

Superintendent Instructional Leadership:
Selected Leadership Behaviors and
Their Relationships to an Instructional Intervention

A Dissertation

Presented to the Faculty of the Graduate School
University of Missouri-Columbia

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

by

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May, 2010

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The undersigned, appointed by the Dean of the Graduate Faculty, have
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SUPERINTENDENT INSTRUCTIONAL LEADERSHIP:

SELECTED LEADERSHIP BEHAVIORS AND

THEIR RELATIONSHIPS TO AN INSTRUCTIONAL INTERVENTION

presented by WILLIAM CHRISTOPHER NEALE

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DEDICATION

To Jerry Valentine, a man who has been both a mentor and professional role model, I am grateful for the time and talent you have shared with me over the last 17 years. I always left your presence a better educator.

To Tom Luthy, Jr., a critical professional influence who both believed in me and challenged me to deliver the best for children, I am grateful for your loyalty, encouragement, and prayers.

To my mother and father, Jan and Bill Neale, your support and belief in me has blessed me more than I can ever tell you.

Finally, I am more fortunate than any man deserves as shown by the family God has given me. I am humbled by your willingness not just to tolerate but to support my quest when it meant so much time away from you. I dedicate this dissertation to Laura, Anna, and Isaac. You are truly incredible.

ACKNOWLEDGEMENTS

John Donne once said, “No man is an island.” While his writing was in the context of explaining his theology, Donne clearly understood the interconnectedness of man. Donne’s position has never been more true than in this research.

The researcher gratefully acknowledges the help of Dr. Jerry Valentine whose guidance over the last 17 years has been a steady, formative influence toward all that is good for leading learning. The balance of the doctoral committee, Drs. Scribner, Donaldson, Ehlert, and Maher have provided invaluable perspective and much appreciated encouragement.

The data for this research was only available because public school superintendents participated in the use of the Instructional Practices Inventory and submitted their data to the Middle Level Leadership Center. Some of those voluntarily replied to the survey for this research. Finally, twelve willingly spent time in follow-up interviews. The researcher is grateful for the sacrifices of time and energy given by all these professionals.

The researcher is both living out the truth of Donne’s comments about interconnectedness and has had the privilege of observing educational leaders who maximize learning because they embrace the power of the relationships around them.

TABLE OF CONTENTS

ACKNOWLEDGEMENTS.....	ii
LIST OF TABLES.....	v
LIST OF FIGURES	vi
ABSTRACT.....	vii
CHAPTER 1: BACKGROUND TO THE STUDY.....	1
Introduction.....	1
Statement of Problem.....	1
Rationale	6
Purpose of Study	6
Study Design Overview	7
Limitations	11
CHAPTER 2: REVIEW OF LITERATURE.....	13
History of the Superintendency	13
School Improvement.....	16
Superintendent Leadership.....	23
Monitoring School Improvement.....	29
Instructional Improvement Intervention	33
Summary.....	36
CHAPTER 3: DESIGN OF THE STUDY	38
Research Questions.....	39
Hypothesis.....	40
Population Sample	40
Instrumentation	40
Data Collection Procedures.....	42
Data Analysis	44
Terminology.....	44
CHAPTER 4: PRESENTATION AND ANALYSIS OF DATA.....	46
Introduction.....	46
Study Design.....	47
Research Questions.....	50
Descriptive Findings	51
Hypothesis Test.....	60
Qualitative Data from Open Ended Survey Question.....	67
Qualitative Data from Follow-up Interviews.....	70
Collaborative Goal Setting.....	71
Monitoring Progress.....	73
Providing Resources for Goal Attainment.....	73
Leadership Skills.....	74
Non-Negotiability of Goals and Defined Autonomy.....	75
Other Factors Influencing Success.....	77
Key Leadership	77
Summary	80
CHAPTER 5: SUMMARY AND CONCLUSIONS.....	82
Introduction.....	82
Study Design.....	82

Research Questions	83
Discussion of Findings.....	83
Nature of Collaborations	85
Ambiguity of Mandated Goals.....	89
Conceptions of Leadership	90
Conclusions	98
Limitations	101
Recommendations.....	102
REFERENCES	106
APPENDIX A SUPERINTENDENT INSTRUCTIONAL LEADERSHIP	
QUESTIONNAIRE	117
APPENDIX B SUPERINTENDENT FOLLOW-UP INTERVIEW PROTOCOL.....	122
VITA	125

LIST OF TABLES

Table 1: Instructional Practices Inventory Implementation Fidelity Rubric	8
Table 2: Selected Instructional Leadership Factors aligned to MSS Surveys	10
Table 3: Input Variable and Illustrative Measures.....	31
Table 4: Instructional Practices Inventory Categories and Descriptions.....	35
Table 5: Point Values for Data Collector and Discussion Leader	52
Table 6: Discussion/Goal Setting Topics.....	52
Table 7: Fidelity of Implementation Scale.....	53
Table 8: K-12 School District Enrollments	53
Table 9: Frequency of Assistant Superintendents.....	54
Table 10: Free and Reduced Lunch as a Percentage of Enrollment	54
Table 11: School Buildings per District.....	55
Table 12: Item Clusters and Questions	57
Table 13: Means by Fidelity of Implementation, Questions 1-6	58
Table 14: Means by Fidelity of Implementation, Questions 7-13	59
Table 15: Means by Fidelity of Implementation, Item Clusters	60
Table 16: Means & SDs Across Item Clusters	62
Table 17: T-test for Equality of Means.....	63
Table 18: FRL and Item Cluster Correlations.....	64
Table 19: Item Cluster Means by Assistant Superintendent Status	65
Table 20: Means of Ass't. Superintendent vs. No Ass't. Superintendent by Item Cluster	65
Table 21: Item Cluster Means& SDs for High and Moderate with Assistant Superintendent	66
Table 22: Item Cluster Means & SDs for High and Moderate without Assistant Superintendent	66
Table 23: Number of Responses to Open Ended Prompt	67

LIST OF FIGURES

Figure 1: Continuous Improvement Cycle.....	22
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Superintendent Instructional Leadership: Selected Leadership Behaviors and Their Relationships to an Instructional Intervention

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ABSTRACT

Purpose of the Study: The purpose of the study was to determine the relationship between superintendent instructional leadership behaviors and the fidelity of implementation of the Instructional Practices Inventory. The leadership behaviors examined by this study were identified by Marzano and Waters (2006) including Collaborative Goal Setting, Non-negotiability of Goals for Achievement and Instruction, Monitoring Progress Toward Goals, Providing Resources to Support Goal Attainment, and Providing Defined Autonomy for Principals. The Instructional Practices Inventory (IPI) was developed by Valentine and Painter and subsequently refined by Valentine (Valentine, 2007). The IPI is a research-based instructional intervention that embeds the reflective study of instructional practices and student engagement in a collaborative model of continuous school improvement.

Procedures: Data were collected from 43 superintendents using surveys adapted from the work of Leithwood, Aitken, & Jantzi (2006) as found in Making Schools Smarter: Leading with Evidence (MSS). Follow-up interviews were conducted with 28% of the superintendents. Data analyses produced no significant differences in superintendent instructional leadership behavior when schools were categorized by the fidelity with which the IPI was implemented. Data analyses were confounded by problematic data in one of the reporting categories. However, post-hypothesis testing produced intriguing patterns. Qualitative data analyses produced evidence of noticeable

differences in leadership dispositions and behavior when fidelity of implementation groups were compared.

Findings: While no statistically significant differences were found in leadership behavior across Fidelity of Implementation groups, interesting patterns in means for each leadership behavior emerged when examined across Fidelity of Implementation group when those groups were disaggregated by the presence or absence of an assistant superintendent. Poverty rates were found to be positively and significantly associated with four of the five leadership behaviors analyzed by this study. Qualitative analyses indicated that superintendents from schools classified as High Fidelity Implementers reported a sense of responsibility for outcomes as well as greater influence than subordinates in the area of change implementation. The character of collaboration varied across implementation categories with High Fidelity Implementers reporting greater preparation, respect for other stakeholders, and clearer vision for outcomes than their peers. High Fidelity Implementers were more inclined than their peers to grant freedom to principals and teachers to make decisions, formulate plans, and put those plans into action, once the superintendents were sure that the other professionals were clear on the goals and constraints. Interestingly, all superintendents were able to articulate how they implemented change but were challenged to articulate their own leadership skills.

Conclusions: Data analyses did not allow statistically significant differences to be determined in how superintendents lead. However, post-hypothesis analyses did find a link between low SES and collaborative setting of goals, of non-negotiable goals for achievement and instruction, monitoring of progress toward those goals, and providing

resources for goal attainment. Further, the presence of an assistant superintendent decreased the degree to which superintendents felt closely tied to instructional leadership.

Qualitative data analyses produced findings that implementation of the Instructional Practices Inventory (IPI) process with high fidelity fostered second-order change in teaching practices and was closely aligned to instructional improvement recommendations by Marzano and Waters (2009). Superintendents who implemented the IPI with high fidelity were more likely to communicate respect for others with whom they collaborated, were more likely to thoroughly prepare when they facilitated collaboration, felt a greater sense of burden for positive student outcomes, and were more likely to empower others to act once a vision and set of boundaries were clearly established.

Superintendents uniformly expressed some level of resentment at the mandated goals of No Child Left Behind. However, they did so while simultaneously requiring that those goals be adopted at the district level, even when a collaborative planning process was used, and insisting on articulation of supportive building level goals. Superintendents did not comment on the irony of this situation and uniformly expressed pride when goals were met.

When asked directly about power, influence, and their own leadership skills, superintendents' responses were ambiguous. While some superintendents spoke frankly about differences in power and influence, others reported substantial equality among all of their districts stakeholders. Superintendents spoke not of their leadership skill but of personal qualities such as trustworthiness that supported their success. However, analysis of the stated actions of High Fidelity Implementing superintendents indicated that these

superintendents engaged in aspects of research-based transformational leadership (Leithwood & Jantzi, 1990) and leadership through relationships (Ogawa & Bossert, 1995).

Chapter 1: Background to the Study

Introduction

The position of superintendent of schools has changed significantly over time. In its original conception the role focused on supervision of curriculum and instruction. A variety of pressures moved the focus to management duties. As schools became more sophisticated, so did the superintendency (Kowalski, 2005). Superintendents today must still manage effectively but are also expected to develop and implement plans to improve instruction.

Some research has suggested that executive leadership is more theatrical than instrumental in nature; essentially questioning a leader's ability to influence outcomes (Bolman & Deal, 1997). Marzano and Waters (2006) found the opposite to be true. With that in mind, this paper examines the leadership skills superintendents use to successfully implement a school improvement initiative.

Statement of Problem

The superintendency came into being as a part of early school organization (Kowalski, 1999). Spring (1994) indicates that the period of 1830 to 1850 found states developing systems of public elementary and secondary schools. This era, referred to as the era of the common school movement, was distinct because states moved toward three general goals; commonality of education for all children, to use schools for governmental purposes, and to create state control of local schools. The structural scheme of organizing public schools manifested itself in three levels, state, intermediate, and local. Each of these levels often had both a governing board and a chief executive. These Boards of

Education and Superintendents were primary agents in ensuring uniform public school curricula and experiences (Butts & Cremin, 1953).

One room school houses, with their mixed grade levels, were supervised by teachers (Brubacher, 1966). With the segregation of grade levels came the need for an articulated curriculum. In systems with multiple schools there was an additional need of a uniform course of study that could be implemented across the district (Kowalski, 1999). The primary reason for creating the position [superintendent] was to have a person work full-time at supervising classroom instruction and assuring uniformity in the curriculum. (p. 119). The first superintendents were primarily instructional leaders.

Political and social forces redirected the duties of superintendents. Superintendents were relegated to menial managerial activities primarily because of fear about the power superintendents could potentially wield. This created a relationship of superintendent service to boards of education rather than leadership of schools (Kowalski, 1999). Brunner, Grogan, and Bjork (2002) characterized the position as weak and filled by clerks. Knezevich (1984) indicated that superintendents were often chosen because of their expertise in instruction. Furthermore, superintendents had little or no training in management. Consequently, boards of education often lacked confidence in superintendents to run districts.

While the movement from instructional leadership to low-level management had an initially negative effect on the role of the superintendent, a number of influences moved the role toward professionalism (Kowalski, 1999). During the period of approximately 1910 through 1930 principles of scientific management were accepted and promoted as best practices within business and industry. Superintendents were

encouraged to apply those principles to school settings. The use of scientific management encouraged a distinction between the operating core, teaching, of schools and management (Mintzberg, 1979). Early schools fit Mintzberg's Simple Structure model.

Eaton's (1990) definition of professionalism includes a distinct occupational role that has been accepted as standard by others. Professional status was seen as desirable by superintendents because it carried with it increased authority, autonomy, and compensation. Professional status provided greater security for superintendents. Given that the role had regressed from instructional leadership to servant of the board of education, superintendents were motivated to increase the status of their role.

Superintendents and others acted to move the position toward professionalism. Graduate programs specializing in school administration expanded from a few courses prior to 1900 to specialized doctoral degrees awarded by Columbia University in 1905 (Cooper & Boyd, 1987). As graduate programs expanded nationwide, so did both the status and specialization of school administration. Callahan (1962) indicated that the school superintendent was approaching parity with private sector management by 1927.

The increasing sophistication of school administrator training programs was paralleled in the development of the role itself. Urban districts were emulated by others, especially in the area of school reform. Urban superintendents were often guest speakers and held as models in school administration classes during the late nineteenth century through the 1920s (Kowalski, 1999).

Researchers have disagreed as to whether those early urban superintendents were puppets of the cultural elite who promoted scientific management (Callahan, 1962) or if they were actually skillful political operators who leveraged the popularity of scientific

management to improve the profession and amass personal power (Burroughs, 1974; Thomas & Moran, 1992; Tyack, 1972).

Research indicated that both men and women are motivated to enter administration by their aspirations (Adkison, 1981; Farmer, 1987; Young & McLeod, 2001). However, aspirations are different for each gender. Men seek to advance (Adkison). Women seek to fulfill career commitments and leadership goals and to more powerfully support teaching and learning (Farmer; Young & McLeod). Regardless of motive or power, superintendents of the late nineteenth and early twentieth centuries did much to ensure that management would be a foundation part of the role for decades to come.

In a later writing Callahan (1966) provided historical views of the superintendent's ideal role. Callahan reinforced the view that from the civil war through 1910, the superintendent was to be a scholarly leader. From the late 1900s through the late 1920s the superintendent was to be an effective business manager. Critics of the superintendent as manager influenced a shift to superintendent as educational leader in a democratic institution from the 1930s through the mid-1950s. Callahan concludes his analysis with superintendent as applied social scientist as the dominant image in scholarly literature from the mid-1950s through the mid-1960s.

Callahan (1962) concluded that these varied superintendent roles held inherent conflict. Cuban (1976) observed that superintendents must periodically exhibit behavior germane to each of those roles depending largely on situational factors. An even stronger image of contrasting roles is found in Lutz and Merz (1992) who indicated that superintendent roles can generally be categorized into change agent, developer, or

maintainer of the status quo. While various researchers characterize the superintendent's role in different ways, it is clear that the common ground is found in the multiplicity of roles a superintendent must fill.

Glass (2006) observed that the current state of superintendent preparation programs is dominated by a leadership priority. Glass contrasted the business model of leadership and management with the school view. Business research indicates that the roles of leadership and management are mutually exclusive. Schools, however, are structured so that both kinds of duties are carried out by the same person. This is especially true in schools of 2,400 or fewer students (Glass).

Glass (2006) proposed a management platform for superintendent training. He indicated that the necessary management training falls into five domains; fiscal, personnel, support services, facilities, and student services. Within these domains Glass lists 36 separate functions. None of Glass' functions address the issue of instructional improvement or school reform as those are matters of leadership.

In contrast to Glass (2006), Petersen and Young (2004) posit that the No Child Left Behind Act (NCLB) has fostered such political expectations of achievement that superintendents must focus primarily on effective instructional leadership. Petersen and Young found that the current climate created by NCLB has moved superintendents into primary decision making positions regarding student achievement.

Such divergent views of superintendent role priorities point out how difficult the job of superintendent is. Inarguably NCLB placed unprecedented accountability squarely on the shoulders of district leadership. This situation notwithstanding, superintendents cannot ignore their responsibilities to manage finances, facilities, personnel, support

services, nor student services. In districts large enough to employ enough personnel to allow for role specialization, the responsibilities may be manageable for individuals. In smaller schools, however, these roles fall on one or two district staff members (Glass, 2006). In smaller districts, then, it seems clear that superintendents must find efficient and effective ways to improve instruction so that they can also have time to execute other responsibilities.

Rationale

In the best of situations a superintendent must attend to a wide variety of responsibilities without losing sight of the primary purpose of schooling. In larger districts a superintendent will be able to delegate many of the responsibilities to subordinates. In smaller school districts the number of duties for which a superintendent is directly responsible is greater. This concentration of duties does not mitigate the superintendent's responsibility for student learning. The greater number of responsibilities makes knowing how to work efficiently and effectively for instructional improvement even more important. Understanding that superintendents in smaller districts must manage many duties without sacrificing instructional improvement, this research examined selected superintendent leadership skills and their relationship to effective implementation of an instructional improvement intervention.

Purpose of Study

Superintendents shoulder a large number of responsibilities. Foremost among these is the improvement of student achievement. Superintendents can only affect this indirectly, through their leadership. The purpose of this research is to study the influence

of superintendent leadership on the implementation of the IPI School Improvement Intervention.

Study Design Overview

The study employed a mixed design, combining a statistical analysis of self-reported leadership behavior survey data with data regarding instructional improvement along with follow-up interviews. Data on the quality of implementation of the Instructional Practices Inventory (IPI) were extracted from a database of IPI data housed at the Middle Level Leadership Center. The self-perception data were gathered by surveying superintendents. Follow-up interviews were conducted to clarify and enrich the data from superintendent surveys.

The rationale for selecting the quantitative data for analysis was as follows. The superintendent instructional leadership factors identified by Marzano and Waters (2006) as being positively associated with student achievement are closely related to selected survey items found in *Making Schools Smarter: Leading with Evidence* (Leithwood, Aitken, & Jantzi, 2006). Those survey items were the basis for the survey developed for this study. The Instructional Practices Inventory is a research-based instructional intervention (Valentine, 2005). The IPI protocol includes best practices for administration and data analysis. Because this protocol is clearly known but actual use is controlled by the local school or district, the IPI instructional intervention can be implemented with varying degrees of fidelity. With this framework in mind, the IPI was chosen to stand as a proxy for instructional improvement.

The population from the study sample was derived from a database of all Missouri public schools which had been trained in the use of, and reported results from,

the Instructional Practices Inventory. The sample of districts for this study was limited to 67 school districts with an enrollment of 3,000 students or less as reported in the Missouri School Directory 2008-2009 (Missouri Department of Elementary and Secondary Education, 2008). In the 67 school districts, 132 individual school buildings had reported collecting IPI data. The rationale for this selection was that instructional improvement is frequently delegated to assistant superintendents in larger districts. Superintendents in smaller districts are more directly involved with instructional improvement than in larger ones. From this group of school districts a further selection was made to include only those in which the superintendent had been in the position in that district for three or more years. This selection provided situations where the superintendent had been there long enough to have influenced instructional change.

Schools in the dataset were classified as having High, Medium, or Low Fidelity of implementation of the Instructional Practices Inventory. IPI implementation fidelity was determined using an additive scale that emphasized the frequency of data collection and faculty analysis of the data; teacher leadership in data collection and facilitation of analysis; and the number goals related to instructional improvement established. The data to which this additive scale was applied were gathered from superintendents as part of the survey process. Table 1 contains a general outline of how the groups were divided.

Table 1

Instructional Practices Inventory Implementation Fidelity Rubric

High	IPI Data Collection 3-4 times per year and faculty study of the data each time; 3-4 goals relevant goals.
Medium	Occasional data collection (2 or fewer times per year) or occasional faculty study of the data collected; 2 relevant goals.
Low	Occasional data collection (2 or fewer times per year) or no faculty study of the data collected; 1 relevant goal.

A survey was developed to assess superintendent leadership behaviors. The leadership factors probed by the survey were based on selected findings by Marzano and Waters (2006). Marzano and Waters found that, despite political opinions and research to the contrary, district leadership does matter. Marzano and Waters used meta-analysis to determine what, if any, superintendent leadership factors or behaviors were correlated with student achievement. Their findings include the following.

1. Superintendent tenure (leadership stability) is positively correlated with student achievement
2. Effective superintendents engage in collaborative goal setting.
3. Effective superintendents made collaboratively set goals non-negotiable in the areas of student achievement and instruction.
4. Effective superintendents aligned boards of education with district goals.
5. Effective superintendents monitored progress on student achievement and instructional goals.
6. Effective superintendents provided resources to support goals in student achievement and instruction.
7. Effective superintendents provide an appropriate level of autonomy for building administration.

The survey of superintendents used in this study examined factors 2, 3, 5, 6, and 7. Questions were developed by adapting district level surveys found in *Making Schools Smarter: Leading with Evidence* (MSS) by Leithwood, Aitken, and Jantzi (2006). Several survey questions provided in the MSS school monitoring system were closely aligned to

the factors examined in this study. An illustration of the alignment between the work of Marzano and Waters (2006) and Leithwood, Aitken, and Jantzi (2006) is presented in Table 2.

Table 2

Selected Instructional Leadership Factors aligned to MSS Surveys

Marzano & Waters	Leithwood, Aitken, & Jantzi
Collaborative goal setting	<p>Leadership in this school facilitates a process for staff to contribute to district goals.</p> <p>Leadership in this district stimulate staff to develop and implement school/district goals</p>
Non-negotiable goals for achievement and instruction	<p>Leadership in this school frequently refers to district goals when making decisions related to changes in programs or practices.</p> <p>Leadership in this district holds high expectations for staff as professionals.</p> <p>Leadership in this district holds high expectations for students.</p>
Monitoring goals for achievement and instruction	<p>Leadership in this school regularly encourages staff to evaluate progress toward achieving district goals.</p>
Use of resources to support the goals for achievement and instruction	<p>District financial resources are allocated according to priorities identified in the district planning processes.</p> <p>Budgeting decisions reflect district mission and goals.</p>

The questionnaire developed from the MSS survey is found in Appendix A. Superintendents were asked to report their agreement with 13 statements about their own instructional leadership behaviors. Further, superintendents were asked to supply information on how the IPI process was being implemented in their districts, as stated

earlier. These implementation data were the basis for classifying superintendents as High, Moderate, or Low Fidelity Implementers using the previously mentioned additive scale. One set of responses proved to be problematic for classification purposes. The problematic responses were internally inconsistent in that superintendents indicated that IPI data were not collected during the period examined by the survey while simultaneously responding to questions about the frequency of data collection and the personnel leading various parts of the IPI process. In short, superintendents indicated both that they were not using IPI and also that they were. Because of the enigmatic data, the 15 responses were classified as Low Fidelity Implementers and excluded from hypothesis testing but were used in other quantitative and qualitative analyses when those discrepancies did not affect the data validity. The remaining responses were classified as either High or Moderate Fidelity Implementers.

The survey data provided a basis for statistical analysis of leadership factors and effective implementation of IPI. However, the survey data provided little specificity with regard to how superintendents functioned in the various areas. Follow-up interviews were conducted with 12 superintendents, 4 with High fidelity of implementation of IPI, 4 with Moderate fidelity of implementation, and 4 with Low fidelity, to explore specifics of how superintendents led instructional improvement and what they believed were their most effective actions.

Limitations

This study examined only relatively small school districts in Missouri that used the IPI.

The survey of superintendents was limited by both the questions and the nature of self-perception. This limitation was addressed through the use of follow-up interviews.

The leadership factors examined in this study were research-based as was the Instructional Practices Inventory. However, the researcher acknowledges that this exploratory study used only a single instructional improvement intervention process and a newly developed measure of leadership behavior. The IPI, while providing a robust proxy for student achievement, does not necessarily provide a comprehensive measure for all possible instructional leadership styles.

Chapter 2: Review of Literature

The public school superintendency is complex and challenging. A variety of forces have influenced the development of this role. Superintendents must be adept leaders who can influence their organizations to improve student outcomes, an area requiring significant technical knowledge and skill. Unlike their counterparts in private industry, executive leaders in schools must also be effective managers. In larger school districts various duties may be delegated to other district staff. However, in smaller districts the widely varied and arguably sometimes incompatible roles must be carried out by a single person. Because the No Child Left Behind Act mandated performance standards and because of the ethical obligation to provide the best education possible, superintendents must focus their constrained resources of time and energy on improving student learning.

History of the Superintendency

The superintendency came into being in the relatively early stages of school organization (Kowalski, 1999). Spring (1994) indicates that the period of 1830 to 1850 found states developing systems of public elementary and secondary schools. This era, referred to as the era of the common school movement, was distinct because states moved toward three general goals; commonality of education for all children, to use schools for governmental purposes, and to create state control of local schools. The structural scheme of organizing public schools manifested itself in three levels: state, intermediate, and local. Each of these levels often had both a governing board and a chief executive. These

boards of education and superintendents were primary agents in ensuring uniform public school curricula and experiences (Butts & Cremin, 1953).

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Political and social forces redirected the duties of superintendents. Primarily because of fear about power, superintendents were relegated to menial managerial activities. This created a relationship of service to boards of education rather than leadership of schools (Kowalski, 1999). Brunner, Grogan, and Bjork (2002) characterized the position as weak and filled by clerks. Knezevich (1984) indicated that superintendents were often chosen because of their expertise in instruction. However, superintendents had little or no training in management. Consequently, boards of education often lacked confidence in superintendents to run districts.

While the movement from instructional leadership to low level management had an initially negative effect on the role of the superintendent, a number of influences moved the role toward professionalism (Kowalski, 1999). During the period of approximately 1910 through 1930 principles of scientific management were accepted and promoted as best practices within business and industry. Superintendents were encouraged to apply those principles to school settings. The use of scientific management

encouraged a distinction between management and the operating core (Mintzberg, 1979) of schools, teaching. Early schools fit Mintzberg's Simple Structure model.

Eaton's (1990) definition of professionalism includes a distinct occupational role that has been accepted as standard by others. Professional status was seen as desirable by superintendents because it carried with it increased authority, autonomy, and compensation. Professional status provided greater security for superintendents. Given that the role had regressed from instructional leadership to servant of the board of education, superintendents were motivated to increase the status of their role.

Superintendents, and others, acted to move the position toward professionalism. Graduate programs specializing in school administration expanded from a few courses prior to 1900 to specialized doctoral degrees awarded Columbia University in 1905 (Cooper & Boyd, 1987). As graduate programs expanded nationwide, so did both the status and specialization of school administration. Callahan (1962) indicated that the school superintendent was approaching parity with private sector management by 1927.

The increasing sophistication of school administrator training programs was paralleled in the development of the role itself. Urban districts were emulated by others especially in the area of school reform. Urban superintendents were often guest speakers and held as models in school administration classes during the late nineteenth century through the 1920s (Kowalski, 1999).

Researchers have disagreed as to whether those early urban superintendents were puppets of the cultural elite who promoted scientific management (Callahan, 1962) or if they were actually skillful political operators who leveraged the popularity of scientific management to improve the profession and amass personal power (Burroughs, 1974;

Thomas & Moran, 1992; Tyack, 1972). Regardless of motive or power, superintendents of the late nineteenth and early twentieth centuries did much to ensure that management would be a foundation part of the role for decades to come.

Callahan's (1962) *Education and the Cult of Efficiency* drew a stark conclusion about the coerced managerial nature of the superintendency. Superintendents adopted business management techniques and models in order to survive. Jorgensen (1964) indicated "the primary motivation for [superintendents'] adoption of [business] management techniques was self-defense against criticism" (p.231). Cuban echoed this observation in 1974 when he indicated that scientific management was a necessary attribute for superintendents. Pressure from the corporate world demanded a manager who could administer a corporate enterprise.

School Improvement

As the industrial age gave way to the space age the primacy of the business manager was replaced by the scientist (Murphy, 1998). International competition in the field of math and science, spurred by Sputnik, brought federal resources to bear on improving education in these fields. The Elementary and Secondary Education Act (ESEA) of 1965 was passed for the express purpose of establishing compensatory services for low-income students (Glasser & Silver, 1994). Federal programs for special education, bilingual education, and for feeding students added new layers of responsibility for leadership. The increasing responsibilities with discreet areas of focus brought with it additional expectations. Without abandoning management of the organization, principals and superintendents were expected to improve achievement,

especially in reading, math and science (Beck & Murphy, 1993; Hallinger, 2003; Murphy).

Further pressure to improve student outcomes reached a cusp in 1983 with the release of the report *A Nation at Risk* (National Council on Educational Excellence, 1983). Among the recommendations found in the report are increased academic rigor, increased teacher quality, and leadership accountability for student outcomes. The report marked a shift of emphasis in education from inputs to outcomes (Estey, 1997; Goertz & Duffy, 2003). One effect of the shift was to sharpen the focus of school effectiveness on student achievement.

In 2001 the Bush administration succeeded in passing landmark legislation in educational accountability. The No Child Left Behind Act (NCLB) mandated that schools improve practice to the point that all students be proficient in reading and mathematics by 2014. Schools failing to make progress in their improvement suffer significant sanctions (Goertz & Duffey, 2003). “The demand for proven results, extensive evaluations, and data-driven decision-making has moved the role of the superintendent from the sideline to the frontline of supporting student achievement,” (Petersen & Young, 2004).

Over the last 50 years schools have seen an ever increasing emphasis on student achievement. Aside from the ethical imperative of providing the best possible learning experience for students, political agenda and governmental actions have mandated that student outcomes be improved. Unsurprisingly, a significant body of research during the last three decades has been devoted to characteristics of effective schools and school improvement.

In 1982 Edmonds' research on effective schools found several common characteristics including:

- a principal who provides strong leadership and attends to instruction;
- a strong climate of focus on instruction;
- an orderly, safe environment, conducive to teaching and learning;
- expectations that all students will achieve at least minimal competency of a subject; and
- student achievement measures as the basis for evaluation of programs.

Cohen's (1982) analysis of the research of Brookover, Edmonds, Weber, and Bloom resulted in a similar set of characteristics.

- Strong administrative leadership
- A climate conducive to learning
- School-wide emphasis on basic skills instruction
- Teacher expectations for high levels of student achievement
- A system for monitoring student progress

Duignan's (1986) findings reinforce those of Edmonds (1982) and Cohen (1982).

Duignan's characteristics of effective schools included:

- strong principal (or other staff) leadership;
- high staff expectations for student achievement;
- clear set of goals;
- orderly atmosphere conducive to learning;
- emphasis on basic skill acquisition;
- a system for frequent monitoring of student progress; and

- collegial and collaborative staff relationships.

While this early research exhibited almost unitary agreement about the characteristics of effective schools, others painted a somewhat different picture. The differing view had less to do with effective schools than it did the research. Purkey and Smith (1983) and Cohn and Rossmiller (1987) believed that effective schools were more accurately characterized by the following:

- emphasis on school-site management including significant autonomy for leadership and staff;
- strong leadership;
- high levels of staff stability;
- well organized and articulated curriculum;
- effective, comprehensive staff development;
- school-wide recognition of academic success;
- effective use of learning time; and
- district level support of school-level activities.

Purkey and Smith (1983) went on to indicate that effective schools are collaborative and collegial, demonstrate a sense of community, have a set of clear goals and high expectations, and maintain order and discipline based on clear rules enforced fairly and consistently. These factors were referred to as process variables, a label later used similarly by Leithwood, Aitken, and Jantzi (2006).

With the advent of school accountability came clarity about what was valued and what was not. That which is measured and attended to is that which matters (Willower & Licata, 1997). Research on effective schools further defined what was valued in school.

Implicit in effective schools research is the tenet that some schools are not effective (Dobson, 2008). Thus, research on school improvement developed as a response to the need to improve less effective schools.

Through the 1990s and continuing into the 2000s schools sought ways to improve practice. Argys and Schön (1978) developed the concept of organizational learning, essentially a process by which organizations improve. The model indicated that organizational processes could not only evaluate the effectiveness of practice (single-loop learning) but question the justification of practice (double-loop learning). This process of both refining and questioning practice provided a foundation for the development of Total Quality Management (Morgan, 1997).

The private sector continued to influence schools. Deming's Total Quality Management became popular in the mid-1990s. In her article *TQM Is More than Just the 'Programme du Jour'* Marion Schafer (1996) indicates that TQM holds great promise for education. However, she is frank in acknowledging that a faction of educators was resistant to adoption of this private sector program.

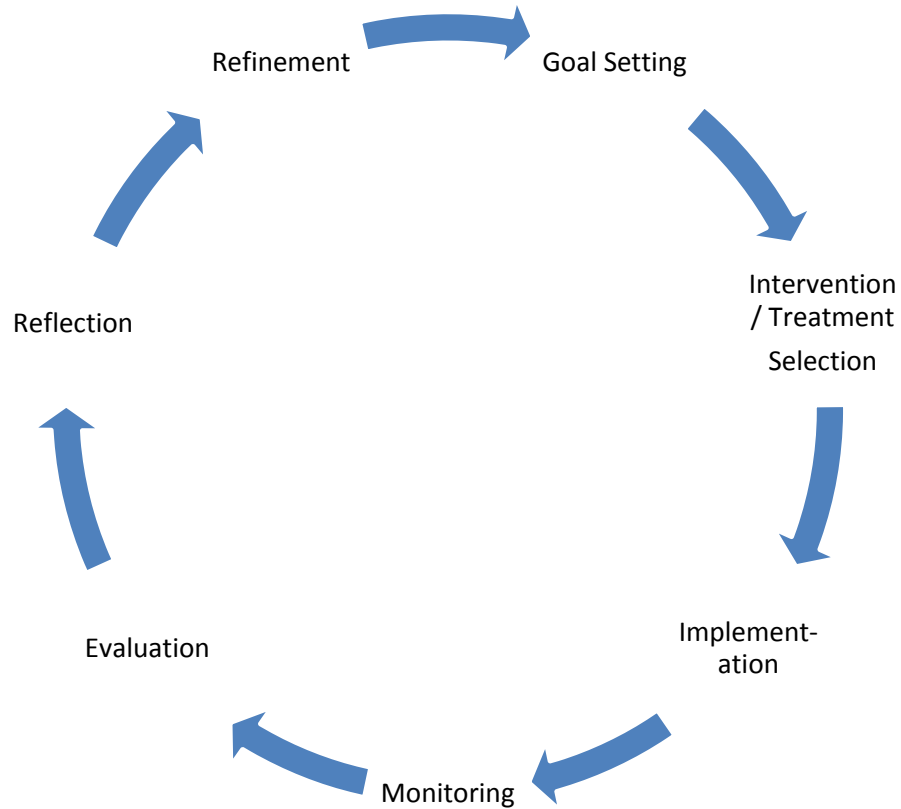
Schools continued to engage in continuous improvement processes. Peter Senge (1990) extended the concept of double-loop learning (Argys & Schön, 1978). The fully developed schema became labeled as Organizational Learning (Ingram, Seashore Louis, & Schroeder, 2004). Senge (2000) indicated that schools needed a particular set of skills, mental models, and processes in order to "learn." Once these factors were held in common among stakeholders, the systemic improvement of schools was embedded in practice.

Ingram, Seashore Louis, and Schroeder (2004) indicated that important distinctions must be made in the field of school improvement. Organizational Learning (OL) and Continuous Improvement (CI) are both improvement practices but they are not synonymous. Organizational learning describes a social process in which a group develops commonly held knowledge through dialogue and reflection. Continuous Improvement, in contrast, is an improvement process with definite goals and directions. Learning at the individual level is valued as much as learning at the organizational level under CI. Both theories provide useful frameworks with which to research school improvement.

Within the domain of CI there are a variety of models. Despite some minor differences in terminology CI models are generally very similar. A survey of research on various models yields a conceptual map of a circle, or spiral, which cycles through goal setting, intervention/treatment selection, implementation, monitoring, and reflection, and refinement (Figure 1). Then the cycle begins again (Beach & Lindahl, 2007; Blum, 2000; Ferrara, 2007; Ingrahm, Seashore Louis, & Schroeder, 2004; Johnston, 2002).

Figure 1

Continuous Improvement Cycle



Research on what makes a school effective and on how to improve schools contemplates widely varied and complex factors (Painter, 1998). Duignan (1986) posits that the impact of any specific variable on student learning is practically impossible to determine. Further the complex interaction of factors influencing student achievement will vary based on the context of the particular school. However, research school effectiveness as measured by student achievement clearly indicates that leadership is an important factor (Andrews & Soder, 1987; Duignan, 1986; Edmonds, 1982; Ferrara, 2007; Grogan & Andrews, 2002; Hallinger & Heck, 1996; Hallinger & Murphy, 1986; Purkey & Smith, 1983). Much of this research has focused on principal effects on

student achievement. More recent studies have explored the influence of the superintendent as an instructional leader.

Superintendent Leadership

While Yukl (2002) indicated that “a major controversy in the leadership literature is whether chief executives have much impact on the effectiveness of their organization” (p.404), a small but growing body of theoretical and empirical research supports the assertion that executive leadership does, in fact, matter (Marzano & Waters, 2006; Petersen, 1999). Yukl indicated that executive leadership has a substantial impact.

In recent history the superintendent, while held accountable for district success, was not primarily concerned with curriculum and instruction (Bredeson, 1996; Bredeson & Kose, 2007; Morgan, 2000). The superintendent’s priorities were on financial management and budget, facilities, and personnel management. Bredeson and Kose found that as recently as 1993 superintendents were elevating the importance of curriculum and instruction but found their time drained by managerial matters.

Research and discourse in the arena of higher education has called for superintendent preparation programs to restructure to emphasize the importance of what Mintzberg (1979) referred to as core technology, teaching and learning (Orr, 2006). Brundrett (2006) indicated that educational leadership preparation in England suffered the same unwelcome influence of private sector management techniques as found in the United States. School reform initiatives, most significantly NCLB, have exerted much pressure to improve superintendents’ instructional leadership (Petersen & Young, 2004). In 1997, Milstein and Krueger found the call for increased emphasis on superintendent instructional leadership being answered in preparation program restructuring.

Further evidence of the importance of the call for superintendent preparation to move in the direction of instructional leadership is found in the 1994 development of the Interstate School Leadership Licensure Consortium (ISLLC) standards for superintendents. The ISLLC standards are a set of six standards for superintendents. All six standards begin with the stem of “promoting success of all students” (Murphy, 2005). The six acknowledge not only the managerial aspect of educational administration but also the political. However, the majority of the standards focus on aspects more directly related to learning, e.g. vision, collaboration, culture, and fairness.

Murphy (2005) indicated that one of the primary reasons for developing the ISLLC standards was to provide a set of “leverage points” to reshape the profession. Further, Murphy indicated that the standards were intended to direct actions within the various domains that affect preparation, policy, and practice. Grogan and Andrews (2002) expressed hope that the ISLLC standards would undergird the restructuring of principal and superintendent preparation programs. Young, Petersen, and Short (2002) indicated that ISLLC standards were, in fact, positively influencing reform. However, Grogan and Andrews were frank when they stated that “good schools were still the exception rather than the rule” p. 241. Further, Grogan and Andrews indicated that current preparation programs served well those leaders with traditional approaches.

This obvious dissonance between the realities of how superintendents are prepared and act and the ideals of leadership for instructional improvement motivated Murphy (2002) to explain that “The central problem here is that the practice of educational leadership has very little to do with either education or leadership,” p. 181. Murphy went on to call for the profession to be re-coupled with teaching and learning.

While not the primary focus of this research instructional leadership at the principal level has been studied far more than at the superintendent level. Southworth (2002) and Blasé and Blasé (1998) provided a view of principal instructional leadership very much like Hallinger's (2003). Their list of principal instructional leadership behaviors included:

- framing and communicating school goals;
- supervising and evaluating instruction;
- coordinating the curriculum;
- monitoring student progress;
- maintaining high visibility;
- providing incentives for teachers;
- promoting professional development; and
- providing incentives for learning.

Petersen's (1999) assertion that research on school district superintendents is comparatively limited was an echo of the earlier findings of Murphy and Hallinger (1988). The latter researchers analyzed a dozen instructionally effective California school districts to discover common characteristics. Their study used school improvement and organizational literature for its theoretical foundations. Interestingly, their findings included specific characteristics attributable, either directly or indirectly, to the superintendent. Murphy and Hallinger found that the superintendents of instructionally effective districts were:

- strong leaders;
- instructionally focused;

- monitored instructional and curricular process and outcomes; and
- established a dynamic tension between district control and school autonomy.

Hallinger (2003) attributed these same characteristics to effective principal instructional leaders.

Instructional leadership is clearly an important function (Murphy, Elliott, Goldring, & Porter; 2007). Instructional leadership maintains a focus on teaching and learning. Principal instructional leadership has been researched sufficiently to provide clear direction at the building leader level. Although the superintendent literature is more limited, it is not without important insight.

Sayer (2007) studied superintendents' leadership through two well established frameworks, transformational and instructional leadership, in order to examine how those leadership styles were used in an integrated fashion to increase the instructional capacity of teachers. Sayer's findings reinforced the importance of selected instructional leadership behaviors. Specifically, superintendents worked to establish collaborative relationships across the district in the areas of curriculum and instruction. Further, superintendents established a culture of high expectations for instructional excellence. They engaged in monitoring and evaluation of both student and teacher progress. Those superintendents maintained a high level of visibility.

A previous study of five superintendents of highly effective school districts in California had similar findings. Petersen (1999) found that superintendents valued the importance of establishing and articulating a vision for learning. This vision was then translated into specific outcome-based goals. Petersen found that the superintendents were risk takers and maintained high visibility. School visits helped superintendents

reinforce goals. Effective superintendents signaled what they valued (Petersen; Willower & Licata, 1997). This signaling included establishing expectations. Instructional leadership in this setting included a dynamic tension, found earlier by Murphy and Hallinger (1988) in professional development selection. Instructional leadership was characterized as collaborative.

Morgan (2000) cited Watts (1992) when she summarized 12 important superintendent tasks that affect instruction. They include the following:

- collaboratively developing goals;
- evaluating instructional effectiveness;
- facilitating instruction through budget;
- planning for instruction;
- supervising instruction;
- monitoring instruction;
- developing principals as instructional leaders;
- developing instructional policies;
- reviewing research;
- selecting personnel;
- facilitating staff development; and
- communicating district expectations.

Morgan's (2000) own research examined four of these tasks using a mixed method design. Morgan examined superintendents' use of vision, evaluating and monitoring instruction, developing principals as instructional leaders, and communicating expectations. Morgan found that in a sample of successful school districts, when

compared to a random sample, board members and principals both felt more strongly that the superintendent exhibited those behaviors studied.

Marzano and Waters (2006) found that superintendents can and do make a difference. Using meta-analysis, they found specific factors were positively correlated with student achievement. Among their findings were the following.

- Effective superintendents engage in collaborative goal setting.
- Effective superintendents made collaboratively set goals non-negotiable in the areas of student achievement and instruction.
- Effective superintendents aligned boards of education with district goals.
- Effective superintendents monitored progress on student achievement and instructional goals.
- Effective superintendents provided resources to support goals in student achievement and instruction.
- Effective superintendents provided defined autonomy for schools.
- Superintendent tenure in any given district was positively correlated with student achievement.

While many of the findings are self explanatory, defined autonomy requires some clarification. Defined autonomy can fairly be characterized as a balance between directive leadership and site-based management. Defined autonomy is echoed in the leadership styles Nonaka and Tacheuchi (1995) found in their study of the Japanese manufacturing industry. Japanese executives must balance clarity and ambiguity to provide sufficient direction for goal setting with sufficient freedom for goal attainment. Without that balance middle management loses effectiveness because of a lack of

direction or because of excessive restriction. Further clarity in the concept can be found in the notion of dynamic tension between district direction and building freedom found in Murphy and Hallinger (1988).

Monitoring School Improvement

The findings of Marzano and Waters (2006) echoed those of Leithwood, Aitken, and Jantzi (2006) in *Making Schools Smarter: Leading with Evidence* (MSS). Leithwood and his colleagues provided a set of surveys related to school improvement as measured by student outcomes, including achievement. Among the areas which are monitored by MSS is executive leadership. Select Likert type statements from the survey are matched with the findings of Marzano and Waters in Table 2.

The surveys used in MSS were developed to gather data as a part of a school effectiveness monitoring system (Leithwood, Aitken, & Jantzi, 2006). Leithwood and his colleagues provided a rich background regarding the nature and purposes of the monitoring system. The researchers began by explicating three perspectives on what schools are: rational bureaucracies, communities, and a combination of the two, a professional learning community.

The rational bureaucracy perspective clearly describes a very traditional view of schools in which role, hierarchy, and controlled processes are factors in accomplishing specific goals. While this view is both limited and dated, the researchers point out that schools do exist to accomplish specific goals and that schools are accountable for their accomplishments. The rational bureaucracy focuses on extrinsic motivation and meets needs in the lower levels of Maslow's hierarchy. The implications for learning within this

view include passivity in the learner and behaviorist approaches for the instructor (Leithwood, Aitken, & Jantzi, 2006).

The second perspective is that of school as community. This mental model (Senge, 1990) emphasizes relationships. The school as community model is built on intrinsic motivation and meets affiliation needs. Active learning, stimulating environments, and developmental approaches are prevalent. While this view is more contemporary, the researchers indicated that this view is weakened because it assumes community members, “organs of the body”, will perform properly without any significant guidance (Leithwood, Aitken, & Jantzi, 2006).

Finally the Leithwood, Aitken, and Jantzi (2006) present the school as professional learning community (PLC). This view, in the researchers’ thinking, is balanced and has a reasonable chance of taking the best from the other two models. Furthermore, the researchers believe that the PLC model will not only accomplish first order changes, such as improving test scores, but will support the second order changes (Argys & Schön, 1978; Senge, 1990) necessary for systemic improvement.

Leithwood and his colleagues (2006) chose to build their monitoring system using a model of the ideal school structured around inputs, processes, and outputs. Inputs are classified as direct and indirect. The direct inputs are further divided into alterable and unalterable direct inputs. Direct inputs are those factors that have an obvious relationship with schools. Indirect ones are those which may bear on the system but are not so clearly tied to the school. The monitoring system includes only one indirect input as a part of the ideal school model. This indirect input is the social climate and culture of the community. Unalterable direct inputs, those which the school cannot expect to influence, include

family and student backgrounds. Alterable direct inputs, those over which schools do exert influence and sometimes control, include financial resources, facilities and materials, teacher and administrator characteristics and capacities, and family educational culture. Administrator characteristics and capacities hold significance for this study. The measures used by Leithwood, Aitken, and Jantzi to illustrate administrative characteristics are found in Table 3. Notable in this list is the number of years at present school as administrator, echoing Marzano and Water's (2006) finding that superintendent tenure matters.

Table 3

Input Variable and Illustrative Measures

Input Variable	Illustrative Measures
Administrative Characteristics	Degrees, diplomas, professional development
	Number of years as administrator
	Number of years at present school as administrator
	Administrator/teacher ratio in school
	Job satisfaction

Leithwood, Aitken, and Jantzi (2006) provided support for the use of outcomes measures. Further, they supplied both short and long term outcomes measures themselves in the monitoring system. However, the nature of this research study does not have a direct relationship to these measures. Consequently the discussion of outcomes measures and supporting research will not be discussed in this review.

Peter Senge (1990) provided an innovative approach to organizational analysis in his *Fifth Discipline: The Art and Practice of the Learning Organization*. Senge labeled this approach Systems Thinking. Senge's attempts to provide clear connections and relationships between and among organizational parts, constituencies, and processes are parallel to the model constructed by Leithwood, Aitken, and Jantzi (2006). Sarason (1990) emphasizes the importance of this kind of mental modeling, indicating that failure to understand how internal fractions affect whole systems and outcomes accounts for lack of institutionalization of change initiatives. Specifically, thinking only about the classroom level without considering the district and community omits important aspects needed for sustainability.

Leithwood, Aitken, and Jantzi (2006) considered these perspectives important. In developing the MSS monitoring system, the researchers brought the factors that intervene between inputs and outcomes under the umbrella of process. As a framework for examining processes, Leithwood, et al, used a modified version of Galbraith's (1977) organizational analysis. Leithwood and his colleagues selected those dimensions of schools that are "critical in explaining the effects of any organization" (Galbraith).

Leithwood, Aitken, and Jantzi (2006) chose to label the explanatory dimensions as process although some might reasonably be called characteristics or conditions. The researchers selected leadership and management; mission, goals, culture, and community; planning and instructional services; structure and organization, and data-driven decision making; and policies, procedures, and community partnerships. Within each process the researchers selected indicators of the process.

The commonality of the findings of Marzano and Waters (2006) and Leithwood, Aitken, and Jantzi (2006) is unsurprising as is the relationship those findings bear to Leithwood's earlier research. Leithwood pioneered the application of transformational leadership to school administration. While Burns (1978) first conceptualized transformational leadership, Bernard Bass (1985) subsequently developed a testable model of it. Leithwood and Jantzi (1990) developed a model which included commitment to collaboratively set goals and high expectations as two essential domains of transformational leadership. These domains are evident in the research of both Marzano and Waters and Leithwood, Aitken, and Jantzi.

Instructional Improvement Intervention

Marzano and Waters (2006) indicate that effective superintendents collaboratively set goals in the areas of student achievement and instruction. Additionally, the researchers found that effective superintendents foster consistent monitoring of progress toward goals. One instructional improvement intervention is structured so that both of these actions are inherent if the intervention is implemented with fidelity (Valentine, 2007).

The original version of the Instructional Practices Inventory was developed by Valentine and Painter (Valentine, 2005) as a data collection process for understanding instructional change. After initial use of the process with 30 schools in 1996, Valentine realized the process was valuable as a means of understanding the degree of instructional change and student engagement as well as fostering collaborative conversations that could lead to instructional change (Valentine). The process was refined by Valentine in 2002, 2005 and 2007 (Valentine, 2007).

The IPI process classifies moment-in-time classroom observations into six categories. These categories range from total disengagement of both teacher and students to high-level engagement typified by higher-order thinking in students (Valentine, 2005). The six categories are described in Table 4. Data are collected according to a set of protocols designed to produce both validity and reliability. All data collectors must pass a reliability measure with a minimum rating of .80 coder reliability. The observations are typically made during the course of a school day and produce between 125 and 175 data points per school day. Recommended procedures call for data to be collected by teachers in schools that use the IPI process.

The advantages of this instructional innovation include lowering faculty anxiety about instructional change, group commitment to analytical findings, and group commitment to goals. Because the observation data are anonymous and observations are conducted by personnel who hold no power over teachers, less tendency to “teach to the observation” is evident (Valentine, 2007). Furthermore, since data are shared only on an aggregated and percentage-wise basis, no individual threat of censure is present (Valentine, 2007). The faculty are encouraged to collaboratively study the data in a group setting, sharing their analyses with each other and problem-solve the meaning of the data. Following several analyses, the faculty is encouraged to establish goals for subsequent observations and for daily instructional practices.

Table 4

Instructional Practices Inventory Categories and Descriptions

Coding Categories	Common Observer “Look-Fors”
Student Active Engaged Learning (6)	Students are engaged in higher-order learning. Common examples include authentic project work, cooperative learning projects, hands-on learning, problem-based learning, demonstrations, and research.
Student Learning Conversations (5)	Students are engaged in higher-order learning conversations. They are constructing knowledge or deeper understanding as a result of the conversations. Common examples are cooperative learning, work teams, discussion groups, and whole-class discussions. Conversations may be teacher stimulated but are not teacher dominated.
Teacher-Led Instruction (4)	Students are attentive to teacher-led learning experiences such as lecture, question and answer, teacher giving directions, and media instruction with teacher interaction. Discussion may occur, but instruction and ideas come primarily from the teacher. Higher order learning is not evident.
Student Work with Teacher Engaged (3)	Students are doing seatwork, working on worksheets, book work, tests, video with teacher viewing the video with the students, etc. Teacher assistance, support, or attentiveness to the students is evident. Higher-order learning is not evident.
Student Work with Teacher not Engaged (2)	Students are doing seatwork, working on worksheets, book work, tests, video without teacher support, etc. Teacher assistance, support, or attentiveness to the students is not evident. Higher-order learning is not evident.
Complete Disengagement (1)	Students are not engaged in learning directly related to the curriculum.

The structure of this educational innovation is closely related to aspects of the research of Marzano & Waters (2006). It contains significant commonality with the research of Leithwood, Aitken, & Jantzi (2005). It is further related to transformational leadership practices as expressed by Leithwood and Jantzi (1990). Leithwood finds that transformational leaders provide intellectual stimulation (data analysis) and foster commitment to group goals (group goal setting).

Summary

A study of the superintendency provides evidence that the position was defined by many roles, with new roles added to earlier roles (Kowalski, 1999). Superintendents have experienced significant pressure to conform to private sector management practices (Grogan & Andrews, 2002).

The importance of school outcomes was raised by the space race and the advent of the scientific age (Murphy, 1998). The federal government has taken an increasingly directive role in defining expectations for educational outcomes through the Elementary and Secondary Education Act, the report “A Nation at Risk”, and the No Child Left Behind Act (Goertz & Duffy, 2003). The pressures from these policies, reports, and laws further elevated the importance of instructional leadership, especially for superintendents (Petersen & Young, 2004).

The effective schools and school improvement literature indicated that several characteristics were common to effective and improving schools (Duignan, 1986; Edmonds, 1982; Purkey & Smith, 1983). School outcomes, including student achievement were positively associated with the following:

- strong, collaborative, instructionally focused leadership;
- clear goals and high expectations;
- frequent monitoring of progress in the areas of instruction and achievement;
- and
- an orderly environment conducive to learning.

Superintendents of effective schools exhibit several leadership behaviors related to the characteristics of effective schools (Leithwood, Aitken, & Jantzi, 2006; Marzano & Waters, 2006). The characteristics are as follows:

- effective superintendents engage in collaborative goal setting;
- effective superintendents made collaboratively set goals non-negotiable in the areas of student achievement and instruction;
- effective superintendents aligned boards of education with district goals;
- effective superintendents monitored progress on student achievement and instructional goals;
- effective superintendents provided resources to support goals in student achievement and instruction;
- effective superintendents provided defined autonomy for schools; and
- superintendent tenure in any given district was positively correlated with student achievement.

Further, superintendent tenure is positively associated with student achievement.

Valentine and Painter (Valentine, 2007) developed an instructional improvement intervention, the Instructional Practices Inventory (IPI), which is congruous with continuous school improvement research, the findings of Leithwood, Aitken, and Jantzi (2006) and Marzano and Waters (2006).

The nexus of this research provides the basis to explore the relationship between superintendent instructional leadership behavior, as measured by the *Making Schools Smarter* surveys, and the fidelity of implementation of the Instructional Practices Inventory.

Chapter 3: Design of the Study

The structure of public schools requires superintendents to fill both managerial and leadership roles. Within each of these roles the superintendent must attend to a wide variety of responsibilities without losing sight of the primary purpose of schooling.

Larger districts often address the demands by employing subordinates in specialized positions. In smaller school districts superintendents must cope with greater numbers of duties. This concentration of duties does not mitigate the superintendent's responsibility for student learning. The greater number of responsibilities makes knowing how to work efficiently and effectively for instructional improvement even more important.

Understanding that superintendents in smaller districts must manage many duties without sacrificing instructional improvement, this research examined selected superintendent leadership skills and their relationships to effective implementation of an instructional improvement intervention.

Examining the effects of superintendent instructional leadership necessitates the selection of some measure of instruction of superintendents' schools. While a cogent argument could be made that student outcomes are the most important measure of instructional improvement, a more direct measure of instructional improvement was used. The Instructional Practices Inventory (IPI) is a school-wide instructional intervention that embeds the reflective and collaborative examination of student engagement data in a continuous improvement cycle of analysis and goal setting. This process not only provides a research-based measure of instructional practice and engagement through which instructional improvement can be examined, the IPI provides a proxy for student achievement as posited by Yair (2000).

In addition to Yair's (2000) general link between student engagement and student achievement, Collins (2009) established a firm relationship between the fidelity of IPI implementation and student achievement. Collins' research provided 20 theoretical models using hierarchical linear modeling techniques, positing that quarterly data collection and analyses provided an optimal level of Fidelity of Implementation. Collins' findings indicated that if the IPI process was implemented at a high level of fidelity and at a pervasive level in the school, the influence of the process would not only result in gains in student achievement but could reasonably be expected to mitigate FRL and minority percentage effects achievement outcomes.

Research Questions

The research questions that guided this study were originally as follows.

1. Are there differences in superintendent instructional leadership in districts that are high, moderate, or low in the degree to which they implement the Instructional Practices Inventory process with integrity?
2. Do superintendents differ in the strategies they use to support the implementation of the Instructional Practices Inventory process based upon the degree to which their district implements the process with integrity?

However, one subset of the data was flawed due to confusion on the part of survey respondents. Consequently, those data were excluded from hypothesis testing and the first research question was modified as follows.

1. Are there differences in superintendent instructional leadership in districts that are high or moderate in the degree to which they implement the Instructional Practices Inventory process with integrity?

Hypothesis

The hypothesis attendant to research question number one is as follows.

H₀₁: There are no significant differences in superintendent instructional leadership in districts that are high or moderate in the degree to which they implement the Instructional Practices Inventory process with integrity.

Population Sample

The population from which the study sample was derived consisted of all Missouri public schools which had been trained in the use of and reported results from the Instructional Practices Inventory. The sample was derived first by selecting only school districts with an enrollment of 3,000 students or less as reported in the Missouri School Directory 2008-2009 (Mo. DESE, 2008). Superintendents in these smaller districts are more directly involved with instructional improvement than in larger ones. From this group of school districts a narrowing of the population was made to include only those in which the superintendent had been in the position in that district for three or more years. This selection provided situations where the superintendent had been there long enough to be credited with instructional improvement. The final sample consisted of 67 school districts comprising 132 school buildings.

Instrumentation

Three areas of investigation required instruments for this study. IPI implementation data were required to sort the school districts into high, moderate, and low implementation of the IPI. Self-perception data were necessary to study

superintendent leadership behavior. Interview questions and protocols were necessary to accurately understand how selected respondents provided instructional leadership.

Instrumentation to investigate IPI implementation constituted approximately one-half of the primary study survey administered to superintendents. The survey solicited responses regarding frequency of data collection as well as the professional roles of the data collectors and discussion facilitators. The survey further examined the number or relevant goals set during data analysis. The IPI protocol recommends regular data collection, analysis, and goal setting relative to the school's aggregated sampling of student engagement. Student engagement is classified as one of six possible categories according to the characteristics found in Table 4. Trained observers gather approximately 150 data points on a single or two consecutive days. These data points are then summarized for faculty reflection and problem-solving.

Data relative to superintendent instructional leadership were also gathered by survey; this constituting the other one-half of the survey administered to superintendents. The questions about superintendent instructional leadership were adapted from Leithwood, Aitken, and Jantzi (2006). Thirteen questions from the Leithwood et al. research were developed to fit the five major areas of leadership from the findings of Marzano and Waters (2006). The statements were asked using a seven-option Likert-type response format of from "Strongly Disagree" to "Strongly Agree." These questions and the related item clusters are found in Table 13. The entire survey administered to superintendents is found in Appendix A.

The follow-up interview protocol was developed to probe differences in how superintendents led in the area of instructional improvement. The first seven questions

were directly related to the item clusters from the survey. The last two follow-up questions asked superintendents to provide their perceptions of principal leadership and relative influence. The follow-up interview protocol is found in Appendix B.

Data Collection Procedures

Once the population sample was selected, data were gathered in the following manner.

- Data were collected from school districts implementing the Instructional Practices Inventory (IPI).
- Districts were categorized as high, moderate, or low implementers of IPI.
- Superintendents were surveyed using items adapted from *Making Schools Smarter* (Leithwood, Aitken, & Jantzi; 2006) district leadership survey.
- Ratings were developed for each item, each concept, and overall rating for the Superintendent Surveys.
- All schools which provided survey responses about leadership were sorted relative to implementing the process into high, moderate, and low based upon the implementation integrity of the Instructional Processes Inventory across the district.
- Analysis of Variance was anticipated as the statistical treatment for testing. However, with the exclusion of a portion of the data, independent t-tests were substituted to determine the differences among the superintendents' leadership variables based on the high and moderate sorting.
- Given the nature of the findings, a set of follow-up interview questions of superintendents was developed and personal interviews conducted with a

minimum of 12 superintendents; 4 each in the High, Moderate, and Low Fidelity of Implementation categories; to collect rich examples of strategies used by the superintendents to support instructional change through the use of the Instructional Practices Inventory process.

- Findings from the statistical analyses (H_{01}) and the descriptive information as well as correlative information about the superintendents' personal demographic and district contextual variables were reported.
- The rich descriptive data from the superintendents were analyzed to create, in combination with the empirical analyses, a picture of how superintendents conceive of leadership, both practically and theoretically, and how they act as leaders.

Schools were classified as High, Moderate, or Low Fidelity implementers with respect to the IPI based on a number of characteristics of the IPI protocol. Classification was accomplished by first assigning numerical values to the possible permutations in each of the IPI characteristics. These numerical values were summed and the group divided into three very nearly equal groups.

Ideally, teacher leadership is central to the processes of data collection, analysis, and the related goal setting. While data collection, analysis, and goal setting can be carried out by other trained educators, if teachers internal to the school building are the leaders in these areas, many benefits accrue. Trust in the process and the outcomes of analyses is increased. Further, when colleagues are the observers in the data collection process, anxiety is lowered among the observed (Valentine, 2006). Consequently, the

process of fidelity classification favored schools with teacher leadership in the areas of data collection, data analysis, and goal setting.

In addition to the importance of teacher leadership, the IPI protocol calls for regular data collection followed soon after by faculty reflection and analysis of the data which leads to goal setting. During the early portion of implementation, data collection and analysis may be somewhat infrequent. However, when the IPI is fully implemented, data collection should occur three or four times annually. The scale favored schools with data collection and analyses that occurred within these prescribed frequencies.

Data Analysis

Data were analyzed using independent t-tests to determine differences among leadership in districts sorted as High or Medium for their levels of IPI implementation fidelity.

Terminology

Instructional Practices Inventory: A school improvement intervention process which collects and monitors student engagement data as a basis for faculty-wide collaborative problem solving.

Fidelity of IPI: School districts that implement the IPI to a high, moderate, or low degree of integrity against the recommended practices of multiple data collections annually with teacher collection of data, teacher collaborative conversations, and teacher problem solving.

Making Schools Smarter (MSS) Survey: The Making Schools Smarter Survey is taken from the Making Schools Smarter: Leading with Evidence School monitoring system developed by Leithwood, Aitken, and Jantzi (2006). For the purposes of this

research the MSS Survey refers to the District Leadership Survey. This survey can be found in Appendix A.

Chapter 4: Presentation and Analysis of Data

Introduction

The superintendency came into being as a part of early school organization in the early to mid-1800s (Kowalski, 1999). Multi-grade one room school houses were supervised by teachers. The segregation of grade levels brought about the need for an articulated curriculum. In larger systems the need for coordination was magnified (Brubacher, 1966; Kowalski). The first superintendencies were created primarily to provide instructional leadership (Butts & Cremin, 1953).

Political forces and developments in management theory influenced the role of the superintendent. By the 1910s instructional leadership had been largely replaced by an emphasis on scientific management (Callahan, 1966). Callahan indicated that role development continued through the twentieth century resulting in the superintendent being seen as an applied social scientist and, by the end of the century, a return to instructional leader. Current research indicates that governmental mandates such as NCLB require superintendents to be effective in the area of instructional improvement (Beck & Murphy, 1993; Glasser & Silver, 1994; Hallinger, 2003; Murphy, 1998; Petersen and Young, 2004).

Glass (2006), however, drew contrasts between the private sector and the school administration views of leadership and management. Glass advocated for superintendents to be better prepared as managers, especially in smaller school systems. Callahan (1962) and Cuban (1976) both stated that the role of superintendent necessarily contains both management and leadership functions, even though this creates internal role conflict. The literature indicates that the multiple role requirements of superintendents are often

overwhelming. Superintendents report having insufficient time to spend on their responsibilities, often sacrificing long-term leadership efforts for short-term management needs (Bredeson, 1996; Bredeson & Johansson, 1997; Glass, 2006; Lutz & Merz, 1992).

Bolman & Deal (1997) questioned the degree to which instrumental leadership is effective. Other researchers found, however, that superintendents can and do make a difference by identifying five behaviors positively associated with student achievement (Marzano & Waters, 2006). With the ethical standards to provide the best possible education for students and the legal requirements of NCLB held in tension with the lack of sufficient time to spend solely on instructional leadership, this research examined how superintendent instructional leadership behavior can effect instructional improvement efficiently.

Study Design

Understanding that the modern school superintendent, especially in smaller schools, must manage a large number of diverse duties and must do so without sufficient time to devote to each task, this study examines superintendent instructional leadership behaviors and their relationships to the implementation of an instructional improvement intervention which stands as a proxy for instructional improvement. The study was of mixed design. A quantitative investigation was conducted using IPI data and self-reported superintendent instructional leadership behavior data, both gathered by survey. A follow-up interview was conducted with selected superintendents to provide qualitative data for analysis with the goal of providing an enriched picture of superintendent leadership.

The quantitative investigation of this research began with the identification of Missouri superintendents who fit the following criteria. First, their districts utilized the

Instructional Practices Inventory (IPI). School improvement and student engagement literature provide a foundation for the study of instructional practices and student engagement (Collins, 2009; Dewey, 1916; Fullan, 1982; Painter, 1998; Piaget, 1985; Sylwester, 1995; Valentine, 2005; Yair, 2000). Second, because the connection between superintendent and instruction is most direct in smaller districts, an upper limit on student population was set at 3000. Finally, only superintendents who had served the district in that capacity for 3 or more years were selected. These criteria left a population of 67 superintendents. However, retirement, departure from the superintendency, and lack of contact information reduced the number to 53.

A survey was developed based on the work of Marzano and Waters (2006) and Leithwood, Aitken, & Jantzi (2006). This survey used thirteen questions sorted into five item clusters. The five item clusters are found in the list below.

- Collaborative goal setting
- Non-negotiable goals for achievement and instruction
- Monitoring goals for achievement and instruction
- Use of resources to support the goals for achievement and instruction
- Defined autonomy for schools

In addition to the leadership behavior data, the survey probed the district's use of the Instructional Practices Inventory (IPI). Based on existing data from the IPI implementation database and the results of the survey, districts were categorized as high, moderate, or low fidelity implementers of IPI. Districts were classified using a weighted scale which addressed several IPI implementation characteristics. The first characteristic was that they had not only implemented the IPI but continued to do so during the 2008-

2009 school year. The implementation characteristics considered for classification included the following:

- average number of data collections per building;
- frequency of faculty analysis of the data following data collection;
- data collector characteristics (teachers, RPDC staff, principals, central office administrator, other);
- discussion facilitator characteristics (teachers, RPDC staff, principals, central office administrator, other); and
- breadth of relevant topics that resulted in goals which surfaced in analysis and discussions.

Point values were assigned to the characteristics reported in each area and aggregated using an additive scale. Weight was given to greater average number of data collections, more frequent faculty data analysis, teacher leadership in data collection and discussion facilitation, and greater number of relevant discussion topics resulting in goals being set. Regardless of scores on the composite measure of implementation fidelity, districts that failed to collect IPI data per the implementation protocol were classified as low fidelity implementers.

The study design called for three groupings of Fidelity of Implementation. Therefore, Analysis of Variance was anticipated as the statistical test to determine the differences among the superintendents' leadership variables based on the high, moderate, and low sorting. However, upon determining the responses from several superintendents in the low fidelity group were inadvertently erroneous, that group was dismissed from calculations. The response errors were due to a misinterpretation of when the district used

and then continued to use the IPI process. The two groups that remained were then analyzed using independent t-tests.

Given the nature of the findings, a set of follow-up interview questions (Appendix B) of superintendents was developed for use with selected superintendents. Personal interviews were conducted with a 12 superintendents to collect rich examples of strategies used by the superintendents to support instructional change through the use of the Instructional Practices Inventory process. The data were reported and analyzed, and the results integrated into the study's findings.

Findings from the statistical analyses (H_{01}) and the descriptive information as well as district contextual variables were reported. The qualitative data from the superintendents were analyzed to create, in combination with the empirical analyses, a picture of superintendents' leadership actions and leadership conceptions.

Research Questions

The research questions that guided the work through the dissertation were originally as follows.

1. Are there differences in superintendent instructional leadership in districts that are high, moderate, or low in the degree to which they implement the Instructional Practices Inventory process with integrity?
2. Do superintendents differ in the strategies they use to support the implementation of the Instructional Practices Inventory process based upon the degree to which their district implements the process with integrity?

However, because the subset of data categorized as Low Fidelity of Implementation was excluded from hypothesis testing due to the flawed nature of the

responses from several superintendents, the first research question was modified as follows.

1. Are there differences in superintendent instructional leadership in districts that are high or moderate in the degree to which they implement the Instructional Practices Inventory process with integrity?

Descriptive Findings

As stated earlier, 67 schools fit the criteria for the study but were reduced to 53 because of lack of contact information for the superintendents. Surveys were sent to this group of 53 superintendents. Of the 53 districts, 43 submitted valid survey responses.

Districts were first classified into High, Moderate, and Low Fidelity of Implementation categories by assigning point values to the following characteristics and then calculating the arithmetic sum of the point values.

1. The average number of collections per building for the prior year,
2. Frequency of faculty data analysis (After Each Data Collection=3 pts., Occasionally=2 pts., Not Typically=1 pt.),
3. The role of the data collector(s) and the discussion leader(s) using the values in Table 5, and
4. Discussion topics resulting in goals reported from the list in Table 6 using an additive process.

The values in this Comprehensive Assessment of Fidelity (CAF) ranged from 0 to 11.5 . Fifteen of the forty three schools were classified as Low Fidelity Implementers because they did not collect data during 2008-2009. Because the Low Fidelity Implementers contained erroneous responses to critical questions, this group was eliminated for

hypothesis testing. The twenty-eight schools that were left were divided into High and Moderate Fidelity Implementers by dividing into two nearly equal groups. The range of the Composite Assessment of Fidelity is contained in Table 7.

Each of the schools in the Low Fidelity grouping had used the IPI process in previous years but not during the 2008-2009 school year. However, the questionnaire implied both current and previous leadership style. An analysis of the responses from the superintendents in the Low Fidelity grouping affirms confusion on the part of those respondents about the time frame of the responses to the leadership items. Clearly, Low Fidelity superintendents' responses to the use of the IPI were not a time match for their responses relative to leadership. Therefore, the inclusion of these schools in subsequent hypothesis testing was inappropriate.

Table 5

Point Values for Data Collector and Discussion Leader

Data Collector or Discussion Leader	Point Value
Teacher	3.0
RPDC Staff	2.5
Multiple Collectors/Discussion Leaders	2.0
Building Administrator	1.5
Central Office Administrator	1.0
Other	.5

Table 6

Discussion/Goal Setting Topics

Discussion/Goal Topic	Point Value
Student Engagement	1
Instructional Practices	1
Higher-order/Deeper Thinking	1
Other	1

Table 7

Fidelity of Implementation Scale

Fidelity Category	Point Value Range
High	8.50 – 11.5
Moderate	5.5 – 8.38
Low	0 - 9

Table 8 contains demographic and contextual data from the 45 respondents.

Student enrollment reflects 2008-2009 information. Enrollment ranged from 63 to 2,528 students with a mean of 1,090.91 and a standard deviation of 765.378. In examining the enrollment within fidelity categories, High Fidelity districts ranged from a minimum of 235 to a maximum of 2,391 with a mean of 1,084.67 and an SD of 751.204. Moderate Fidelity districts ranged from 130 to 2,508 in enrollment with a mean of 1,041.00 and an SD of 701.605. Low Fidelity districts' enrollment ranged from a minimum of 63 to a maximum of 2,497 with a mean of 1,140.40 and an SD of 875.326.

Table 8

K-12 School District Enrollments

	N	Minimum	Maximum	<i>M</i>	<i>SD</i>
High Fidelity	15	235	2,391	1,084.67	751.204
Moderate Fidelity	13	130	2,508	1,041.00	701.605
Low Fidelity	15	63	2,497	1,140.40	875.326
Total	43	63	2,508	1,090.91	765.378

The Missouri Department of Elementary and Secondary Education prescribes the number of assistant superintendent districts must employ based on school enrollment (Missouri Department of Elementary and Secondary Education, 2009). Table 9 contains data on the number of assistant superintendents in the population. In the High Fidelity of Implementation group six had assistant superintendents and nine did not. In the Moderate

Fidelity Implementing category, four districts had assistant superintendents and nine did not. In the Low Fidelity Implementing category six districts had assistant superintendents and nine did not.

Table 9

Frequency of Assistant Superintendents

	N	Assistant Superintendent	No Assistant Superintendent
High Fidelity	15	6	9
Moderate Fidelity	13	4	9
Low Fidelity	15	6	9
Total	43	16	27

Table 10 contains descriptive statistics relative to district rates of Free and Reduced Lunch (FRL) expressed as percentages of district enrollment. High Fidelity Implementers had a mean of 43.493 with an SD of 11.8581 while Moderate Fidelity Implementers had a mean of 45.200 with an SD of 12.9889. Low Fidelity Implementers had a mean of 48.633 with an SD of 14.2435. The total population had a mean of 45.802 with an SD of 12.943.

Table 10

Free and Reduced Lunch as a Percentage of Enrollment

	N	Minimum	Maximum	<i>M</i>	<i>SD</i>
High Fidelity	15	18.1	59.4	43.493	11.8581
Moderate Fidelity	13	17.7	61.8	45.200	12.9889
Low Fidelity	15	26.6	79.0	48.633	14.2435
Total	43	17.7	79.0	45.802	12.9453

The number of school buildings within school districts exhibited some variability. Table 11 contains data relative to the number of buildings in districts submitting responses to the survey. Numbers in Table 11 represent the number of districts (cell) reporting the

number of school buildings (column) in each fidelity category (row). Among the 43 school districts in the study, three contain Area Career and Technical Centers. These school buildings, while often largely secondary institutions, are not included in the data relative to the number of buildings. The reader should bear in mind that total figures will reconcile with the stated N when each level of school (elementary, middle, high) is examined discreetly. Most districts report having one elementary, one middle, and one high school. The Low fidelity category is the only one containing districts with three elementary school buildings. In total, the 43 districts in the study comprised 136 school buildings.

Superintendents of qualifying school districts responded to a survey that probed both superintendent instructional leadership behaviors as well as IPI implementation data. Thirteen questions, adapted from the *Making Schools Smarter* (MSS) (Leithwood, Aitken, & Jantzi, 2006) questionnaires, comprised the five item clusters taken from Marzano and Waters (2006) research on superintendent effectiveness. The item clusters and the questions used are presented in Table 12.

Table 11

School Buildings per District

		Number of Schools in District						
		Elementary			Middle		High	
		1	2	3	0	1	0	1
High	15	9	6	0	4	10	0	15
Moderate	13	10	3	0	2	11	1	12

Low	15	8	2	5	6	9	1	14
Total	43	27	11	5	12	31	2	41

Table 12

Item Clusters and Questions

Item Cluster	Question
Collaborative Goal Setting	<p>1. I have ensured that all of our teachers were engaged meaningfully in our district's goal setting/district planning process.</p> <p>6. I have encouraged and stimulated staff to implement our district goals.</p> <p>13. I have been able to create a consensus of support among all staff for our district goals both during and after our goal setting/planning process.</p>
Non-negotiable Goals for Achievement and Instruction	<p>2. I have consistently held high expectations for our teachers as professionals.</p> <p>7. I have ensured that our district had high expectations for the academic and personal successes of our students.</p> <p>8. I have ensured that appropriate instructional goals were established and addressed.</p> <p>10. I have frequently referred to district goals when making decisions related to changes in programs or practices.</p> <p>12. I have been able to ensure that goals related specifically to student achievement were established and addressed.</p>
Monitoring goals for achievement and instruction	<p>3. I have consistently monitored progress toward district academic and instructional goals.</p> <p>11. I have regularly encouraged our teachers to evaluate progress toward achieving our district goals.</p>
Use of resources to support the goals for achievement and instruction	<p>4. I have ensured that financial resources were allocated according to priorities established in the district's goal setting/planning process.</p> <p>9. I have regularly made budgeting decisions that reflected our district's mission and goals.</p>
Defined Autonomy	<p>5. I have provided a balance between prescription and autonomy for schools in our district.</p>

The questionnaire asked superintendents to respond to each of the thirteen leadership behavior questions using a seven-point Likert scale. The Likert scale ranged

from Strongly Disagree to Strongly Agree. The numeric value of Strongly Disagree was one. The numeric value of Strongly Agree was seven. The description of the value four was Neutral. Table 13 contains the mean and standard deviation for each of the first six questions. Table 14 contains the same statistics for questions seven through thirteen. The reader may note that in every question the means of the Low fidelity category fall above those of the Moderate category and sometimes above those of the High category. As noted previously, the response pattern was due to the misinterpretation of questions by several superintendents in the group. Superintendents responded as if they were currently collecting data when in fact they had not done so in 2 years.

Table 13

Means by Fidelity of Implementation, Questions 1-6

Fidelity Category		Question Number					
		1	2	3	4	5	6
High n=15	<i>M</i>	5.80	6.27	6.07	6.20	5.73	5.87
	<i>SD</i>	1.082	1.280	1.280	1.265	1.280	1.302
Moderate n=13	<i>M</i>	5.00	5.85	5.85	5.62	5.38	5.69
	<i>SD</i>	1.732	2.230	1.994	2.103	1.387	1.702
Low n=15	<i>M</i>	5.73	6.53	6.40	6.33	5.73	6.07
	<i>SD</i>	.961	.516	.632	.724	.884	.594
Total N=43	<i>M</i>	5.54	6.23	6.12	6.07	5.63	5.88
	<i>SD</i>	1.451	1.762	1.621	1.698	1.317	1.475

Table 14

Means by Fidelity of Implementation, Questions 7-13

Fidelity Category		Question Number						
		7	8	9	10	11	12	13
High n=15	<i>M</i>	6.27	5.80	6.13	5.67	5.80	6.20	5.67
	<i>SD</i>	1.335	1.424	1.302	1.799	1.320	1.014	1.345
Moderate n=13	<i>M</i>	5.92	5.54	5.69	5.92	5.69	5.69	5.38
	<i>SD</i>	2.216	2.106	2.136	1.801	2.016	1.974	1.710
Low n=15	<i>M</i>	6.33	6.07	6.53	6.00	5.87	6.20	5.73
	<i>SD</i>	.488	.799	.743	.845	.915	.676	.704
Total N=43	<i>M</i>	6.19	5.81	6.14	5.86	5.79	6.05	5.61
	<i>SD</i>	1.771	1.744	1.720	1.771	1.647	1.527	1.503

Item cluster values were determined by calculating the arithmetic mean of the questions comprising each item cluster. Marzano and Waters (2006) found that collaborative goal setting led by superintendents was positively associated with student achievement. Item cluster 1, Collaborative Goal Setting, was probed using the MSS questions numbered one, six, and thirteen adapted from Leithwood, Aitken, and Jantzi (2006). Superintendents were asked to report their level of agreement with the following statements.

1. I have ensured that all of our teachers were engaged meaningfully in our district's goal setting/district planning process.

6. I have encouraged and stimulated staff to implement our district goals.

13. I have been able to create a consensus of support among all staff for our district goals both during and after our goal setting/planning process.

The values for the answers to these questions were summed and divided by three to determine that superintendent's data for Item Cluster 1, Collaborative Goal Setting. Table 15 the means and standard deviations for each of the Item Clusters. As reported in Tables 14 and 15, the means for the Low fidelity category fall above the means for those of the Moderate fidelity category and equal to or above those of the High.

Table 15

Means by Fidelity of Implementation, Item Clusters

Fidelity Category		Collaborative Goal Setting	Non- negotiable Goals	Monitoring Progress	Providing Resources	Defined Autonomy
High n=15	<i>M</i>	5.78	6.04	5.93	6.17	5.73
	<i>SD</i>	1.166	1.179	1.280	1.277	1.280
Moderate n=13	<i>M</i>	5.36	5.78	5.77	5.65	5.38
	<i>SD</i>	1.636	2.021	1.964	2.095	1.387
Low n=15	<i>M</i>	5.84	6.23	6.13	6.43	5.73
	<i>SD</i>	.502	.459	.667	.651	.884
Total N=43	<i>M</i>	5.67	6.03	5.95	6.10	5.63
	<i>SD</i>	1.160	1.316	1.349	1.429	1.176

An examination of schools in the Low Fidelity Implementer category indicated that 12 schools had been trained in IPI but did not ever fully implement the intervention. The data might reasonably be interpreted to indicate that three of those schools could be thought of as emerging implementers. Three other schools had either partially or fully implemented IPI but had failed to collect data in the 2008-2009 school year. These former implementer districts showed characteristics of both Moderate Fidelity Implementation and High Fidelity Implementation based on the time frame when they were collecting and studying data.

The problematic response data from the Low Fidelity Implementation group necessitated a change in the statistical tests used to analyze differences. Analysis of Variance was replaced with an independent t- test of differences between High and Moderate Fidelity Implementers.

Hypothesis Test

The original hypothesis that guided this research required testing for differences among all three Fidelity of Implementation groups. However, because of dismissing the

Low Fidelity group due to problematic data, the modified hypothesis related to the first research question is as follows.

H₀₁: There are no significant differences in superintendent instructional leadership in districts that are high or moderate in the degree to which they implement the Instructional Practices Inventory process with integrity.

Table 16 contains the Means, Standard Deviations, and Standard Errors of the Means for High and Moderate Fidelity Implementers across the five item clusters. In item Cluster 1, Collaborative Goal Setting, High Fidelity Implementers had a mean of 5.78 and an SD of 1.166 while Moderate Fidelity Implementers had a mean of 5.36 and an SD of 1.636. In Item Cluster 2, Non-negotiable Goals for Achievement and Instruction, High Fidelity Implementers had a mean of 6.04 and an SD of 1.179. The Moderate Fidelity Implementers had a mean of 5.78 and an SD of 2.021 in the same cluster. High Fidelity Implementers had a mean of 5.93 with an SD of 1.280 and Moderate Fidelity Implementers had a mean of 5.77 with an SD of 1.964 in Item Cluster 3, Monitoring Progress Toward Goals. In Item Cluster 4, Providing Resources to Attain Goals, High Fidelity Implementers had a mean score of 6.17 with an SD of 1.277 while Moderate Fidelity Implementers had a mean of 5.65 with an SD of 2.095. In the final item cluster, Providing Defined Autonomy for Principals, High Fidelity Implementers had a mean of 5.73 and an SD of 1.280 while Moderate Fidelity Implementers had a mean of 5.38 and an SD of 1.387. In these data, the means of the High Fidelity of Implementation category were above the means of the Moderate Fidelity Implementers.

Table 16

Means & SDs Across Item Clusters

		Collaborative Goal Setting	Non- negotiable Goals	Monitoring Progress	Providing Resources	Defined Autonomy
High	<i>M</i>	5.78	6.04	5.93	6.17	5.73
n=15	<i>SD</i>	1.166	1.179	1.280	1.277	1.280
Moderate	<i>M</i>	5.36	5.78	5.77	5.65	5.38
n=13	<i>SD</i>	1.636	2.021	1.964	2.095	1.387
Total	<i>M</i>	5.58	5.92	5.86	5.93	5.57
n=28	<i>SD</i>	1.393	1.598	1.604	1.693	1.317

An independent t-test was used to examine the equality of means for the High and Moderate Fidelity Implementers across the five item clusters. Item Cluster 1, Collaborative Goal Setting, produced a t of .763 while Item Cluster 2, Non-negotiable Goals for Achievement and Instruction, produced a t of .396. Item Clusters 3 and 4, Monitoring Progress toward Goals and Providing Resources, produced t statistics of .348 and .776 respectively. Item Cluster 5, Providing Defined Autonomy, produced a t statistic of .567. Table 17 contains the results of the independent samples t-tests. High and Moderate Fidelity Implementers were not significantly different at the $\alpha=.05$ level for any of the item clusters. Consequently, the null hypothesis was not rejected.

Table 17

T-test for Equality of Means

	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Collaborative Goal Setting	.763	26	.452	.40476	.53047
Non-negotiable Goals	.396	26	.695	.24286	.61347
Monitoring Progress	.348	26	.731	.21429	.61621
Providing Resources	.776	26	.445	.50000	.64453
Defined Autonomy	.567	26	.576	.28571	.50430

After analyzing the two groups for significant differences using t-tests, additional analyses were computed in an effort to better understand the possible influence of other factors such as FRL and the presence, or lack thereof, of an assistant superintendent.

Table 18 contains the results of the Pearson correlation analyses with the five item clusters using the entire population of 43 schools. FRL was significantly positively correlated with item clusters 1 through 4. As FRL increased, so did superintendent responses to Item Clusters for Collaborative goal setting, Non-negotiability of goals, Monitoring progress toward goals, and Providing resources for goal attainment. Only the Item Cluster for Defined autonomy was not significantly and positively correlated.

Table 18

FRL and Item Cluster Correlations

		FRL	Collab. Goal Setting	Non-neg. Goals	Monitor Progress	Re- sources	Defined Auto- nomy
FRL	<i>r</i>	1	.318(*)	.324(*)	.402(**)	.344(*)	.281
	<i>α</i>	.	.038	.034	.008	.024	.068
Collaborative Goal Setting	<i>r</i>		1	.919(**)	.916(**)	.887(**)	.799(**)
	<i>α</i>		.	.000	.000	.000	.000
Non-neg. Goals	<i>r</i>			1	.938(**)	.926(**)	.829(**)
	<i>α</i>			.	.000	.000	.000
Monitoring Progress	<i>r</i>				1	.886(**)	.830(**)
	<i>α</i>				.	.000	.000
Providing Resources	<i>r</i>					1	.860(**)
	<i>α</i>					.	.000
Defined Autonomy	<i>r</i>						1
	<i>α</i>						.

n=43

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

Means for each item cluster were compared relative to the presence or absence of an assistant superintendent in districts for the entire population. Table 19 contains means and SD's for each item cluster when sorted by the presence, or lack thereof, of an assistant superintendent. The mean scores did not represent a consistent pattern across the five item clusters when considering the presence or absence of an assistant superintendent. This was confirmed by the fact that no significant differences were found when independent t-tests, using presence or absence of an assistant superintendent as a control variable, were computed for the total population (Table 20).

Table 19

Item Cluster Means by Assistant Superintendent Status

	Assistant Supt.	n	Mean	SD
Collaborative Goal Setting	Yes	16	5.79	1.039
	No	27	5.60	1.240
Non-negotiable Goals	Yes	16	6.15	1.160
	No	27	5.96	1.417
Monitoring Progress	Yes	16	5.94	1.237
	No	27	5.96	1.434
Providing Resources	Yes	16	6.13	1.258
	No	27	6.09	1.544
Defined Autonomy	Yes	16	5.56	1.263
	No	27	5.67	1.144

Table 20

Means of Ass't. Superintendent vs. No Ass't. Superintendent by Item Cluster

	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Collaborative Goal Setting	.506	41	.616	.187	.369
Non-negotiable Goals	.464	41	.645	.194	.419
Monitoring Progress	-.059	41	.953	-.025	.431
Providing Resources	.071	41	.944	.032	.456
Defined Autonomy	-.278	41	.783	-.104	.375

However, when the Low Fidelity Implementers were eliminated from the test group an interesting pattern across the means emerged when the High and Moderate

groups were sorted by the presence or absence of assistant superintendents. Table 21 contains the means and SD's for High and Moderate Fidelity Implementers with assistant superintendents. Table 22 contains means and SD's for High and Moderate Fidelity Implementers without assistant superintendents. Superintendents in High Fidelity Implementing districts with assistants superintendents consistently rated themselves lower than did superintendents in Moderate Fidelity Implementer districts with assistant superintendents. Conversely, superintendents in High Fidelity Implementing districts without assistants consistently rated themselves higher than those in Moderate Fidelity Implementer districts without assistant superintendents.

Table 21

Item Cluster Means & SDs for High and Moderate with Assistant Superintendent

		Collab. Goal Setting	Non- negotiable Goals	Monitor. Progress	Providing Resources	Defined Autonomy
High	<i>M</i>	5.44	5.77	5.50	5.58	5.17
n=6	<i>SD</i>	1.573	1.804	1.844	1.855	1.722
Moderate	<i>M</i>	6.00	6.65	6.63	6.38	6.00
n=4	<i>SD</i>	.609	.300	.479	.250	.816

Table 22

Item Cluster Means & SDs for High and Moderate without Assistant Superintendent

		Collab. Goal Setting	Non- negotiable Goals	Monitor. Progress	Providing Resources	Defined Autonomy
High	<i>M</i>	6.00	6.22	6.22	6.56	6.11
n=9	<i>SD</i>	.833	.552	.712	.527	.782
Moderate	<i>M</i>	5.07	5.40	5.39	5.33	5.11
n=9	<i>SD</i>	1.891	2.356	2.275	2.487	1.537

Qualitative Data from Open Ended Survey Question

In addition to the selected response items contained in the survey, superintendents were asked to respond to an open-ended survey question about their impressions of the value of the Instructional Practices Inventory. The prompt was as follows:

Please take a moment to describe what you can about the value of the IPI process in the schools of your district. For example (a) have benefits occurred, (b) to what degree have you seen the faculty develop some, or more, capacity to engage in collaborative conversations and thoughtful dialogue, (c) do faculty have a deeper understanding of student engagement, instructional design, etc. In other words, what outcomes have you observed in your district that have resulted from the use of the IPI process in your schools over the past year or years you have used the IPI?

Superintendent responses varied in both quantity and content across the fidelity of implementation categories. Of the 43 superintendents who submitted valid surveys, 28 responded to the open ended question. Table 23 contains the number of responses in each category.

Table 23

Number of Responses to Open Ended Prompt

Fidelity of Implementation	n	Number of Responses
High	15	13
Moderate	13	13
Low	15	2
Total	43	28

The responses to the open-ended prompt were analyzed to surface themes within the responses. Three over-arching emergent themes evolved: Teacher Collaboration, Teacher Learning, and Deprivatization of Practice. The themes coalesced around these topics as the raw data were sorted and summarized. Each theme comprised a number of sub-categories. As noted above, little data were gleaned from the Low Fidelity of Implementation schools.

Faculty Goal Setting is embedded in the IPI protocol. After the initial year of data collection and analysis, faculties are encouraged to set goals for the instructional profile in future data collections. Qualitative data indicated that this process fostered significant Teacher Collaboration, the first major theme. Superintendents in all Fidelity of Implementation categories reported that faculties developed common vocabularies as a part of the collaborative goal setting process. “Collectively the process is giving common vocabulary for discussions and synergy . . .,” (Superintendent 10). “A greater level of communication . . .,” (Superintendent 13). “IPI helped establish . . . team building and goal setting ,”(Superintendent 44).

The IPI protocol calls for faculty analysis of data following each data collection. Teachers are placed in small groups to examine the data and draw conclusions about the instructional portrait of their school, sharing those conclusions with the faculty as a whole. This conversational setting for analysis provides a fertile ground for teacher learning. Teacher Learning emerged across all three Fidelity of Implementation categories. Superintendents reported that teacher learning included an increased value for student engagement. “Teachers are seeing the benefits of student engagement (Superintendent 2)” and “. . . faculty has a much better appreciation and understanding of

student engagement,” (Superintendent 25). “A heightened awareness for the need of more higher-order thinking learning activities was established,” (Superintendent 40).

However, High and Moderate provided the most evidence of learning and produced a dichotomy in the character of the learning that surfaced.

Evidence of Teacher Learning in the High Fidelity category included greater and more effective use of higher-order thinking in lessons. “Teachers have learned to use higher-level thinking strategies much more and much more effectively . . .,”

(Superintendent 2). “. . . made staff more aware of the changes they can make to . . . produce higher-order thinking skills for students . . .,” (Superintendent 8).

Superintendents indicated that teacher learning resulted in changes in behavior.

Moderate fidelity of implementation schools also provided evidence of teacher learning. However, teacher learning in this category was characterized by changes in awareness of instructional practice and use of time rather than changes in teaching behavior. “Our teachers have a better understanding of what they are currently doing, and what they need to do to better serve our students,” (Superintendent 17). “Conversations, shared vocabulary etc. assisted our faculty’s understanding of quality instruction,” (Superintendent 30). “The main change I have seen is more valuable use of time,” (Superintendent 22).

Superintendents reported that teachers became more comfortable with outside observers. The deprivatization of practice came from the frequent presence of outsiders in classrooms during data collection events. “Teachers are becoming more comfortable going into another teacher’s classroom and enjoy sharing ideas . . .,” (Superintendent 10).

“It has made the teachers more aware of what is happening in the classroom by an outside observer,” (Superintendent 3).

One unexpected finding came from Superintendent 10’s comments. In addition to improvements in teaching, the IPI process can result in the improvement of principal instructional leadership. “Many of our administrators do not have an instructional background and the IPI process has increased their awareness and knowledge of research based strategies . . .”

Qualitative Data from Follow-up Interviews

Following the collection and analysis of survey data, follow-up interviews were conducted with twelve superintendents, four from each Fidelity of Implementation category; High, Moderate, and Low. Within each group of four, two were chosen because they had assistant superintendents and two because they did not. Finally, from the Low Fidelity of Implementation group, one of the four schools was selected because it exhibited the qualities of frequency and quality of the data discussions and the importance of teacher leadership in a manner similar to High Fidelity of Implementation schools and one was chosen because it exhibited those same characteristics similar to Moderate Fidelity Implementers.

Superintendents were asked to respond to the questions found in the follow-up interview protocol contained in Appendix B. The questions probed each of the five item clusters adapted from the work of Marzano and Waters (2006); Collaborative Goal Setting, Non-negotiable Goals for Achievement and Instruction, Monitoring Progress Toward Goals, Providing Resources to Accomplish Goals, and Providing Defined Autonomy. Additional questions were asked to probe the superintendents’ perceptions

about their principals' ability to lead successful implementation of the IPI and of the superintendents' perceptions about key educators and the key educators' relative influence in successful IPI implementation. Finally, the interview was concluded with an open-ended question probing superintendents' perceptions about factors that allowed them to successfully implement change.

Once interviews were concluded the data were coded, synthesized for similarities and differences, and summarized into themes. The themes that emerged were organized relative to the concepts in the item clusters. Further, the data were analyzed to determine themes that emerged across and between the three Fidelity of Implementation groups.

Collaborative Goal Setting

When asked to describe the processes by which instructional and achievement goals were set, superintendents across all Fidelity of Implementation groups reported that data were used in the process. While the processes varied somewhat, all superintendents reported that they used some form of collaborative involvement and goal setting.

Collaborators included board members, other administrators and often other staff stakeholders. Community members, and in one instance students, were included in the goal setting process. Superintendents indicated a purposeful relationship between district and building goals.

The nature of collaboration varied across the Fidelity categories. Superintendents of High Fidelity Implementers characterized the school board's involvement as "strategic planning" (Superintendent 18). However, superintendents from Moderate and Low Fidelity Implementers often indicated that boards had "work sessions" (Superintendent

19). Superintendent 19 went on to say “These people aren’t used to working with this. The administration takes the input and writes the goals.”

The nature of the data used in goal setting had both commonalities and differences. Most superintendents cited the use of Missouri Assessment Program (MAP) and End of Course (EOC) data along with the outcomes on Missouri’s Annual Performance Report (APR) and the Adequate Yearly Progress (AYP) measures. Some schools cited the use of attendance, reading level, or other data. Uniformly across all Fidelity categories, superintendents characterized the state level assessment data as “mandated” or “dictated” or “imposed”.

One High Fidelity of Implementation superintendent indicated she first analyzed data herself so that she could lead others in the goal setting process. One Low Fidelity Implementer indicated a different approach. “I don’t have to tell them the plan, I just have to make sure we have one so I make them [principals] come to our meetings and tell me what their plan is” (Superintendent 39).

The process of developing articulated goals across the district and building levels varied. High Fidelity Implementers reported a process by which the Comprehensive School Improvement Plan (CSIP) was developed in alignment with state mandates and from which supportive building goals flowed. This top down process was a uniform finding even though superintendents characterized it as collaborative rather than mandated. This process was present in some Moderate and Low Fidelity Implementers but was not uniform. One Moderate Fidelity Implementing superintendent indicated that she found the use of building effectiveness teams to develop building goals which were later aggregated into district goals an efficacious one.

Monitoring Progress

Superintendents were asked to describe how they monitored progress toward goals. All Fidelity of Implementation groups reported that principal reports to the superintendent and to the board of education were an important part of monitoring. The data used included the same data used for goal setting, although more emphasis was placed on the use of locally administered common assessments or benchmarking.

Superintendents with assistant superintendents in High and Low Fidelity of Implementation categories reported that they relied heavily on the assistants for monitoring. “The assistant is a data nut and I listen to her” (Superintendent 28). One High Fidelity of Implementation superintendent indicated that walk-through observations of teachers by central office staff helped keep principals from being swayed by close relationships with their staffs. “We look for movement from changes in awareness toward changes in teaching” (Superintendent 18). One Low Fidelity Implementer indicated that while she relied heavily on the assistant superintendent and on principals to monitor progress in instruction, it was important that she also be there to observe and listen.

Providing Resources for Goal Attainment

When asked about how they managed the district’s resources to support goal attainment, superintendents in all Fidelity of Implementation categories reported that requests for monetary, personnel, or other resources were evaluated in light of their relationship to academic goals or to the districts CSIP. This act of prioritization was embedded in the budget building process. Superintendents in the High and Moderate Fidelity of Implementation categories reported both the use of collaborative processes and the use of input for the consideration of the superintendent who was the final

decision maker. Low Fidelity Implementers uniformly were decision makers rather than collaborators in budget development. One Moderate Fidelity Implementer indicated that “it was his job to provide a pool of money designated for the priorities” (Superintendent 17).

Personnel were considered by some to be a resource. One High Fidelity Implementer indicated that the most important thing he could do was to hire the best people (Superintendent 41). Another superintendent, from a Low Fidelity Implementer district that exhibited some High Fidelity characteristics, indicated that she managed personnel resources through attrition. With student populations declining, she did not necessarily replace every person who left the district. Further, she sometimes found it necessary to reassign some staff (Superintendent 43).

One High Fidelity Implementer reported that her management of personnel was closely aligned to budget management. Her analysis of the budget indicated a disproportionate amount of money being spent in two areas, transportation and special education. Her approach was to refocus teachers from special education to differentiation through the Response to Interventions process to lower the demand for costly services and consequently excess staff. She further freed financial resources through increased efficiency in transportation. Finally, she assumed some of the assistant superintendent’s duties to provide time for instructional oversight (Superintendent 18).

Leadership Skills

Superintendents were asked what leadership skills they possessed that supported success when they implemented change. In all Fidelity of Implementation categories superintendents indicated that the ability to collaborate and to work with teams was

important. In all categories, superintendents indicated that their instructional expertise was an important quality. However, superintendents tended to focus on personal qualities and traits rather than skills. They reported that openness, honesty, earned trust, and patience were important. Further, communications skills were valuable to superintendents in Moderate and Low Fidelity Implementers. One Low Fidelity Implementer indicated that his education had provided the philosophical and theoretical basis for his success but that it was his experience that made the difference for kids. “I have to blend the theoretical with the experience” (Superintendent 39).

Non-Negotiability of Goals and Defined Autonomy

Superintendents were asked two interrelated questions regarding the concepts of the non-negotiability of goals and defined autonomy. When superintendents were asked about what they must control in order for them to successfully implement change, their immediate reaction was that the outcomes were non-negotiable. This was true across all Fidelity of Implementation categories. Upon further reflection, superintendents in the High Fidelity of Implementation category indicated that they must control “who” was in leadership and the staff philosophy. Moderate and Low Fidelity of Implementation superintendents reported that they must control the focus or thrust of professional development, and the culture or environment in which the change was to take place, and information - “the message” (Superintendent 24).

Superintendents across all Fidelity of Implementation categories cited a need to control the finances related to change. Further, superintendents indicated that they wanted to control personnel. Only the High Fidelity Implementers were specific about controlling the leadership staff.

When asked to consider where they were willing to grant latitude to others in the process of implementing change. High Fidelity Implementers conveyed a sense of broad, and sometimes non-concrete, freedom. Those superintendents were willing to grant freedom in time, both how it was used and the overall timeline for change. There was a sense of empowerment within the established parameters. “Once everyone understands, I need to get out of the way and let people work” (Superintendent 8). One High Fidelity Implementer indicated that he was willing to grant others “the freedom to fail” (superintendent 28).

Moderate Fidelity Implementers were willing to grant freedom regarding the use of time. To a lesser degree than High Fidelity Implementers, Moderate Fidelity Implementers were willing to allow other professionals latitude in “how we get to those places [accomplish goals]” (Superintendent 19). Moderate Fidelity Implementers reported a relatively narrow range of issues in which to allow others to make choices; such as to select instructional strategies and materials as well as how professional development was delivered.

Low Fidelity Implementers echoed the Moderate Implementers in their degree of willingness for others to make instructional decisions. One relatively new superintendent indicated that her inclination toward freedom and collaboration in this area sometimes left teachers feeling overwhelmed with all that must be decided (Superintendent 20). When asked about what ways he was willing to grant latitude to others, Superintendent 39 replied with a somewhat rambling story in which he manipulated the Professional Development Committee into adopting his idea of a proper Professional Development Calendar. “I kind of backed them into a corner and after a while they made the right

decision.” The result was a large increase in the number of early release days for the coming year. When asked if how the calendar was working for the committee he replied, “They’re struggling with how to use the time.”

Other Factors Influencing Success

Superintendents were given an opportunity to identify other factors they believed supported their success in implementing change. High Fidelity Implementers’ replies included the philosophy of the staff, especially the degree of student centeredness. One superintendent reiterated that while the timeline was flexible goal implementation was not.

Moderate Fidelity Implementers cited the importance of communication, expectations, board relationships, and the community context. Low Fidelity Implementers spoke of the need for trust, the importance of personnel, and the instructional environment. One Low Fidelity Implementer indicated a sense of stress about the multiple roles for which she was responsible. “You don’t always do what you know you should. You do what you have to and some things just stay at the bottom of the stack” (Superintendent 20). Another reported a sense of concern that the demands of the job tended to shorten the tenure of superintendents, a factor she considered deleterious to student welfare (Superintendent 43).

Key Leadership

The final two questions of the follow-up interviews contemplated the superintendents’ perceptions of their principals’ leadership and the relative influence of key leaders in their district. First superintendents were asked to rate each of their principals, by building rather than by name, on a scale of 1 to 10 regarding the principals’

individual ability to successfully lead the implementation of IPI. Secondly, superintendents were asked to list, by individual position, the key educators whose influence was critical to the success of implementing IPI. Finally, superintendents were asked to assign relative weights to each of the key educators with the total point values equaling 100 for each district.

The purpose of these questions was not to generate additional quantitative data but rather to gather a sense about superintendents' perception of other leaders. The low number of cases made it unlikely that the data would have been suitable for statistical analysis. However, patterns seemed to emerge across Fidelity of Implementation groups in both the numbers given and the conversations around the ratings.

Superintendents of High Fidelity Implementing districts rated principals' abilities to successfully lead the implementation of IPI lower (Mean =7.15) than did Moderate or Low Fidelity Implementers (Moderate Mean=8.15, Low Mean=8.00). The tone and content of the conversations varied across the groups as well. While all superintendents indicated that their principals were capable, High Fidelity implementers evinced a realistic, sometimes gritty, view that their principals could be successful but support from other constituencies was also critical. Moderate Fidelity Implementers expressed confidence in the principals but were less emphatic about the importance of others, especially teachers. Low Fidelity Implementers reported that principals were quite capable and mentioned little about the importance of others.

When superintendents were asked to identify key educators, by individual position, whose influence was critical to the successful implementation of IPI, they found themselves quite challenged to answer. Across all groups, superintendents had to be

redirected to consider specific people rather than broad groups. After redirection, ten superintendents were able to answer within the boundaries of the question. Of the ten who answered, nine indicated specific leaders but insisted on including some group of teachers in the list of influential parties. All of the ten listed the superintendent, the assistant superintendent if present, as well as each building principal.

Two superintendents who found it difficult or impossible to answer directly when asked about key educators whose influence was critical for successful change. Of those two superintendents, one ultimately answered in broad groups, Central Office Administration, Building Administration, Teachers (Superintendent 43). The other was not able to complete the question (Superintendent 39).

The numerical values for key educators provided an interesting pattern across the Fidelity of Implementation groups. High Fidelity Implementers emphasized the superintendent as a key player with a mean rating of 33.75 while Moderate and Low Fidelity Implementers provided mean ratings for the superintendents of 18.75 and 18.63 respectively. Across all groups the influence of the assistant superintendent was slight, averaging 3.13, 3.13, and 5.50 for High, Moderate, and Low Fidelity Implementers respectively. Superintendents of High Fidelity Implementers rated principal influence at a mean of 45 and the collective teacher influence at 24.38. Moderate Fidelity Implementers indicated that principals were more influential with a mean rating of 55.00 and teachers at 29.38. Low Fidelity Implementers rated principals at 44.13 and teachers at 31.75. While the data do not provide bases for statistical analyses, the pattern of High Fidelity Superintendents assuming more weight for successful implementation than the other groups is clear. Further, Moderate and Low Fidelity Implementers tended to rate their

principals higher in leadership skills than High Fidelity Implementers, as well as place more influence in the principals' arena. Neither of the two superintendents who found it difficult to answer the question directly, provided a rating. However, one of the two indicated her belief was that each influential group was necessary for success and therefore she could not assign relative weights to the groups' influence (Superintendent 43).

Summary

Superintendents, especially in smaller schools, report that they face a greater depth and breadth of tasks than they can easily accomplish well. Superintendents are primarily responsible for student learning, an area of increasing challenge due to state and federal mandates. Superintendents, however, must make sure that all support functions including personnel management; fiscal management; grounds and facilities; food, health, and transportation services run smoothly. Finally, superintendents must attend to relationships with boards of education and to their roles as community leaders. If they are to fill these roles and provide an appropriate education for students, superintendent cannot afford to be ineffective instructional leaders.

This study examined the relationship between superintendent instructional leadership behaviors as identified by Marzano and Waters (2006) and their relationship to fidelity of implementation of the Instructional Practices Inventory, an instructional intervention. Superintendents of smaller Missouri schools that had used the IPI process were surveyed regarding their own leadership behaviors and aspects of IPI implementation. Schools were divided into three categories, High, Moderate, and Low

Fidelity Implementers. Leadership behavior data were analyzed when sorted by Fidelity of Implementation category. No significant differences were found.

Follow-up interviews were conducted with twelve superintendents, four from each Fidelity of Implementation category. Data were reported within each Fidelity of Implementation category across all five leadership behaviors examined in the study; Collaborative Goal Setting, Non-negotiable Goals for Instruction and Achievement, Monitoring Progress Toward Goals, Providing Resources for Goal Attainment, and Defined Autonomy. Both commonalities and differences in leadership behavior were found within and across Fidelity of Implementation categories.

The themes, findings, and conclusions from this study are explicated in the Discussion of Findings portion of Chapter 5. Chapter 5 also includes limitations of the study and recommendations for further research, leader preparation, and practice.

Chapter 5: Summary and Conclusions

Introduction

The first superintendencies were created in the late 1800s primarily to provide instructional leadership (Brubacher, 1966; Butts & Cremin, 1953; Kowalski, 1999; Spring, 1994). Political forces influenced role development over the next 120 years. Superintendents have been viewed primarily as scientific managers, applied social scientists, and finally again as instructional leaders. (Beck & Murphy, 1993; Callahan, 1966; Glasser & Silver, 1994; Hallinger, 2003; Murphy, 1998; Petersen and Young, 2004). The literature indicates that the multiple role requirements of superintendents are often overwhelming. Superintendents report having insufficient time to spend on their responsibilities, often sacrificing long-term leadership efforts for short term management needs (Bredeson, 1996; Bredeson & Johansson, 1997; Glass, 2006; Lutz & Merz, 1992). With the ethical and legal obligation to maximize student learning held in tension against the lack of sufficient time to focus on instructional leadership, this research examined how superintendent instructional leadership behavior can impact instructional improvement efficiently.

Study Design

This study examined the relationships between superintendent instructional leadership behaviors as identified by Marzano and Waters (2006) and their relationship to fidelity of implementation of the Instructional Practices Inventory(IPI), an instructional intervention. Forty-three superintendents of smaller Missouri schools which had participated in IPI, were surveyed regarding their own leadership behaviors and aspects of IPI implementation. Schools were divided into three categories, High, Moderate, and

Low Fidelity Implementers. Due to problematic data, the Low Fidelity Implementer group was eliminated from hypothesis testing but included in descriptive and qualitative analysis. Leadership behavior data were analyzed regarding its relationship to Fidelity of Implementation category for the remaining two groups. No significant differences were found.

Follow-up interviews were conducted with twelve superintendents, four from each Fidelity of Implementation category. Data were reported within each Fidelity of Implementation category across all five leadership behaviors examined in the study; Collaborative Goal Setting, Non-negotiable Goals for Instruction and Achievement, Monitoring Progress Toward Goals, Providing Resources for Goal Attainment, and Defined Autonomy. Commonalities and differences were found in how superintendents within and across each Fidelity of Implementation category were found.

Research Questions

The research questions guiding this study were as follows.

1. Are there differences in superintendent instructional leadership in districts that are high or moderate in the degree to which they implement the Instructional Practices Inventory process with integrity?
2. Do superintendents differ in the strategies they use to support the implementation of the Instructional Practices Inventory process based upon the degree to which their district implements the process with integrity?

Discussion of Findings

The findings of this study reflect both quantitative and qualitative analyses. The statistical treatments were changed from ANOVA to independent t-tests for hypothesis

testing based on the elimination of the Low Fidelity Implementers' data from these analyses. The statistical testing failed to produce significant differences and the null hypothesis was not rejected. The nature of the means across Fidelity of Implementation categories used in hypothesis testing, along with the lack of differences in the means did not give sufficient information to determine if differences did not exist or if the problematic data obscured differences. In summary, the research did not allow a definitive determination of statistically significant differences to be established.

However, other quantitative analyses some interesting outcomes and patterns emerged. First, four of the item clusters, Collaborative Goal Setting, Non-negotiable Goals, Monitoring Progress, and Providing Resources were significantly and positively correlated with FRL when tested for the entire population. While nothing in the data provides clues as to the nature of the causes for the correlation, the result is not surprising. The negative relationship between poverty and student achievement is well established in the literature (Anderson, 1992; Leroy & Symes, 2001; Williams, Kirst, Woody, Levin, Perry, & Haertel, 2005). High poverty/low socio-economic status (SES) in schools as measured by FRL is closely associated with low student achievement. Understanding that NCLB pressures schools to produce ever increasing proficiency rates in all students, there is reason to believe that leadership becomes more emphatic about goal setting, more diligent in monitoring progress toward goals, and more purposeful in providing resources to reach goals. Clearly, superintendents experience and convey increasing academic pressure when poverty is higher.

Second, the presence of an assistant superintendent who focused on curriculum and instruction appears linked to the means of the item clusters. High Fidelity

Implementers with an assistant rated themselves below Moderate Fidelity Implementers. In districts without assistant superintendents High Fidelity Implementers rated themselves higher than Moderate Fidelity Implementers. This finding might well be attributed to the fact that High Fidelity Implementing superintendents who were directly involved in instructional improvement saw themselves as more responsible for the behaviors probed by the item clusters. Conversely, when High Fidelity Implementers had an intermediary in the form of an assistant superintendent, they tended to rate themselves lower. This particular finding highlights one of the challenges of researching superintendent instructional leadership. The relationship between superintendents and instruction is both indirect and sometimes loosely articulated. School district leadership structure and culture, as well as other contextual variables, can mitigate or mediate the superintendents' efforts.

The qualitative data from the open-ended question on the survey were analyzed and reported across the Fidelity of Implementation categories. Further, data gathered from follow-up interviews with twelve superintendents, four from each Fidelity of Implementation category, were analyzed and reported organized by item cluster and across Fidelity of Implementation categories. Three major themes emerged from the analyses of these data, Nature of Collaborations, Ambiguity of Mandated Goals, and Conceptions of Leadership.

Nature of Collaborations

Superintendents across Fidelity of Implementation categories reported that the IPI process had positive outcomes. At a minimum, faculties developed common vocabularies, improved understanding of effective teaching practice, and developed or

enhanced problem solving abilities. Furthermore, teachers became accustomed to outside observation during the data gather process. Deprivatization allowed faculties to engage in collaborative dialogue; the dialogue often resulting in enhanced instructional practice through peer coaching. The teacher learning, exemplified by improvements in teaching behavior, was found primarily in High Fidelity of Implementation schools. Moderate Fidelity Implementing schools were not, however, without teacher learning. Teachers in these schools were characterized as having a greater awareness of good teaching as well as of productive use of time as a result of the IPI process. The simple and straightforward finding that regular collegial conversations focused on effective teaching has powerful implications for schools. If student learning is truly important, this simple and inexpensive effort must be adopted.

Senge's (1990) discussion of learning organizations supports these findings. Second-order change is fostered through ongoing collaborative dialogue that embeds changes in teaching in the culture of the school. This research concludes that the implementation of IPI fosters second-order change with regard to instructional practices. Further, greater adherence to the IPI protocol – greater fidelity of implementation – increases second-order change. Marzano and Waters (2009) advocated a multi-tiered action plan for improving instruction, much of which reinforced the findings of this study. Their research indicated that the development of a common language and model for instruction should initially be developed. Following the establishment of that common ground, Marzano and Waters indicated that schools should foster peer coaching, modeling of effective instruction, and systematic teacher interaction about instruction.

Clearly, the IPI protocol is closely aligned, if not perfectly parallel, to the instructional improvement recommendations made by Marzano and Waters.

At the level of district leadership, the nature of collaboration was different for High Fidelity Implementers than the other two groups. While all superintendents consistently reported that they used collaborative processes, High Fidelity Implementers characterized other stakeholders in terms that showed more respect and value. Moderate and Low Fidelity Implementers certainly included others in the processes. They gathered input from these stakeholders. However, collaboration for these superintendents included a “Buck Stops Here” decision making authority. Stakeholders, including school board and community members, were referred to as “these people.” Collaborative sessions were spoken of as “meetings” or “work sessions” rather than “strategic planning” as High Fidelity Implementers did. Marzano and Waters (2009) stated that the alignment of school boards to goals for instruction and achievement was an important part of school improvement.

High Fidelity Implementer superintendents gave evidence that they bore a burden of responsibility. It was important to them to be well prepared as they entered collaboration meetings, analyzing data so that others’ time would be used effectively and useful outcomes would be reached. Not only were they well prepared for planning and goal setting, they assumed greater responsibility for outcomes, consistently rating themselves more influential than subordinates when considering implementing change. High Fidelity Implementing superintendents lived with a firm understanding of the interdependence between them and their stakeholders. Superintendents must have the support of others to develop goals and plans. Superintendents also understand that they

are uniquely positioned to empower others to act – to execute agreed upon plans – if superintendents purposefully prepare to do so.

In contrast, Moderate and Low Fidelity Implementers did not report any special preparation for meetings and rated subordinate leaders as both more capable and more influential than themselves. The greatest example of lack of preparation for meetings came from the Low Fidelity Implementer category. “I don’t have to tell them the plan, I just have to make sure we have one so I make them [principals] come to our meetings and tell me what their plan is.”

Moderate and Low Fidelity Implementer superintendents were generally willing to grant comparatively less freedom for others in decision making than were High Fidelity Implementers. Low Fidelity Implementers tended to limit the area of professional latitude to instructional methods and materials. Moderate Fidelity implementers added some freedom in the delivery, although not content, of professional development to the list. High Fidelity Implementers were firm in their belief that once they were sure everyone knew and clearly understood the goal and a limited number of parameters such as financial constraints, they would grant broad freedom for others to make decisions and implement plans. Among the important areas superintendents believed were critical to control, was the content of professional development. Superintendents knew that this aspect of schools could lead either toward or away from the vision and could either create intellectual stimulation or disengagement for teachers.

In essence, the picture of the superintendent of a High Fidelity of Implementation district was one who communicated respect for other stakeholders and understood that the superintendent must be well prepared to lead. Those superintendents bore a burden of

responsibility for success but had confidence in other professionals to make decisions and develop and implement plans. Moderate and Low Fidelity Implementers were less willing to share power, less respectful of others, and felt less responsible for outcomes.

Ambiguity of Mandated Goals

Externally imposed requirements in the form of state and federally mandated student outcomes were perceived negatively by all superintendents. Mildly derisive labels were used when referring to the measures embedded in the state's Annual Performance Report and those found as a part of NCLB's Adequate Yearly Progress. Some superintendents indicated that they did not believe those goals to be the best measures of student learning. Those unwelcome goals, however, were uniformly reported as the bases for the development of each district's CSIP. Interestingly, once embedded in the CSIP, superintendents indicated that building level plans were articulated to support the goals. Only one school reported that goals were developed at the building level and then aggregated to the district. Superintendents expressed no irony that they resented imposed goals but were essentially imposing goals on buildings. Since collaboration was a common thread in goal development, superintendents may have perceived that the collaborative context mitigated the negatively charged imposition. Interestingly, when superintendents mentioned attaining the externally imposed goals, they expressed pride rather than marginalizing the accomplishment.

Clearly, superintendents of High Fidelity Implementing districts had a plan for the development of goals. They were quite focused about the direction for their district, spending significant effort preparing to lead others to the same vision. While operating collaboratively and respectfully, they insisted on intentionally articulated support from

the building level. Superintendents from the other groups were simply less purposeful and sharply focused. The degree to which they provided a clear sense of direction and prepared to lead seemed to vary directly with the Fidelity of Implementation category.

Conceptions of Leadership

Perhaps the most intriguing findings emerged from data about leadership. The findings developed in two general areas, power and influence and leadership skills. Interestingly, superintendents responded easily to questions about the leadership of others and to probes about the actions by which superintendents themselves led. However, when asked about their own skills or about their assessments of power and influence, many superintendents found it difficult to answer directly.

As stated earlier, superintendents of High Fidelity of Implementation districts felt a burden of responsibility for outcomes but were the group most inclined to respect others and share power. Moderate and Low Fidelity Implementers were inclined to listen to others but were more likely to retain decision making responsibility. Low Fidelity Implementers not only retained that authority but had a narrower range of options wherein they trusted others to make choices. Also as reported earlier, High Fidelity Implementers responded to questions about relative influence with a greater weight placed in the office of superintendent than did Moderate or Low Fidelity Implementers. Moderate and Low Fidelity Implementers emphasized that principals and lead teachers held more influence than was reported in the High Fidelity Implementation group. In the Low Fidelity group, half of the interviewees ultimately did not assign weights to the influence held by various stakeholders in the process of implementing change. While the rest of the superintendents did answer the questions identifying the stakeholder groups

and did assign values to the groups' relative influence they also appeared to struggle with considering the context of their school system in those terms.

When examined in combination these two findings paint a picture of superintendents who may not readily perceive the dynamics of power and influence in their districts. Alternatively, the findings may be explained by the conclusion that superintendents do perceive those dynamics but hold the knowledge at a tacit level and struggle to translate it to an explicit level. Nonaka and Takeuchi (1995) described these kinds of knowledge and found that Japanese industry values the process of accessing tacit knowledge of experts – unpacking it – so that the company as a whole can benefit from it. Indeed, Japanese industry has learned to profit from identifying expert knowledge, such as how bakers know when dough is properly kneaded, accessing the knowledge by unpacking it from its normally tacit state, and using the explicit knowledge product to support the development of appliances like bread making machines. Superintendent may, in fact, be like the bakers who possess intuitive knowledge. They may understand power and influence in their districts but may not be able to articulate that knowledge.

When superintendents were asked to describe the processes by which they accomplished particular leadership tasks, they were able to articulate their answers much more easily. Superintendents knew what they were doing, what was effective, and what might need improvement. However, when asked to describe the situation in more abstract and general terms, superintendents were less conversant. One reasonable conclusion is that superintendents were challenged to articulate conceptions of their own leadership because they operated not in a calculated, strategic manner but rather were inclined toward intuitive actions based on what they felt or knew at a subconscious level. This

method of operation may be, but not necessarily is, due to the sense of being overwhelmed as found in Bredeson and Kose (2007).

Another possible explanation about the challenge superintendents experienced in describing power and influence can be developed by examining case-specific data from the question about the relative power of educators identified as key to successful change implementation. While superintendents generally reported greater superintendent influence associated with higher Fidelity of Implementation group, this was not absolutely uniform. Each Fidelity of Implementation category contained at least one superintendent who reported substantively equalized influence across all, or at least the majority, of identified parties. While the reports may, in fact, be relatively accurate, it is also possible that the culture of the superintendency finds that talking explicitly about differences in power is repugnant. When superintendents report an equality of influence they may be subconsciously promoting a value of egalitarianism. This explanation would be consistent with the finding that all superintendents in this study reported using collaborative processes while simultaneously reporting that they impose specific goals. Bolman and Deal (1997) suggested that “leadership as theater” is at least as important as the instrumental actions of a leader. In the case of superintendents reporting equalized power and influence, we find that instrumental leadership is certainly at play in the mandate but the leader may also be “acting” less influential to lubricate the friction created by necessary but unwelcome mandates actions. In essence, when mandates are declared by leadership, figurative, idealized language is used to mitigate the negative emotional impact of the non-collaborative action. However, superintendents did not evince insincerity in their responses about equalized influence. If superintendents felt

overwhelmed, as found in Bredeson and Kose (2007), they may have simply but clumsily been expressing their gratitude for and belief in the importance of the work of others in their schools. Simply put, they may truly believe that they are surrounded by people who make sure that the schools provide the best education possible.

Superintendents were not necessarily only paying lip service to the importance of others. Across all Fidelity of Implementation categories, superintendents reported that they relied heavily on principals, and when present assistant superintendents, to monitor progress toward goals in the areas of instruction and achievement. Reliance on those leaders came in both formal reporting to the superintendent and board of education and in informal conversations. Interestingly, only the High Fidelity Implementers combined this reliance with specific personal data collection designed to triangulate the principals' opinions. Marzano and Waters (2009) indicated that district leadership should have evidence to establish progress on instructional improvement. The researchers suggested that building level leadership could supply that evidence in the form of notes of observations or summaries of meetings.

One Low Fidelity Implementer, who exhibited certain aspects of Moderate Fidelity Implementation, reported that it was important for her to make personal observations. However, she did not characterize the process as important for the purposes of triangulation but rather to listen to stakeholders and communicate her value for instructional improvement. Her actions align to effective leadership behavior advocated by Willower and Licata (1997) who indicated that values are communicated by examining that to which leaders pay attention. Therefore, one important tool for leaders is the use of physical presence.

While High Fidelity Implementer superintendents were clearly more inclined to share power than Moderate or Low Fidelity Implementers, it is equally clear that High Fidelity Implementers were not different in asserting their authority over financial resources. The data indicated that when finances were discussed in any of the interview conversations, superintendents were different in their collaborative approach but all retained, either by factors inherent to the decision making processes or by fiat, the power to ensure fiscal stability. The literature indicates that superintendents are sensitive to, if not significantly distracted by, the fact that unsound fiscal management is job threatening (Bredeson & Kose, 2007; Glass, 2006; Morgan, 2000).

In addition to being asked about the power and influence within their districts, superintendents were asked to describe the leadership skills they possessed that supported their success in implementing change. Superintendents struggled to articulate a concise answer to this question. Despite multiple attempts to redirect their thinking, superintendents consistently described personal *qualities* rather than *skills*. The personal qualities were relevant and likely did support successful leadership. However, superintendents did not easily explicate those skills they possessed and employed to lead.

The single most prevalent answer given by superintendents was that they must be trustworthy. They also indicated that openness and honesty were important to their success. Although not as consistently reported, all Fidelity of Implementation categories provided some data regarding a team orientation and the inclination to collaborate. Some High Fidelity Implementers indicated that flexibility and patience, held in combination with perseverance, were necessary. One Low Fidelity Implementer indicated that being

“low key” was helpful. Reflection on these answers clearly indicates that superintendents are sensitive to the relational nature of their position.

In addition to personal qualities, superintendents cited some sets of knowledge as important to success. Across all Fidelity of Implementation categories, superintendents reported that expertise in instruction was important to their success. Additionally, some mention was made in each category of the need to be knowledgeable about personnel management.

Interestingly, superintendents in the Moderate and Low Fidelity of Implementation groups cited one skill, communication. While important to leadership, the ability to communicate is hardly the exclusive purview of the leadership arena. High Fidelity Implementers provided no evidence that they considered communication skills to be important in answer to this question. This finding is supported most clearly by the evidence from Moderate and Low Fidelity Implementers. These groups cited information or “the message” as factors they must control to successfully implement change.

Having painted the picture that superintendents do not easily report the leadership skills they employ when asked directly, it is important to examine data from other areas of questioning. Superintendents, especially in the High Fidelity of Implementation group, indicated that they engaged in developing a shared vision for change. The vision was not an ambiguous, idealistic one but rather a vision based on clear outcomes and boundaries developed as part of the goal setting process. High Fidelity Implementers indicated that once others were clear on the ultimate outcomes and the non-negotiables, superintendents were willing to grant broad latitude for others to accomplish the goals. One High Fidelity Implementing superintendent indicated that his school had benefitted from a change in

philosophy. Where the school had formerly considered “raising the bar” a standard that applied to students, this superintendent had moved the object of the high expectations to the teaching staff.

When discussing professional development for staff, superintendents indicated that some level of control was important. High and some Moderate Fidelity Implementers wanted to control the content of professional development. Some did this directly; others indicated that the content was dictated by the goals set in the district. Superintendents who did not indicate a desire to control the content did discuss the importance of it, even in the context of granting some latitude to others in determining delivery mechanisms. Superintendents, therefore, were found to place some importance of providing intellectual stimulation to their staffs. Two superintendents, one High and one Low Fidelity Implementer, indicated that it was important to personally attend the professional development, arguably indicating a value on modeling desired behavior.

The findings regarding superintendents’ conceptions about power, influence, and leadership skills provide a fertile ground for contrasting the applicability of two dissimilar models of leadership. Ogawa and Bossert (1995) described leadership not as something vested in particular office or individual but as a quality that exists in the relationships between and among organizational members. When superintendents were asked to describe their leadership skills, they replied with a list of personal qualities and a relatively small body of knowledge. The single skill explicitly reported was communications. The personal qualities superintendents reported were qualities that support positive interpersonal relationships. Communications skills provide a carrier medium for knowledge exchange along the conduit of the relationships. Indeed, this is

congruent with the position taken by Ogawa and Bossert when they stated that actors within an organization draw on expertise, craft-relevant knowledge, and use that knowledge to influence the organization. Ogawa and Bossert further stated that “Leadership is relational. . . .occurs through interaction . . . and influence cannot be assumed to be unidirectional.” This model of leadership provides a cogent lens through which to view superintendents’ perspective on leadership skills and loci of influence in the organization.

Transformational leadership theory, as expressed by Leithwood and Jantzi (1990), also provides a useful model by which the study’s findings can be considered. As stated earlier, superintendents did not respond clearly to direct questioning about their leadership skills. However, data from other questions produced findings that superintendents were in fact engaging in research-based leadership. Superintendents provided evidence that they engaged in modeling behavior they intended to promote (idealized influence) by attending professional development sessions. The consistent surfacing of professional development in superintendent remarks indicated that providing intellectual stimulation was a part of their operations. High Fidelity Implementers were most specific about controlling what stimulation was provided. Superintendents expressed that they held high expectations for teaching staff, with High Fidelity Implementers articulating specific intentions to find teachers moving from awareness to application with regard to their knowledge of instructional improvement. Little evidence of individual support surfaced in the data. The lack of evidence of individual support does not necessarily mean that staff did not receive it, but only that superintendents did not reveal it in their interviews. Finally, High Fidelity Implementers distinguished

themselves in being most clear about the need to solidify a unitary vision in the minds of others. These superintendents did so by indicating that the presence of a common vision allowed them to grant freedom in which others could plan and operate.

Clearly, High Fidelity Implementing superintendents did not speak directly to perceptions about their own leadership skills. Further, their direct answers about power and influence were ambiguous. However, when indirect evidence was examined, superintendents led by using both the relational leadership described by Ogawa and Bossert (1995) and some aspects of transformational leadership (Leithwood & Jantzi, 1990). Superintendents valued those personal qualities that strengthened relationships. They engaged in developing a shared vision, providing intellectual stimulation, idealized influence, and communicated high expectations for staff.

Conclusions

Quantitative analyses failed to determine significant differences in superintendents' leadership behavior. However, superintendents provided clear evidence that increases in poverty foster increases in academic pressure which, in turn, increases superintendent emphasis on collaborative goal setting, the non-negotiability of goals, providing resources for goal attainment, and monitoring progress toward goals. Further, in schools with assistant superintendents, lead superintendents are less likely to hold their own instructional leadership in high regard.

The Instructional Practices Inventory produced second-order change as a product of implementation. The second-order change took the form of teacher learning through common vocabulary development and peer coaching. Increased problem solving by teachers was also found. Teachers in High Fidelity Implementing districts improved

student engagement through improved teaching. Moderate Fidelity Implementing faculties provided evidence that they better understood good teaching and were more aware of their use of instructional time. These positive outcomes provide increasing benefits with greater adherence to the IPI protocols.

Superintendents in all categories of Fidelity of Implementation provided a rich body of data from which the themes of Nature of Collaboration, Ambiguity of Mandated Goals, and Leadership Conceptions emerged. Superintendents held significant commonalities across these themes. However, differences emerged, especially between superintendents from High Fidelity Implementing districts and those in the Moderate and Low Fidelity of Implementation groups. Some of the differences were clear differences of content while others were a matter of degree. In many cases superintendents produced enigmatic results as they failed to easily articulate the nature of their leadership but could clearly describe how they operated in order to implement change.

Clearly, High Fidelity Implementer superintendents were distinguished by their approach to collaboration, embracing a responsibility for outcomes and a respect for others that drove them to be well prepared to lead others to a preferred outcome, a concrete vision for student achievement. While these superintendents did not welcome externally imposed goals, they were unapologetic about the non-negotiability of those goals and the need for others to support the goals. When High Fidelity Implementing superintendents were satisfied that sufficient support and clarity existed and that other stakeholders understood what else was non-negotiable, the superintendents trusted others to plan and act, another manifestation of their respect for others. Superintendents from the other two Fidelity of Implementation groups narrowed the areas in which others had

freedom of choice. Collaboration provided the sphere within which the tension between control and granting freedom – defined autonomy – played out in the course of goal setting and goal attainment.

Superintendents in the study all reported relying on subordinates, principals and assistant superintendents, to monitor progress toward goals. High Fidelity Implementers distinguished themselves in that they did not do so blindly. Whether by periodically monitoring data or observing teaching first-hand, High Fidelity Implementers provided a means of triangulation for objectivity and accountability.

When superintendents were asked about providing resources, most superintendents first considered money. All superintendents controlled the financial health of the district. Moderate and Low Fidelity Implementers tended to speak frankly about budget decisions being theirs alone. High Fidelity Implementer superintendents, however, tended to control finances less directly, making sure that budget building and spending were tied to goals. High Fidelity Implementer superintendents tended to have a more complex view of resources, including the strategic use of personnel decision making as a means of maximizing the cost:benefit ratio.

The most intriguing findings of the study involved the differences between how superintendents described their leadership skills and the dynamics of power and influence in their district versus how they operated in these areas. Superintendents were clearly challenged to directly discuss their leadership skills and their analyses of power and influence in their districts. However, superintendents could easily discuss the actions they take to accomplish change. High Fidelity Implementing superintendents provided much evidence that they employed research-based leadership without labeling it as such.

Limitations

This research was conducted in a relatively constrained population. Specifically, the schools:

- were in Missouri,
- had an enrollment of less than 3,000,
- used the IPI process and voluntarily submitted their IPI data to the Middle Level Leadership Center, and
- were led by superintendents who had served that district in that capacity for three or more years and were willing to respond to the survey.

Data were gathered from three sources. First, the IPI data set housed in the Middle Level Leadership Center of the University of Missouri was used to identify the population. Superintendents were surveyed to produce statistically testable data on leadership and the fidelity of implementation of the IPI. Finally, selected superintendents were interviewed to gather qualitative data on how superintendents differed in their leadership approaches and perceptions.

A robust, research-based relationship between High Fidelity IPI implementation and student achievement was previously established by Painter (Painter, 1999) and Collins (Collins, 2009). However, a premise in the design of this study was that the IPI process could serve as a proxy measure of the superintendent's instructional leadership. Given the lack of statistical findings from this study, the IPI may be a valuable process for school improvement but may not serve effectively as a comprehensive proxy for all styles and models of superintendent instructional leadership.

Clearly, quantitative differences in superintendent leadership behavior were not found in the data. However, qualitative analyses surfaced clear differences in superintendent instructional leadership behavior. One possible explanation for the lack of quantitative statistical significance could be the relatively small sample size. Further research on a larger population of schools would be for statistical analysis. Additionally, the problematic fidelity of implementation data from Low Fidelity Implementers was an obstacle. The study would have benefited from greater clarity of response from those superintendents. Further, some triangulation of leadership behavior, through principal and faculty interviews and artifact analysis, would have given an additional perspective to the self reports.

This research did not gather data on the educational level of the superintendents. Neither were data on the superintendents' degree granting institutions gathered. In the absence of data and analyses, one is left to speculate as to whether the superintendents of this study had ever been exposed to leadership theory, leadership research, or how those areas of study might inform their daily practice. Alternatively, superintendents may have been exposed to that knowledge and may have operationalized it, but no longer found it necessary to converse in the language of that discipline and so did not find themselves articulate in the subject.

Recommendations

The study of superintendents as instructional leaders is challenging because superintendent influence is mitigated by district size. Superintendents not only face challenges of multiple role expectations, but also find themselves removed from the instruction for which they are ultimately responsible by at least one more level of

hierarchy than any other member of the school. Nonetheless, ongoing research should be conducted on superintendent instructional leadership while considering district enrollment as a controlling variable. Regardless of school size, superintendents have multiple responsibilities and yet are primarily responsible for student learning.

As mentioned under Limitations, further research built on this exploratory study is recommended. First, a similar study on a larger population sample might produce statistically significant differences. Second, research that triangulated self-reports on instructional leadership with data gathered from principals and teachers would provide a more comprehensive measure of superintendent instructional leadership. Third, because the findings of Marzano and Waters (2006, 2009) and Leithwood, Aitken, and Jantzi (2006) is closely related to Leithwood's (1990) model of transformational leadership, an exploration of a possible relationship between transformational leadership and High Fidelity IPI implementation should be conducted.

The findings related to teacher collaboration provoke questions about the long-term effects of IPI implementation on teacher culture. Clearly, instructional effectiveness is improved through the collegial conversations embedded in the IPI process. Since the process emphasizes teacher-led data collection, analysis, and problem-solving it is logical to consider that the process might lead to greater teacher empowerment and subsequently to other teacher leadership and school improvement outcomes over time. Research in this area should be conducted as the number of schools with long-term implementation of the IPI process evolves.

The articulation between theoretical models of leadership and daily practice was not readily apparent in the responses from the superintendents of this study.

Superintendent preparation programs should consider a more purposeful approach to connect these two aspects for aspiring superintendents. Clearly, the ability to step back from the daily perspective and reflect on how theory might inform practice would serve superintendents, and more importantly their students, well. Research into the area of superintendents' purposeful use of theory to inform their practice is recommended.

To the extent that preparation programs can effect an improvement in aspiring superintendents' ability to articulate a clear vision and then to trust others to implement it should be a priority. In no other area were High Fidelity of Implementation superintendents so clearly different than their peers.

Finally, superintendents should purposefully engage peers – especially high performing superintendents – in professional conversations about teaching, learning, and leading. An interesting aspect of the qualitative interviews, especially with Moderate and Low Fidelity of Implementation superintendents was to hear them process what they were actually doing with their time as they reflected on the leadership questions they were being asked. More than once a superintendent remarked about being sidetracked or distracted from implementing a change they felt was important. Since the questioning was non-judgmental, this dissonance between “what I know I should do” and “what I actually do” was not due to some externally imposed accountability measure but rather simply a surfacing of what the superintendent had already perceived and was now articulating.

Superintendents in this study provided much data in which to examine instructional leadership behaviors and the process of instructional improvement. The differences, while not statistically significant, nonetheless provide an intriguing tapestry

of leadership. Interestingly, the differences noted in the qualitative analyses were easily discernable when superintendents talked about what they did but much less so when they talked about themselves as leaders. While analysis of the qualitative and quantitative data indicated that some superintendents were able to lead instructional improvement with admirable facility, others were less adept. Indeed, High Fidelity Implementers were like accomplished dancers. They act with fluidity, grace, and skill that observers can and do discuss at length but who find themselves somewhat clumsy when asked to explain their own talent.

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Appendix A

Superintendent Instructional Leadership Questionnaire

1. I have ensured that all of our teachers were engaged meaningfully in our district's goal setting/district planning process.

Strongly Disagree		Disagree	Neutral	Agree		Strongly Agree
1	2	3	4	5	6	7

2. I have consistently held high expectations for our teachers as professionals.

Strongly Disagree		Disagree	Neutral	Agree		Strongly Agree
1	2	3	4	5	6	7

3. I have consistently monitored progress toward district academic and instructional goals.

Strongly Agree		Agree	Neutral	Disagree		Strongly Disagree
1	2	3	4	5	6	7

4. I have ensured that financial resources were allocated according to priorities established in the district's goal setting/planning process.

Strongly Disagree		Disagree	Neutral	Agree		Strongly Agree
1	2	3	4	5	6	7

5. I have provided a balance between prescription and autonomy for schools in our district.

Strongly Disagree		Disagree	Neutral	Agree		Strongly Agree
1	2	3	4	5	6	7

6. I have encouraged and stimulated staff to implement our district goals.

Strongly Disagree			Disagree	Neutral	Agree		Strongly Agree
1	2	3	4	5	6	7	

7. I have ensured that our district had high expectations for the academic and personal successes of our students.

Strongly Agree			Agree	Neutral	Disagree		Strongly Disagree
1	2	3	4	5	6	7	

8. I have ensured that appropriate instructional goals were established and addressed.

Strongly Disagree			Disagree	Neutral	Agree		Strongly Agree
1	2	3	4	5	6	7	

9. I have regularly made budgeting decisions that reflected our district's mission and goals.

Strongly Disagree			Disagree	Neutral	Agree		Strongly Agree
1	2	3	4	5	6	7	

10. I have frequently referred to district goals when making decisions related to changes in programs or practices.

Strongly Agree			Agree	Neutral	Disagree		Strongly Disagree
1	2	3	4	5	6	7	

11. I have regularly encouraged our teachers to evaluate progress toward achieving our district goals.

Strongly Disagree			Disagree	Neutral	Agree		Strongly Agree
1	2	3	4	5	6	7	

12. I have been able to ensure that goals related specifically to student achievement were established and addressed.

Strongly Disagree		Disagree	Neutral	Agree		Strongly Agree
1	2	3	4	5	6	7

13. I have been able to create a consensus of support among all staff for our district goals both during and after our goal setting/planning process.

Strongly Agree		Agree	Neutral	Disagree		Strongly Disagree
1	2	3	4	5	6	7

1. Did any of your schools collect Instructional Practices Inventory (IPI) during the 2008-2009 school year? If so, which schools and how many times during last year?

_____ No, we did not collect IPI Data in our Schools in the 2008-2009 School year.

_____ Yes, we did collect IPI data in 08-09...the schools and their respective number of data collections are listed below.

School Name	Number of Data Collections
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

2. When data were collected, has it been customary that the faculty engage in a discussion/analysis/study of the data following each data collection?

- a. _____ Yes, after each data collection
- b. _____ Yes, after most data collections
- c. _____ Yes, on occasion
- d. _____ No, not typically

3. When data have been collected, who were the data collectors? (Select all that apply)
- a. ☐ Teachers
 - b. ☐ Administrators
 - c. ☐ RPDC staff
 - d. ☐ Central office
 - e. ☐ Other: _____
4. If your faculty or faculties have engaged in the analysis of their IPI data, have the discussions resulted in goal setting about the following: (check all that apply)
- a. ☐ Instructional Practices
 - b. ☐ Student Engagement
 - c. ☐ Higher Order/Deeper thinking
 - d. ☐ Other: _____
5. If your faculty or faculties engaged in an analysis of their IPI data, who typically led/facilitated those faculty discussions? (check all that apply)
- a. ☐ Teachers
 - b. ☐ Administrators
 - c. ☐ RPDC staff
 - d. ☐ Central office
 - e. ☐ Other: _____
6. Please take a moment to describe what you can about the value of the IPI process in the schools of your district. For example (a) have benefits occurred, (b) to what degree have you seen the faculty develop some, or more, capacity to engage in collaborative conversations and thoughtful dialogue, (c) do faculty have a deeper understanding of student engagement, instructional design, etc. In other words, what outcomes have you observed in your district that have resulted from the use of the IPI process in your schools over the past year or years you have used the IPI?

Thank you for taking the time to participate in this brief survey. We appreciate your support as we study the most important competencies for superintendents of our Missouri schools.

Chris Neale
Superintendent
Hermann Public Schools
Hermann, MO

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Professor
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Appendix B

Superintendent Follow-Up Interview Protocol

1. Please describe the processes you use to set your district and your individual building academic and instructional goals.
2. Please describe how you monitor progress toward the district and individual building academic and instructional goals.
3. Please describe how you manage your district's resources relative to your district and individual building academic and instructional goals.
4. Please describe the leadership skills you think have helped you implement instructional change in your district and individual schools.
5. Please describe the factors you must control to effectively implement change in your district and your individual schools.
6. In contrast, in what ways do you allow latitude for others in order to accomplish goals?
7. Are there other factors you have not mentioned that would help us understand the factors that enable you to effectively implement change for instructional improvement across your district and schools?

8. On a scale of 1 to 10, how would you rate the ability of each of your principals to effectively lead the implementation of the Instructional Practices Inventory?

	Principal	Rating
Elementary 1	_____	_____
Elementary 2	_____	_____
Elementary 3	_____	_____
Middle 1	_____	_____
Middle 2	_____	_____
High	_____	_____

9. In your district, whom do you consider to be the key personnel, possibly including yourself, for the successful implementation of the Instructional Practices Inventory? What percentages would you assign to each person in terms of their importance to a successful implementation with the total for all key personnel being 100%?

	Educator	Influence Percentage
Person 1	_____	_____
Person 2	_____	_____
Person 3	_____	_____
Person 4	_____	_____
Person 5	_____	_____
Person 6	_____	_____
Person 7	_____	_____
Person 8	_____	_____
Person 9	_____	_____
Person 10	_____	_____

VITA

William Christopher (Chris) Neale is a practicing superintendent in the middle of his third decade in education. Neale holds a Bachelor in Music Education degree from Central Methodist College, a Masters in Education degree from Southwest Missouri State University, and an Educational Specialist degree from the University of Missouri in Columbia. This research completes his Doctor of Education from the University of Missouri.

Neale's interest in instruction quickly broadened from music to other areas, beginning with computer instruction in 1983. He operates from a basic philosophy that directing a band and leading a school are very similar. Both endeavors involve harmonizing the talents and efforts of a group of very diverse people who all desire to be part of something both beautiful and significant.