlier in this document include communication of school mission and goals, visibility of the principal, focus on instructional leadership, high expectations, teacher supervision and mentoring, analysis of student progress through achievement test scores, program evaluation, and effective communication with stakeholders.

MetriTech (1988) documentation describes the process for validating the Instructional Leadership Inventory. The ILI was administered to 242 principals in Illinois who completed the Principal Instructional Management Rating Scale (PIMRS: Hallinger, 1984). The sampling plan included a proportional number of administrators at the secondary and elementary levels similar to the state distribution. The pilot data were subjected to various kinds of statistical analyses, including factor and cluster analysis, in an attempt to identify structural elements within the total set of instructional leadership items and to eliminate items that did not show acceptable levels of reliability and discrimination. These studies resulted in the retention of 48 items that measured five dimensions on instruction: Defines Mission, Manages Instruction, Supervises Teaching, Monitors Student Progress, and Promotes Instructional Climate. Correlations among the five subscores are as high as .74 and as low as .52. An additional 40 items were kept to measure the three contextual dimensions: Staff (14 items), School (15 items), and Community (11 items). Cronbach alpha coefficient indexes of internal consistency were determined for the scales and ranged from .74 for the Manages Instruction scale to .89 for the Staff scale. The Instructional

leadership Inventory was found to be "sufficiently reliable to justify its use on an individual basis "(MetriTech, 1988, p.7).

Construct-related validity was assessed by running correlations between subscales of both the Instructional Leadership Inventory and the Principal Instructional Management Rating Scale (PIMRS). The ten subscales of PIMRS are as follows: Frame the School Goals, Communicate the School Goals, Supervise and Evaluate Instruction, Coordinate the Curriculum, Monitor Student Progress, Protect Instructional Time, Maintain High Visibility, Provide Incentives for Teachers, Promote Professional Development, and Provide Incentives for Learning. Correlations between PIMRS Ratings and ILI Scales ranged from .31 to .44.

Validity of the Instructional Leadership Inventory was further established through testing done by MetriTech. Data analysis revealed moderate correlations between the PIMRS and ILI, indicating some degree of convergence between the two independently developed measures of instructional leadership. Researchers performed a regression of the ten PIMRS scales on each of the five Instructional Leadership scales to further test the degree of convergence between the two scales. Results were as follows: *R*s squared ranged from .12 to .81, again supporting strong convergence of the two measures.

Statistical Analysis

The first null hypothesis "there is no significant difference in self-perceived scores on selected leadership behaviors (Defines Mission, Manages Curriculum,

Supervises Teaching, Monitors Student Progress, and Promotes Instructional Climate)" between principals who are IPLA trained and those who are not" was tested by the independent-measures t-test for each of five categories of principal leadership behavior.

The second null hypothesis "there is no significant relationship between student achievement scores and self-perceived principal leadership behavior scores (Defines Mission, Manages Curriculum, Supervises Teaching, Monitors Student Progress, and Promotes Instructional Climate) after controlling for IPLA training" was tested by the Pearson product moment correlation.

Summary

In this chapter, the design components were outlined and described. Those components were as follows: the research methods; the hypotheses, the data sources, including the population and sample, and the instrumentation that was used. The first purpose of the study was to investigate if there were differences between IPLA and non-IPLA trained principals on selected leadership behaviors The second purpose was to investigate the relationship student achievement scores and leadership behaviors after controlling for IPLA training.

Chapter 4

ANALYSIS OF DATA

Introduction

The two purposes of the study were to 1) investigate if there were differences in self-perceived scores on selected leadership behaviors (Defines Mission, Manages Curriculum, Supervises Teaching, Monitors Student Progress, and Promotes Instructional Climate) between principals trained in the IPLA and those who were not and 2) investigate the relationship between student achievement scores and self-perceived leadership behavior scores (Defines Mission, Manages Curriculum, Supervises Teaching, Monitors Student Progress, and Promotes Instructional Climate) after controlling for IPLA training.

The following steps were taken to procure data for this research project:

1. A sample of 200 Indiana principals was drawn from data acquired from the Director of the Indiana Principal Leadership Academy and the Indiana Department of Education. The sample reflected approximately equal numbers of 1) principals who had or had not completed IPLA prior to 1995, 2) males and females, 3) elementary and secondary level principals, and 4) principals of small, medium, and large schools.

All had 5) four or more years of experience as a building principal and had 6) administered the same building at least since the fall of 1995.

2. Principal instructional leadership behavior data was collected from each principal identified in the sample of 200 principals using the Instructional Leadership Inventory (Maehr & Ames, 1988). The data were used to determine differences in self-perceived leadership behavior scores between IPLA and non-IPLA trained principals.
3. Normal Curve Equivalent Total ISTEP scores at grades 3, 6, 8 and 10 for buildings of principal respondents for the 1995, 1996, 1997, and 1998 test administrations were obtained from the IDOE Department of Performance-Based Accreditation. The scores were used to determine if there was a relationship between the self-perceived leadership behavior scores and achievement test scores after controlling for IPLA training.

Statistical analysis of the data included descriptive statistics regarding the mean, standard deviation, frequency, and standard error. Independent two-tailed t-test and the Pearson product moment correlation were used to test the null hypotheses. The level of significance was set at .05. The statistical procedures were performed using the SPSS computer program.

This chapter presented the findings of the statistical analysis performed to test the two hypotheses of the study.

Hypothesis Testing

Ho1: There is no significant difference between self-perceived scores on selected leadership behaviors (Defines Mission, Manages Curriculum, Supervises Teaching, Monitors Student Progress, and Promotes Instructional Climate) between principals who are IPLA trained and those who are not.

Ho2: There is no significant relationship between student achievement scores and self-perceived principal leadership behavior scores, (Defines Mission, Manages Curriculum, Supervises Teaching, Monitors Student Progress, and Promotes Instructional Climate) after controlling for IPLA training.

The first hypothesis was "there is no significant difference in self-perceived scores on selected leadership behaviors (Defines Mission, Manages Curriculum, Supervises Teaching, Monitors Student Progress, and Promotes Instructional Climate) between principals who are IPLA trained and those who are not." Independent Sample t-tests were used to compare the groups and determine significant differences. The results of these tests are displayed in Table 1.

As shown in Table 1, the mean self-perceived principal leadership behavior scores in Defines Mission, Manages Curriculum, Supervises Teaching, Monitors Student Progress, and Promotes Instructional Climate were not significantly different between the IPLA principal group and the non-IPLA group. The t value for each of these behaviors indicates no significant differences between the IPLA group and the non-IPLA group. Based upon lack of significant differences, null hypothesis 1 was not rejected. There were no significant

differences found self-perceived between instructional leadership behaviors of principals who had attended the IPLA and those who had not.

Table 1

Results of Testing Ho1: Difference in Self-Perceived Scores on Selected Leadership Behaviors (Defines Mission, Manages Curriculum, Supervises Teaching, Monitors Student Progress, and Promotes Instructional Climate) Between Principals Who Are IPLA Trained (N=43) and Those Who Are Not (N=34).

	Groups	Mean	Std. Dev.	t Value
Promotes Instructional Climate				
	IPLA	55.28	9.96	.20
	Non-IPLA	58.09	9.06	
Manages Curriculum				
	IPLA	49.16	7.68	.38
	Non-IPLA	50.85	9.16	
Defines Mission				
	IPLA	50.74	7.30	.56
	Non-IPLA	51.85	9.58	
Monitors Student Progress				
	IPLA	51.33	8.49	.69
	Non-IPLA	52.09	8.12	
Supervises Teaching				
	IPLA	51.02	9.45	.59
	Non-IPLA	52.18	9.38	

*p<.05

Table 2 describes the results of null hypothesis 2. The second hypothesis was "there is no significant relationship between student achievement scores and self-perceived principal leadership behavior (Defines Mission, Manages Curriculum, supervises Teaching, Monitors Student Progress, and Promotes Instructional Climate) after controlling for IPLA training." The Pearson product moment correlation was performed to determine relationships between self-perceived principal instructional leadership behavior and student achievement scores.

No significant correlation or linear relationship was found between IPLA and non-IPLA self-perceived leadership behaviors and achievement test scores. Therefore, null hypothesis 2 was not rejected.

Table 2

Hypothesis Two: Relationship Between Student Achievement Scores and Self-Perceived Principal Leadership Behavior Scores (Defines Mission, Manages Curriculum, Supervises Teaching, Monitors Student Progress, and Promotes Instructional Climate) After Controlling for IPLA Training.

	Pearson Product Moment Correlation	
	IPLA	Non-IPLA
Principal Leadership Behavior	Achievement Scores	
Promotes Climate	-.07	.08
Manages Curriculum	-.14	-.05

(table continues)

Pearson Correlation Coefficient

Principal Leadership Behavior	IPLA	Non-IPLA
	Achievement Scores	
Defines Mission	-.10	-.14
Monitors Progress	-.24	-.08
Supervises Teaching	-.14	-.02

*P<.05

Summary of Findings

This chapter provided a summary of the findings of the study. It detailed a analysis of the testing of the two hypotheses, neither of which was rejected.

Summary of Hypothesis Testing

Two hypotheses were tested and a summary of the results follows:

1. Null hypothesis one was not rejected. No significant difference existed between IPLA and non-IPLA self-perceived principal leadership behaviors. The means of the instructional leadership behaviors (Defines Mission, Manages Curriculum, Supervises Teaching, Monitors Student Progress, and Promotes Instructional Climate) were slightly

higher for the non-IPLA principals than for those who had attended the academy. The t value for each of the descriptors indicated no significant differences between the perception of leadership behaviors held by IPLA and non-IPLA principals.

2. Null hypotheses two was not rejected. No significant relationship existed between the achievement scores and the self-perceived leadership behavior scores of the principals who had attended the IPLA. No significant relationship existed between the achievement scores and the self-perceived leadership behaviors of the principals who had not attended the IPLA.

Chapter 5

SUMMARY, DISCUSSION, IMPLICATIONS, CONCLUSIONS

Summary of the Study

The purposes of this study were to 1) investigate if there were differences in self-perceived scores on selected leadership behaviors between principals trained in the IPLA and those who were not and 2) to investigate the relationship between student achievement scores and self-perceived leadership behaviors after controlling for IPLA training.

The design observed the following procedures:

1. A sample of 200 principals was developed from electronic databases obtained from IPLA and the Indiana Department of Education. The sample reflected approximately equal numbers of 1) principals who had or had not completed IPLA prior to 1995, 2) males and females, 3) elementary and secondary level principals, and 4) principals who administered small, medium, or large schools. All had 5) four or more years of experience as a building principal and had 6) administered the same building at least since the fall of 1995.
2. Surveys designed to procure instructional leadership behavior data were sent to the sample of 200 principals. The instrumentation used was the

Instructional Leadership Inventory developed by MetriTech, Inc. (Maehr & Ames, 1988).

Statistical analysis of the data included descriptive and inferential statistics. The Pearson Product Moment Correlation and Independent two-tailed t-test were used to test the null hypotheses. The level of significance was identified at .05. The statistical procedures were performed using SPSS computer software.

Summary and Discussion of Findings

1. No significant differences were found between the self-perceived instructional leadership behavior scores of principals who had attended IPLA and those who had not. Both sets of principals perceived their leadership traits very similarly, although the mean scores of the non-IPLA principals were slightly higher on all five leadership behaviors than were those of the IPLA group. The evidence may indicate that non-PLA principals do not have the knowledge and understandings of instructional leadership necessary to describe their behaviors accurately. It may also indicate that these principals are unable to admit that that there are areas of instructional leadership in which they need professional growth. The data could further indicate that the group of non-IPLA principals had experienced strong foundational leadership programs and felt that they were strong leaders.
2. Though not directly related to the purpose of the study, mean comparisons were made between all principal self-perceptions of leadership behaviors and

gender, school size, and school level with some interesting but statistically insignificant evidence of differences. Females perceived their leadership behaviors in a more positive manner in all five categories than did males.

Principals of large schools scored higher on self-perceived leadership behavior scores than did those principals in small or medium schools in the categories of Defines Mission, Manages Curriculum, Supervises Teaching, and Promotes Instructional Climate. Principals of small schools achieved higher scores on their perceived leadership behaviors in the category of Monitors Student Progress.

When comparing high school, middle school, and elementary building levels, principals in elementary schools scored highest of the three levels on self-perceived leadership behaviors in the categories of Defines Mission and Supervises Teaching. Middle school principals perceived themselves to have the strongest leadership behaviors in the categories of Manages Curriculum, Monitors Student Progress, and Promotes Instructional Climate.

3. No significant relationship existed between student achievement scores and principal self-perception of leadership behavior scores. The preponderance of evidence from the research cited in the Review of Related Literature indicated only a few studies that have shown any significant effect of principal leadership behaviors on student achievement. It may be that the preponderance of evidence from the research was correct—principal leadership simply does not make a difference on achievement scores.

However, it is interesting to note that the mean ISTEP scores of the schools of the IPLA principals were higher each of the four years included in the study. Extending the study over a longer period of time might allow time for growth and produce statistical significance.

4. Though it was not directly related to the purpose of the study and the sample sizes were small, mean ISTEP scores for the sub-samples of males and females and school levels revealed some interesting comparisons. Schools headed by male principals showed slightly higher average achievement test scores over the four year period when comparing the scores of buildings headed by males and females.

   Students of elementary male principals had higher average achievement test scores than did those students of female principals at that level. At the middle school level, when comparing male principals and female principals, the student mean achievement test scores were slightly higher for the male sub-sample than for the female sub-sample. However, the male sub-sample within the total sample was larger than that of the female sub-sample and may have skewed the data.

   The comparison of male and female high school principals revealed that the mean ISTEP scores of the former were higher than the latter. It should be noted that the sample sizes were too small to provide statistical significance.

Implications for Further Research

Further research needs to be done to determine if differences in principal leadership behaviors can be measured in a definitive way that does not rely on the bias of self-perceptions. Can leadership behaviors be developed in the IPLA educational environment or any other educational leadership professional development academy and how can that growth be determined? Do specific principal leadership behaviors actually affect student achievement?

Perhaps a study designed with a pre- and post-test would yield a more definitive answer. Isolating and researching changes in IPLA trained principal behavior in each of the four components, Leadership, Culture, School Programs, and Communication, as opposed to examining leadership in a global manner might produce evidence of significant growth. Also a study utilizing an instrument designed to measure the degree of implementation of an innovation within an organization might be helpful. Periodic structured interviews of staff might produce data leading to conclusions about significant effects of principal leadership resulting from training.

Another study that might provide significant evidence of the value of IPLA is that of examination of the effect that activities developed from Goal Action Plans have had on principal behaviors or practice within a building over time.

Further research also needs to be done to determine which, if any, specific leadership behaviors may impact student achievement. Existing research points to positive school climate as the key component in producing the

greatest effect on student growth. A study that is designed first to determine the effects of IPLA training on school climate and then to compare ISTEP scores of buildings of IPLA principals identified as having high positive climate with those identified as having negative climate might contribute to the body of research supporting the relationship between school climate and leadership. It might also link the effectiveness of IPLA training in the area of climate to student achievement.

Endnotes

With the shrinking pool of educational leadership candidates and the high demands placed upon them, it is critical that their professional leadership development programs be efficient and effective. Research has shown that principal perception of the effectiveness of the Indiana Principal Leadership Academy is very high. Leadership of the IPLA and other principal professional development program must take the initiative to find concrete evidence of growth in proven best leadership practice and impact on student achievement among the nation's principals. If no such evidence is found, the same individuals must modify the program to bring about such results.

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APPENDICES

APPENDIX A

CORRESPONDENCE

INSTRUCTIONAL LEADERSHIP LETTER

April 20, 1999

Dear Principal,

Research reveals that the principal plays a key role in the effectiveness of the school he/she administers. At Indiana State University we are conducting dissertation research on the leadership behaviors of principals and the relationship of those behaviors to student growth. We are asking for a few minutes of your time to assist us in gathering data for a research project which will encompass over two hundred principals in the state of Indiana and may provide some insight into the impact of leadership training on principals.

The instrument we are using in the study is the Instructional Leadership Inventory, which examines principal behavior in five categories. Results of the inventory will be returned to you at your request—just drop a note in with the survey when you return it. We have provided a stamped, self-addressed envelope for your convenience. All data will be reported anonymously, so you may be assured of privacy

Thank you for your cooperation at such a busy time in the school year.

Sincerely,

Robert E. Boyd, Professor

Alice A. Neal, Project Researcher

FOLLOW-UP LETTER

May 15, 1999

Dear Principal,

We are continuing our study of the leadership behaviors of principals and the relationship of those behaviors to student growth. We checked our list of principals who have responded to our recent survey, the Instructional Leadership Inventory, and noted that we have not yet received your data. It is important that we have the information from your inventory in order to develop a complete picture on leadership behavior of Indiana principals. Please take a few minutes to respond and return the survey in the enclosed envelope.

We realize that this project adds one more thing to the already full plate of the principal. However, we hope that you appreciate the importance of research about instructional leadership and the relevance of the research to the ongoing improvement of schools, leadership training programs, and ultimately the students we serve. Thank you for your assistance. We look forward to receiving you response as soon as possible.

Sincerely,

Robert E. Boyd, Professor

Alice A. Neal, Project Researcher

APPENDIX B

DATA COLLECTION INSTRUMENTS

INSTRUCTIONAL

LEADERSHIP

INVENTORY

Copyright prevents publication of full instrument

INSTRUCTIONS

This booklet contains questions and st[illegible] deal with your views and how you typically handle certain kinds of si[illegible] right" or "wrong" answers and no time limit, but try to answer each qu[illegible] ible.

First, take out the answer s[illegible] you have been given. Fill in the "M" or "F" circle in the SEX grid, as appropriate. Then, in column P under SPECIAL CODES fill in the "2" circle.

The booklet has three parts, each with its own instructions. Be sure to read these instructions before answering the items. Use the key at the top of each page to select your answers.

Remember to mark all your answers on the answer sheet with a pencil (No. 2 is best). If you decide to change an answer, erase the first mark completely.

Thank you for your cooperation.

MetriTech, Inc.