

Western Kentucky University
TopSCHOLAR®

Dissertations

Graduate School


Fall 2016

The Relationships Among Instructional Leadership, School Culture, and Student Achievement in Kentucky Elementary Schools

Karen H. Mackey

Western Kentucky University, karen.mackey@hopkins.kyschools.us

Follow this and additional works at: <http://digitalcommons.wku.edu/diss>

 Part of the [Bilingual, Multilingual, and Multicultural Education Commons](#), [Educational Leadership Commons](#), and the [Educational Methods Commons](#)

Recommended Citation

Mackey, Karen H., "The Relationships Among Instructional Leadership, School Culture, and Student Achievement in Kentucky Elementary Schools" (2016). *Dissertations*. Paper 110.
<http://digitalcommons.wku.edu/diss/110>

This Dissertation is brought to you for free and open access by TopSCHOLAR®. It has been accepted for inclusion in Dissertations by an authorized administrator of TopSCHOLAR®. For more information, please contact topscholar@wku.edu.

THE RELATIONSHIPS AMONG INSTRUCTIONAL LEADERSHIP,
SCHOOL CULTURE, AND STUDENT ACHIEVEMENT IN
KENTUCKY ELEMENTARY SCHOOLS

A Dissertation Presented to
The Faculty of the Educational Leadership Doctoral Program
Western Kentucky University
Bowling Green, Kentucky

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

By
Karen H. Mackey

December 2016

THE RELATIONSHIPS AMONG INSTRUCTIONAL LEADERSHIP,
SCHOOL CULTURE, AND STUDENT ACHIEVEMENT IN
KENTUCKY ELEMENTARY SCHOOLS

Date Recommended Nov. 1, 2016

Gary Houchens
Gary Houchens, Chair

John Millay
John Millay

Douglas Clayton Smith
Douglas Clayton Smith

[Signature]
Dean, The Graduate School

11/18/16
Date

DEDICATION

This dissertation is dedicated to my parents, Jerry and Nell Hobgood, who have always encouraged me to work hard, have faith, and to keep doing my best. My Mama is my number one fan and has been my constant motivator to complete this challenge. To my incredible husband, Scott Mackey, who continually supports my dreams and provided encouragement to return to school. There were times when I felt like giving up, but he pushed me to keep going until the end. To my children, Ty Bruce, Taylor Bruce, and Rebecca Mackey, who never made me feel like a bad momma for all the time spent in classes or in front of a computer writing. They had to endure my turmoil in order for me to accomplish this educational goal. I love all of you a peck and a bushel. Thank you for your sacrifices and unwavering support while we walked this road together. I look forward to the opportunities that the completion of this dissertation will bring and hope to continue to make my family proud as I utilize this degree to make a positive impact on the education of children.

ACKNOWLEDGMENTS

Although only one name is listed on the Title page of this dissertation, many people supplied effort, encouragement, and guidance to the completion of this research study. Dr. Gary Houchens, my dissertation chair at Western Kentucky University, spent countless hours reviewing and scrutinizing my efforts in order to provide much needed feedback to aid in a deeper understanding and more meaningful conclusions. I am forever grateful for his dedication and commitment to this project and for his wisdom and counsel to be better. Dr. Douglas Clayton Smith's knowledge of methodology astounds me. He never made me feel less than competent and answered my questions repeatedly. Dr. Smith spent many hours helping me complete the dissertation process and I am appreciative for his assistance. I am further indebted to Dr. John Millay for suggesting the doctoral program at WKU during a graduate class in 2009. The seeds Dr. Millay planted during a casual conversation blossomed into a mighty journey. I am grateful for his inspiration to begin the doctoral program and for his presence at the end of my doctoral program as a member of my dissertation committee. Dr. Tony Norman, Director of the Education Leadership Doctoral Program at WKU, is simply amazing. His kindness, encouragement, and high expectations have grown a program full of leaders who are committed to making a difference in education and the world.

I also would like to acknowledge the support I received from the members of Cohort IX. We banded together and stood on shoulders of others who walked before us. The friendships and relationships built will last a lifetime. Finally, Hardin County Schools and Hopkins County Schools who unconditionally provided me with the opportunities to learn and to grow as an educator, I thank you.

CONTENTS

LIST OF FIGURES	viii
LIST OF TABLES	ix
ABSTRACT	x
CHAPTER I: INTRODUCTION	1
Rationale	4
Statement of the Problem.....	8
Purpose of the Study	9
Research Questions.....	10
General Methodology	11
Significance of the Study	13
Delimitations and Limitations of the Study	14
Delimitations.....	14
Limitations	14
Definition of Terms.....	15
CHAPTER II: REVIEW OF THE LITERATURE	18
Introduction.....	18
A Framework for Understanding Principal Effects on Student Achievement.....	18
Collaborative Leaders	22
Instructional Leadership.....	22
Leadership Style.....	24
Effective School Leaders	28
Impact of School Leaders on Student Achievement.....	31

School Culture	51
Effect of School Culture on Student Achievement.....	52
Cultural Leadership.....	58
Teacher Perceptions of School Leadership.....	61
Relationship of Demographic Factors to Student Outcomes	64
The Kentucky Context	68
Kentucky’s Educational Accountability System	68
Kentucky’s Attempt to Measure Effects of Leadership and Culture	70
Summary	79
CHAPTER III: METHODOLOGY	80
Research Questions.....	80
Research Design.....	81
Subjects	82
Instruments.....	83
Independent and Dependent Variables	87
Procedures.....	88
Data Management and Analysis	89
Summary	90
CHAPTER IV: RESULTS.....	91
Introduction.....	91
Descriptive Statistics.....	92
Dependent Variables.....	93
Independent Variables	93

Demographic Controls	94
Psychometric Analysis.....	95
Mediating Factors	99
Research Questions.....	102
Research Question 1	103
Research Question 2	107
Research Question 3	108
Research Question 4	109
Summary.....	111
CHAPTER V: DISCUSSION AND CONCLUSIONS	115
Introduction.....	115
The Study in Brief.....	116
Discussion of Findings.....	118
Limitations	122
Recommendations.....	124
Practical Implications of the Study.....	124
Recommendations for Future Research.....	125
Conclusions.....	127
REFERENCES.....	130
APPENDIX A: Standards and Indicators for School Improvement	150
APPENDIX B: Standards and Indicators for School Improvement (Revised).....	162
APPENDIX C: School Improvement Scholastic Review (SISR).....	171

LIST OF FIGURES

Figure 1. A Synthesized Model of Leadership for Learning	2
Figure 2. Logic Model for Effects of Leadership on Student Achievement, as Mediated by School Culture	12
Figure 3. A Synthesized Model of Leadership for Learning	21
Figure 4. Logic Model for Effects of Leadership on Student Achievement, as Mediated by School Culture	88
Figure 5. Logic Model for Effects of Leadership on Student Achievement, as Mediated by School Culture	92
Figure 6. Scree plot for Standard 7	97
Figure 7. Scree plot for Standard 4B	100

LIST OF TABLES

Table 1. Marzano’s 21 Responsibilities of the School Leader	36
Table 2. Gruenert’s Factor Relationship to Student Achievement	56
Table 3. Differences between Exemplary, Recognized and Acceptable Schools on 10 Dimensions of Organizational Health	57
Table 4. Descriptive Statistics for Demographic Controls	94
Table 5. Total Variance Explained for Standard 7	96
Table 6. Factor Loadings for Standard 7	98
Table 7. Internal Reliability and Item Characteristics for Standard 7	99
Table 8. Total Variance Explained for Standard 4B	100
Table 9. Factor Loadings for Standard 4B.....	101
Table 10. Internal Reliability and Item Characteristics for Standard 4B.....	102
Table 11. Correlation Matrix for Demographic Factors, Leadership, School Culture, and Student Achievement.....	104
Table 12. Regression of Standard 7 on the Demographic Variables	105
Table 13. Regression of Standard 4B on the Demographic Variables	106
Table 14. Regression of Achievement on the Demographic Variables	117
Table 15. Regression of Standard 7 on Standard 4B	108
Table 16. Regression of Standard 7 on Achievement.....	108
Table 17. Regression of Standard 4B on Achievement	109
Table 18. Regression of Achievement on SISR Standard 7 Controlling for Demographic Factors and as Mediated by Standard 4B	112

THE RELATIONSHIPS AMONG INSTRUCTIONAL LEADERSHIP,
SCHOOL CULTURE, AND STUDENT ACHIEVEMENT IN
KENTUCKY ELEMENTARY SCHOOLS

Karen H. Mackey

December 2016

186 Pages

Directed by: Gary Houchens, John Millay, and Douglas Clayton Smith

Educational Leadership Doctoral Program

Western Kentucky University

In an era of increased accountability and educational reform, schools and districts are searching for strategies to increase student achievement. The principal's role has changed during the quest for school improvement to being an instructional leader. Principals are seeking knowledge to improve leadership behaviors and approaches to ultimately enhance student achievement. The perceptions of teachers concerning principal leadership behaviors and school culture are vital to educational growth.

This quantitative research study expands the focus of principal instructional leadership and school culture by examining their relationships to student achievement. Hallinger's (2011) Leadership for Learning model provides a theoretical framework for this study. Specifically, this research will help to determine whether teachers' perceptions of school leadership behaviors and school culture are related to student academic performance in Kentucky elementary schools. The central research question encapsulates the purpose of this study and investigates Hallinger's model: To what extent are instructional leadership and school culture related to student achievement in Kentucky elementary schools?

Secondary data are analyzed from the Kentucky Department of Education (KDE) in the form of achievement scores from 2014-15 Unbridled Learning state assessments and teacher perception data from the 2014-15 School Improvement Scholastic Review

(SISR) survey in order to establish the direct and indirect effects of school leadership on student achievement while controlling for demographic factors. The SISR was developed by a research team at Western Kentucky University and is adapted from the Standards and Indicators for School Improvement (SISI). This study contributes to the research on the validity and reliability of the SISR.

Descriptive statistics and multiple regressions are utilized to establish the relationships among the variables. The results of the research quantify the impact of leadership and school culture on student achievement. In addition, this study adds to the research regarding the magnitude of socioeconomic status on student achievement; it suggests the SISR is a promising measure as a teacher perception survey.

CHAPTER I: INTRODUCTION

Principal leadership skills have changed significantly in the last 25 years due to increased pressure for schools to perform well on accountability testing. The principal's role has shifted from being a school manager to an instructional leader (Bolman & Deal, 2013). According to Hallinger (2011), the principal's role as instructional leader is the primary influence on student achievement (Bass & Bass, 2008). Marzano, McNulty, and Waters (2005) affirmed that effective school principals can have a significant influence on student achievement by implementing specific leadership behaviors. However, Hallinger (2011) further clarified that this impact is indirect and mediated through the principal's influence on collaborative decision-making structures and the overall academic capacity of the school. These dimensions of collaboration and academic capacity represent components of a school's culture (MacNeil, Prater, & Busch, 2009). This study examines the link between principal leadership behaviors and school culture in Kentucky elementary schools and the influence of interaction of the principal with school culture on student achievement.

Hallinger (2011) described the significant progress researchers have made in pinpointing variables that link leadership to learning and student achievement. Hallinger's model, illustrated in Figure 1, provides a framework for explaining principal effects by synthesizing 40 years of empirical research that show a consistent impact on student achievement by fostering collaborative leadership structures and by building the academic capacity of the school (Hallinger, 2003; Heck & Hallinger, 2009; MacBeath & Cheng, 2008; Marks & Printy, 2003; Mulford & Silins, 2009). Principals appear to

influence learning by developing teachers who perform well through shaping academic structures and processes, which act as mediating factors.

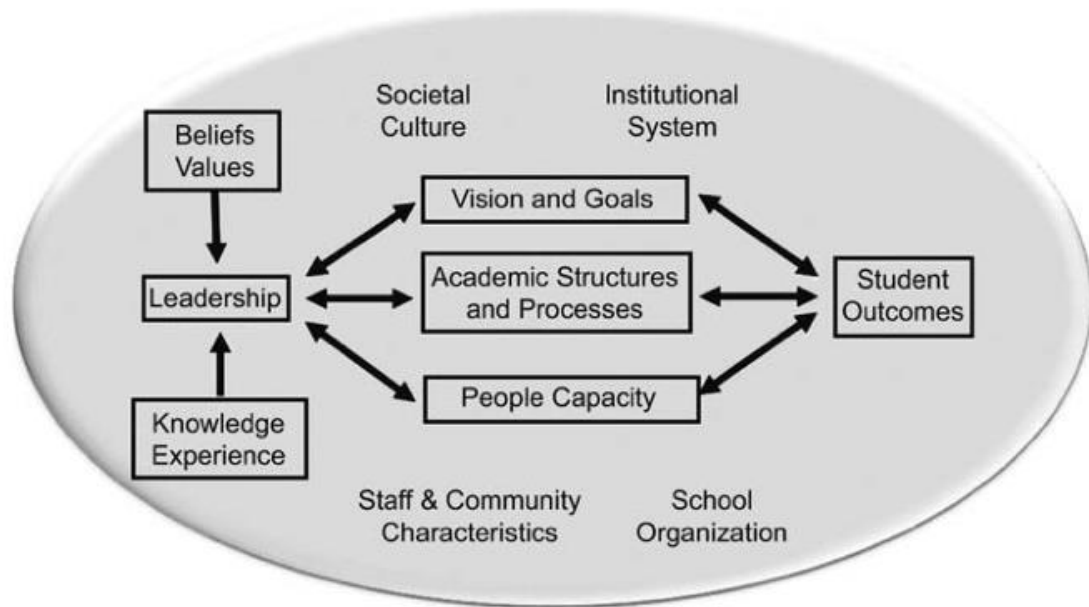


Figure 1. A synthesized model of leadership for learning (Hallinger, 2011).

Hallinger's (2011) Leadership for Learning model illustrates that the influence of school leadership on student outcomes predominately is indirect and mediated through various school conditions. To conceptualize such mediated pathways, school principals need to identify the linking variables that contribute to proficient student learning and that are adjustable by school leadership. Successful principals create an academic capacity through the development of high expectations and standards and a school culture that nurtures incessant learning and improvement (Fullan, 2002). Effective principals are value leaders who possess a learning focused vision. By building human capacity, collaborative leadership structures, and positive relationships, a school's academic capacity is grown.

As Hallinger's (2011) Leadership for Learning model suggested, other researchers have found an indirect impact on student achievement (Hallinger & Heck, 1996; Leithwood, Seashore-Louis, Anderson, & Wahlstrom, 2004; Marzano et al., 2005; Robinson, Lloyd, & Rowe, 2008). The meta-analysis by Hallinger and Heck (1996) of 40 international empirical studies confirmed this mediated relationship. Likewise, Leithwood et al. (2004) determined that teachers are the only factors among school-based influences that have more capacity than school leaders to improve student performance. Marzano et al. (2005) conducted a meta-analytic study on existing research of principal leadership and student achievement. They established that the average effect size correlating leadership to student achievement was .25. Lloyd et al. (2008) performed two analyses of different types of leadership and concluded that, as principals get closer to the core business of teaching and learning, they are more apt to have a positive impact on student outcomes.

As every individual possesses a personality, every school has a culture. Deal and Peterson (1990) defined culture as the "deep patterns of values, beliefs, and traditions that have formed over the course of the school's history" (pp. 3-4). The principal ultimately is the responsible party for shaping school culture (Snowden & Gorton, 2002). Evidence has suggested that establishing a positive school culture may be an indirect way instructional leaders are linked to positive school outcomes including school culture (Maslowski, 2001; Fullan, 2001; Rosberg, McGee, & Burgett, 2003; Hoy, Tarter, & Bliss, 1990; Hoy, Tarter, & Hoy, 2006). Principals must understand the influence of culture on the school as a whole in order to exercise effective leadership (MacNeil et al., 2009).

Rationale

Teacher perceptions are a means for assessing instructional leadership effectiveness and school culture. Perceptions are judged to be a valid measure, as they align generally across teacher and student reports and are important because perceptions influence actions (Davis, 1963). Research has noted that teachers' perceptions often positively correlate with student learning and achievement (Brewer, 1993; Hoy et al., 1990; Leithwood, Anderson, Mascall & Strauss, 2010; Phillips, 1997; Sebastian & Allensworth, 2012). Teachers' perceptions concerning instructional leadership and school culture are critical for school improvement (Blase & Blase, 2000). A link has been found between teacher perceptions of a principal's effectiveness and the strength of the school's culture (Kelley, Thornton, & Daugherty, 2005; Shouppe & Pate, 2010). This study contributes to 40 years of research on leadership for learning by exploring the connections between instructional leadership and school culture based on the perceptions of teachers in Kentucky elementary schools and the way in which these connections influence student achievement outcomes.

Kentucky has become a case study for the use of teacher perceptions in the school improvement process. Their perceptions concerning leadership behaviors and school culture have become widely tapped information in Kentucky with the required use of the Teaching, Empowering, Leading, and Learning (TELL) Survey (Allen, 2014). Data on teacher perceptions from the TELL Survey are used by state, district, and school officials to gauge leadership practices and school culture. Additional analysis of the TELL Survey indicates a weak link to student achievement (Irvin, 2013). Research on the TELL Survey has contrasted with the strong connections to achievement established by Kentucky's

Standards and Indicators for School Improvement (SISI) framework (Ennis, 2007; McKinney, 2007; Todd, 2010).

Kentucky's General Assembly altered its accountability system in 1998 to incorporate multiple measures of school progress (KDE, 2003). One provision of school improvement included school visits by trained teams of educational stakeholders. The Kentucky Department of Education (KDE) sought information about specific leadership activities and related teacher perceptions, as well as the school culture. The Standards and Indicators for School Improvement (SISI) were created and adopted by KDE as an instrument for the trained teams. The SISI includes nine Standards and 88 Indicators as the guidelines for successful schools and improved student achievement in public schools (KDE, 2004). The nine Standards are as follows:

Standard 1 Curriculum: The school develops and implements a curriculum that is rigorous, intentional, and aligned to state and local standards.

Standard 2 Evaluation/Assessment: The school utilizes multiple evaluation and assessment strategies to continuously monitor and modify instruction to meet student needs and support proficient student.

Standard 3 Instruction: The school's instructional program actively engages all students by using effective, varied, and research-based practices to improve student academic performance.

Standard 4 School Culture: The school/district functions as an effective learning community and supports a climate conducive to performance excellence.

Standard 5 Student, Family, Community Support Program/Services: The school/district works with families and community groups to remove barriers to

learning in an effort to meet the intellectual, social, career, and developmental needs of students.

Standard 6 Professional Development: The school/district provides research-based, results driven professional development opportunities for staff and implements performance evaluation procedures in order to improve teaching and learning

Standard 7 Leadership: School/district instructional decisions focus on support for teaching and learning, organizational direction, high performance expectations, creating a learning culture, and developing leadership capacity.

Standard 8 Organization of School: There is evidence that the school is organized to maximize use of all available resources to support high student and staff performance.

Standard 9 Defining the School's Vision, Mission, and Beliefs: The school/district develops, implements and evaluates a comprehensive school improvement plan that communicates a clear purpose, direction and action plan focused on teaching and learning. (KDE, 2008, p. 3)

As detailed in Chapter II, the Scholastic Audit was created and used to measure the implementation of the SISI. Trained audit teams conduct week-long school visits and assign a team rating for each indicator. The audits evaluate schools' progress toward meeting proficiency goals by capturing stakeholders' perceptions of that which is occurring in a school. The audit data creates a vivid picture of a school. The data, positive and negative, provide diagnostic evidence that could be used as a resource for school improvement efforts (McKinney, 2007).

KDE transitioned in 2011 from the scholastic audit process based on the Standards and Indicators for School Improvement (SISI) to a diagnostic review process based on the AdvancEd Standards for Quality Schools and Systems. The use of the AdvancEd process created a cost savings for KDE (T. Holliday, personal communication, December, 2012). A crosswalk between the SISI and the AdvancEd standards was developed and utilized. While the SISI framework was not withdrawn as Kentucky's official model for school improvement, essentially it was shelved in favor of the AdvancEd framework (Miller, Houchens, Smith, Chon, & Hunt, 2014). With a belief in the abiding value of the SISI, a research team at Western Kentucky University designed a teacher survey based on the original SISI framework entitled the School Improvement Scholastic Review (SISR). The original structure of the SISI was preserved in the SISR with expansions in Standards 4 and 6, a reduction in the number of indicators, and updated language to reflect recent changes in policy and practice (Miller et al., 2014). Standard 4 of the SISI is School Culture; the SISR divided the standard into two parts, Standard 4A (Respectful, Orderly Environment that Prioritizes Learning) and Standard 4B (Teacher Expectations and Beliefs about Student Learning). Standard 6 of the SISI, Professional Development, also was split on the SISR Standard 6 of Teacher Improvement. Standard 6A, Professional Development, and Standard 6B, Professional Growth and Evaluation, were addressed on the SISR.

In Spring 2014 and 2015, the SISR was administered to Kentucky teachers in schools that participate in the Green River Regional Educational Cooperative/Ohio Valley Educational Cooperative Race to the Top grant as one of several instruments used to evaluate program effectiveness. Faculty in the 112 schools in

2014 and the 111 schools in 2015 completed the SISR, typically during a faculty meeting, in which each teacher logged into Qualtrics software and anonymously completed the scales online. Miller et al. (2014) proposed that the SISR measures teacher perceptions concerning school improvement, therefore providing data into relationships that may exist among demographic factors, the targeted standards from the SISR including Leadership and School Culture, and student outcomes.

This study focuses on elementary school teacher perceptions of Standard 4B (representing school culture) and Standard 7 (Leadership) from the sample of elementary schools participating in the 2015 SISR administration. This research study utilizes demographic control factors, along with the SISR, to compare influences on student achievement from Standard 4B and Standard 7 of the SISR.

Statement of the Problem

Kentucky elementary schools must make continuous improvement under the state's accountability and assessment system. While most of their improvement efforts are concentrated on curriculum, assessment, or instruction, a school's culture is an additional target through which student outcomes may be improved. The relationships of principal leadership behaviors and school culture on student achievement are research avenues that should be comprehensively investigated, with the expectation that the discoveries will corroborate or increase existing knowledge. Schools often choose to focus on culture, as research has indicated that school culture positively correlates with student performance (Hoy et al., 1990, 2006; Maslowski, 2001; Tschannen-Moran, Parish, & DiPaola, 2006). The school principal in turn affects the culture (Hallinger &

Heck, 1998; Hoy et al., 2006; Leithwood et al., 2004). A more extensive grasp of these relationships can enhance existing practices and therefore improve student achievement.

The joint efforts of principals and teachers are essential for fostering school success. The relationships between principals and teachers should be nurtured to produce leadership behaviors, instructional practices, and a school culture meant to improve student achievement. The principal must utilize cooperative leadership strategies to escalate instructional capacity and to advance student outcomes. Teacher perceptions of principal instructional leadership behaviors and school culture are important variables for school improvement research, as most teachers are able to experience instructional leadership practices and school culture on a daily basis.

Purpose of the Study

When the No Child Left Behind Act (2002) became law, school accountability became a nationwide emphasis. A main facet of NCLB is Adequate Yearly Progress (AYP), which is a measure of student achievement on statewide assessments from year to year. AYP holds each local school district and individual school accountable for the academic success of all students. NCLB originally expected all students to reach proficiency by 2014. After Congress experienced multiple delays in reauthorizing the law, the U.S. Department of Education created an NCLB waiver system to allow states flexibility in exchange for initiating reforms. Kentucky chose to establish new performance targets for improving student achievement and closing achievement gaps (U. S. Department of Education, 2012). Test scores continue to show that many students do not meet desired learning outcomes and many schools continue to receive an undesirable status of needs improvement (Abrams, Pedulla, & Madaus, 2003).

Effective leadership becomes vital to all schools as they attempt to solve the puzzle of continuous improvement in the quality of the student's educational experience. This study explores the possible relationships among instructional leadership, school culture, and student outcomes and will help to determine whether teachers' perceptions of school leadership behaviors and school culture are related to student academic performance. Research has indicated that the role of the principal is crucial for school success; however, limited research has been conducted to determine the significance of specific principal characteristics that cause some school leaders to be more successful than others (Branch, Hanushek, & Rivkin, 2012). Information gleaned and added to the past 40 years of educational research may provide a guide for practice in Kentucky elementary schools.

Principals improve student learning indirectly through fostering a collaborative and positive school culture (Heck & Hallinger, 2010). By exploring the relationship among the perceived leadership characteristics, school culture, and student achievement, defining characteristics of instructional leaders may be recognized and the importance of a positive school culture noted. With advances to leadership and culture, the ultimate goal of increased student outcomes may be fulfilled in elementary schools throughout Kentucky. Based on the previous discussion, the central research question for this study is: To what extent are instructional leadership and school culture related to student achievement outcomes in Kentucky elementary schools?

Research Questions

The following research questions guide this study:

1. To what degree do the school demographic factors such as gender, SES, and

race relate to SISR Standard 7 (Instructional Leadership), Standard 4B (representing school culture), and student achievement?

2. To what degree does SISR Standard 7 (Instructional Leadership) affect Standard 4B (representing school culture) and student achievement?
3. To what degree does SISR Standard 4B (representing school culture) relate to student achievement?
4. To what degree do teacher perceptions of SISR Standard 4B (representing school culture) mediate the effect of teacher perceptions from SISR Standard 7 (Instructional Leadership) on student achievement as measured by state accountability achievement scores while controlling for demographic factors?

General Methodology

This research study is quantitative in nature and delves deeper into principal instructional leadership and school culture and their relationships to student achievement. According to Creswell (2013), a quantitative methodology is appropriate for studies that examine the relationships among variables that can be measured or observed. This quantitative research study analyzes secondary data provided by the Kentucky Department of Education (KDE) and primary data collected from the School Improvement Scholastic Review (SISR) teacher survey (Miller et al., 2014). It explores the effects of school principal leadership and school culture on student achievement as measured by the Kentucky Performance Rating for Educational Progress (K-PREP), an annual statewide system that gives schools and districts student academic performance indicators concerning gap reduction, student growth, and student achievement, as well as an overall score. This study also investigates relationships, if any, that may exist among

certain demographic factors such as ethnicity, socioeconomic status, and gender on student achievement.

The Achievement score from the spring 2015 K-PREP results and Unbridled Learning accountability model represents the dependent variable. Composite teacher ratings on two of the nine standards from the School Improvement Scholastic Review (SISR) document serve as independent variables: Leadership (Standard 7) and School Culture (represented by Standard 4B). Demographic influences are identified as control variables. Ordinary least square (OLS) regression is used to analyze the relationships to test the hypotheses in question.

Figure 2 illustrates a logic model of the conceptual relationships among the variables utilized in this research.

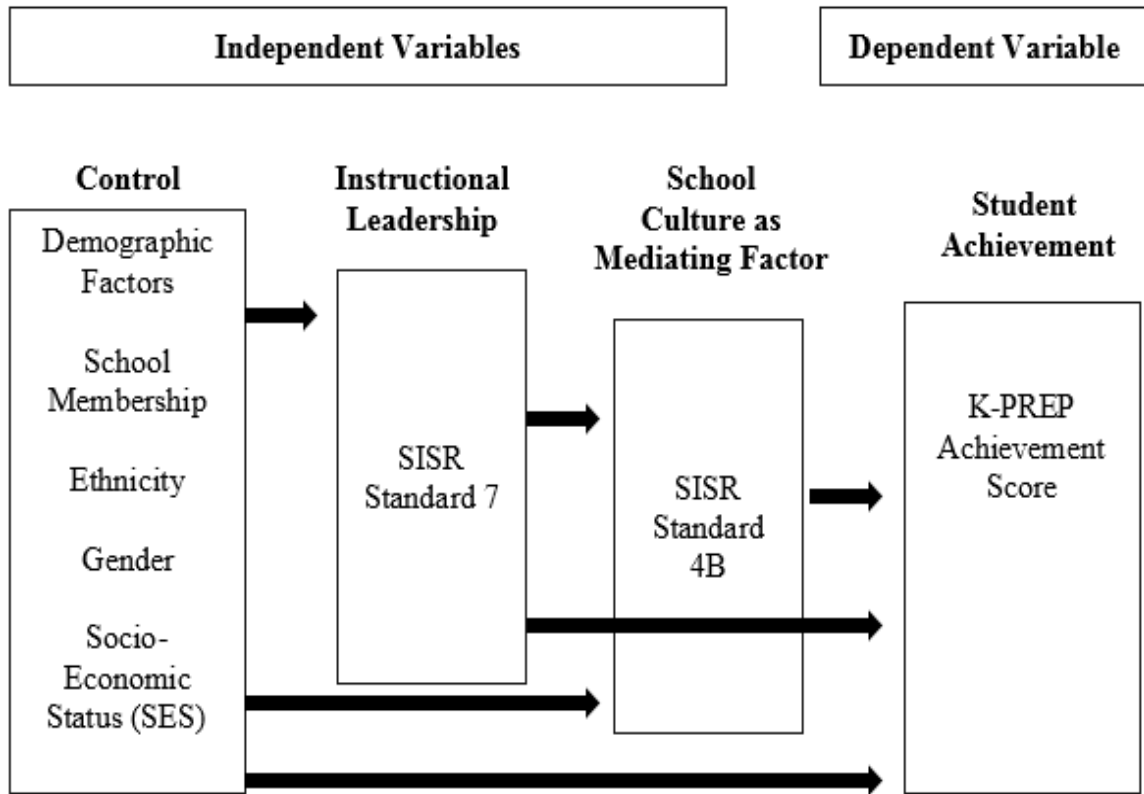


Figure 2. Logic model for effects of leadership (Standard 7) on student achievement, as mediated by school culture (represented as Standard 4B).

Significance of the Study

As the school accountability movement accelerated in the 1980s, it has become apparent that a principal must accomplish more to improve student achievement. With the enactment of the No Child Left Behind (NCLB) Act of 2002, more focus has been placed on student testing for public school accountability. NCLB was motivated by a national concern about stagnant student achievement and significant learning gaps for poor and minority children. These achievement gaps lead to a greater federal role in accountability. After 13 years of NCLB, the passage of the Every Student Succeeds Act in 2015 devolved power back to individual states to implement accountability testing, although closing gaps and holding schools accountable remains a key feature of state and federal education policy. The information gained from this study may provide awareness to school leaders about strategies to improve student outcomes in Kentucky elementary schools. Results of this study may contribute to the research literature on the linkage between leadership behaviors, culture, and student outcomes.

Educators may apply the results to better understand the leadership behaviors that improve a positive school culture and advance student achievement. The study is unique because it uses a teacher perception instrument to validate the linkages among principal leadership, culture, and achievement. This study also evaluates the SISR as a valid tool for school improvement. The SISR is an instrument that incorporates teacher perceptions and judges the principal's implementation of the standards, as well as the effectiveness of the implementation. Use of the survey instrument is easy and provides a quick assessment of teacher perceptions. Miller et al. (2014) piloted the SISR with notable success and with

minimal time and expense by the school. If the SISR is accepted and used across additional districts, it may include a reasonable expectation for affecting student learning.

Delimitations and Limitations of the Study

This study has delimitations and limitations that should be considered for future research.

Delimitations

- The sample is limited to elementary school principals and teachers in Kentucky public schools who took the SISR, participated in K-PREP, and had state accountability performance scores. The participating schools are in only the GRECC/OVEC Race to the Top grant.
- Only 2015 state accountability performance data are used for student achievement.
- This study does not encompass all faculty and staff within a school. Participants who provided their perceptions of school leadership and school culture include only teachers. Other staff members who comprise the culture, such as secretaries, cafeteria workers, assistants and custodians, are excluded.

Limitations

- The use of overall accountability performance scores as the measure for student achievement presents a single score for overall accountability and separate scores for gap, growth, achievement, and program reviews. Additional measures of achievement may be used to judge student growth.

- Comparisons between states on accountability data are difficult, as each state develops its own achievement test and sets its own proficiency levels; therefore, results are not easily generalizable to other states.
- The SISR is based on a Likert scale with no provision for open-ended questions on the survey.

Definition of Terms

The following key terms and definitions are identified for this study.

Instructional Leadership: A term used to describe leadership that focuses on the school mission, manages the instructional program, and promotes the school climate to improve learning outcomes (Hallinger, 2003). Instructional leadership involves creating and sustaining a school-wide focus on learning through collaborative leadership to build academic capacity (Hallinger & Heck, 2010).

Free and Reduced Lunch: This proxy for income includes students whose families apply and qualify under the National School Lunch Act to receive either free or reduced price meal service from their local school based upon their reported family income. The percentage is obtained from the School Report Card.

KDE: Kentucky Department of Education.

K-PREP: An acronym for Kentucky's statewide school assessment system implemented in 2012 (Kentucky Performance Rating for Educational Progress), which measures student achievement, student growth, and gap performance at different grade levels.

Leadership for Learning: Leadership methods utilized by school leaders to achieve desired school outcomes of high student learning (Hallinger, 2011).

Mediating Variable: Those variables through which principals influence student achievement. Hallinger and Heck (1996) described a mediated effects model that assumes some or all of a principal's impact on student learning and other school outcomes occur through the manipulation and interaction of the leader with the features of the school organization.

School Culture: "The culture of a group can now be defined as a pattern of shared basic assumptions that was learned by a group as it solved its problems of external adaptation and internal integration, that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems" (Schein, 2004, p. 17).

School Improvement Scholastic Review (SISR): Teacher perceptual scales designed to capture the information from the external Scholastic Audit through a 45-minute survey instrument developed by a team from Western Kentucky University (Miller et al., 2014).

Standards and Indicators for School Improvement (SISI): An evaluation tool used by audit teams in the Scholastic Audit process to establish the suitability of the school's classification and to make recommendations to improve teaching and learning for inclusion within the existing comprehensive school and district improvement plans (KDE, 2004).

Student Achievement: Student performance outcomes as measured and reported on standardized test and/or state accountability assessments following state and federal accountability models.

Transformational Leadership Model: A way in which to be successful in collaboratively defining the essential purpose of teaching and learning and empowering the entire school community to become energized and focused.

CHAPTER II: REVIEW OF THE LITERATURE

Introduction

This review of literature explores the influence of school leaders on student achievement, particularly through the various ways they shape school culture, and the reason Kentucky offers a useful context for studying this relationship. Greater accountability expectations in education have required transformations in school instructional leadership practices for principals. Beyond influencing culture, Leithwood et al. (2004) emphasized that principals have both direct and indirect influences on teaching and student achievement outcomes. Their influence on school culture is an indirect way principals positively influence student learning. This study explores correlations among school leadership, school culture, and student achievement in Kentucky elementary schools. This chapter presents an overview of research significant to this study. The topics discussed include leadership for learning, collaborative leaders, the impact of leadership on student achievement, school culture, teacher perceptions of school leadership, the relationship of demographic factors to student achievement, and Kentucky's context.

A Framework for Understanding Principal Effects on Student Achievement

Beginning in the early 1980s educators began to focus intentionally on the principal's role as instructional leader (Hallinger, 2003). Reforms in educational systems worldwide have reflected an ongoing interest in the role of the school principal (Fullan, 2004; Hallinger, 2009, 2011). Various researchers have suggested models explaining the influence of principal leaders on student outcomes (Hallinger & Heck, 1998; Heck & Hallinger, 2009; Kythreotis, Pashiardis, & Kyriakides, 2010; Sammons, Day, & Ko,

2011). The (a) direct-effects model, (b) mediated-effects model, and (c) reciprocal-effects model are the three major theoretical approaches used to investigate these relationships (Hallinger & Heck, 1998; Heck & Hallinger, 2010; Kythreotis et al., 2010). Hallinger and Heck (1998) highlighted strengths and limitations of utilizing each model to conceptualize the relationship between principal leadership and student achievement.

The direct-effects model suggests the principal has a direct bearing on student outcomes without the influence of related variables (Hallinger & Heck, 1998). This model shows the way in which the leadership style and behaviors of the principal directly affect student achievement. Still, principals rarely have direct interaction with a student's learning. Using a direct-effects model to show a principal's impact is not useful or practical without direct, instructional interaction.

The mediated-effects model proposes the principal's effect on student achievement results from the school leader's interaction with organizational factors (Hallinger & Heck, 1998; Kythreotis et al., 2010). This model suggests the principal's leadership style and behaviors influence another variable(s), which affect student achievement. Studies that have utilized the mediated-effects model revealed consistent impacts of school leaders on student outcomes (Hallinger & Heck, 1998).

The reciprocal-effects model hypothesizes a collaborative relationship between the principal and school environment (Hallinger & Heck, 1998; Heck & Hallinger, 2010; Kythreotis et al., 2010). In this model, the leadership style and behaviors of the principal affect various aspects of school functions such as culture, while the culture has an influence on the principal, and the reciprocal nature of the influence affects student achievement. The process of testing reciprocal-effects models is a challenge due to the

relatively few published longitudinal studies to serve as models (Hallinger & Heck, 2010). Studying school leadership effects on student outcomes over time includes utilizing correlated student outcome data, multiple variables that affect student outcomes, and various organizational factors that can impact the school culture (Hallinger & Heck, 1996). With many variables in education changing frequently, a viable longitudinal analysis is difficult to obtain when using a reciprocal-effects model.

Hallinger (2011) developed an updated model utilizing the mediated-effects model. Important to this research is the framework of Leadership for Learning (LfL), which merges theoretical elements of instructional leadership, shared instructional leadership, and distributed leadership. The model suggests that a high-performing school culture is built on a shared vision, a culture of highly-effective teaching practice, and a commitment to growing leadership capacity among all school stakeholders. The importance of teamwork and collaboration used in his model provides opportunities for principals and school leaders to build academic capacity and collaborative leadership, which in turn improves teaching and increases student outcomes. Hallinger's LfL model (Figure 3) synthesizes research about leadership for learning from the past four decades and presents a guide for practice in schools (Bass, 1990; Bossert, Dwyer, Rowan, & Lee, 1982; Hallinger & Heck, 1996; Hallinger & Murphy, 1985; Kouzes & Posner, 2007; Leithwood, Harris, & Hopkins, 2008; Leithwood, Patton, et al., 2010; Murphy, 1988, 2005; Pitner, 1988).

The synthesized model of Leadership for Learning identifies the indirect ways that school leadership contributes to school improvement through which leadership is linked to learning. First, it stresses that it is represented within a specific organizational

and environmental setting. Second, it is mediated by the personal traits of the leaders, which includes beliefs, values, knowledge, and the experience of the school leader. Third, the model proposes that leaders do not directly influence student achievement; the leader's influence is mediated by school-level processes and conditions (Hallinger, 2011). Finally, student growth and learning outcomes are the desired result.

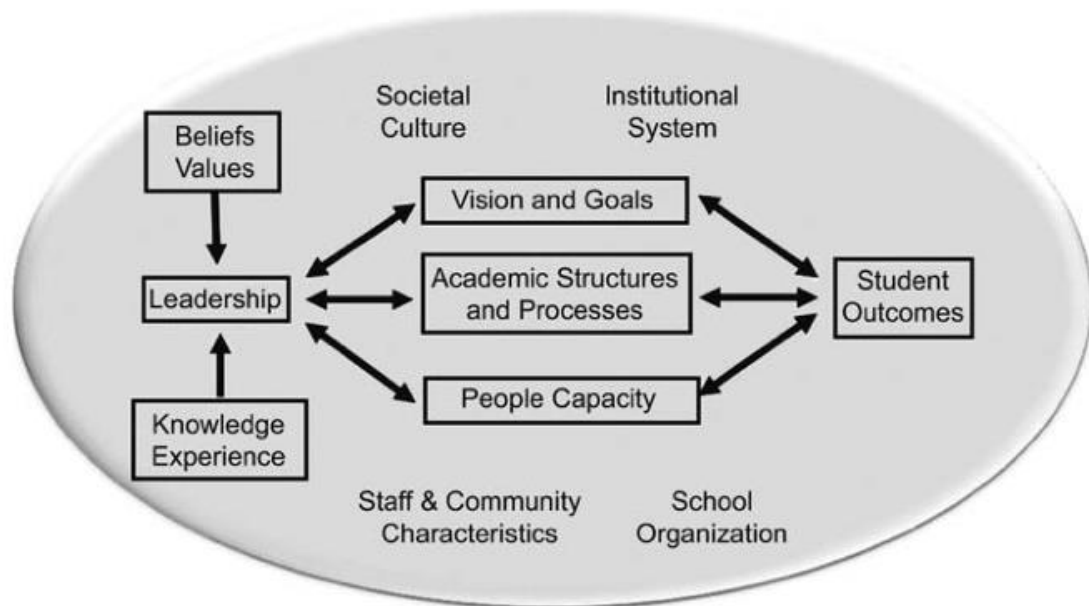


Figure 3. A synthesized model of leadership for learning (Hallinger, 2011).

Leadership for Learning incorporates features of instructional, transformational, and distributed leadership and displays a mutual influence model that accentuates the importance of leadership and learning as well as the deep impact of the school context on leadership and learning. The four dimensions in this model include values leadership, leadership focus, context for leadership, and sources of leadership (Hallinger, 2011). Values leadership emphasizes the role of values in forming leadership behaviors. Expert principal leaders can define and understand their own values. Their focus is on vision and goals, academic structures and processes, and people. Context for leadership refers to the

varied styles and strategies needed for a particular school for educational improvement. Sources of leadership develop the importance of shared leadership and empowering others (Hallinger, 2011). Hallinger (2011) maintained a new standard for 21st century school leadership in the rebirth of instructional leadership in Leadership for Learning (LfL). Beyond the focus on instructional leadership, the LfL framework is an effective synthesis explaining the way leaders influence student achievement through various constructs, with school culture as the highlighted mediating variable. The following section explores the key research findings of instructional leadership as it relates to Hallinger's (2011) LfL model.

Collaborative Leaders

Over the past two decades researchers have brought a heightened interest to the concept of leadership as it applies to school effectiveness and to the role of principal. This heightened attention is associated with continuous policy-level reforms of education throughout the world (Hallinger, 2011). The evolution of education has required changes to the role of principal as a school leader. In Hallinger's (2011) framework of LfL, collaborative instructional leadership and building academic capacity are key constructs that guide the role of a school leader while seeking to increase student outcomes. Defining and understanding terms and concepts applied by a school leader increases understanding and suggests practical implications.

Instructional Leadership

A facet of being a collaborative leader is the use of instructional leadership. Hallinger and Murphy (2012) defined instructional leadership as “an influence process through which leaders identify a direction for the school, motivate staff, and coordinate

school and classroom-based strategies aimed at improvement in teaching and learning” (p. 7). Hallinger (2005) stated that instructional leadership is the degree to which the principal influences classroom instruction and student learning during the management and delivery of the school’s goals, curriculum, instructional practices, resources, assessments, professional development, and learning culture. Instructional leadership centers on the behaviors of educators as they develop and implement activities that positively influence student growth (Leithwood & Duke, 1999). Smith and Andrews (1989) identified four dimensions of instructional leaders that add to the definition. The defining characteristics include resource provider, instructional resource, communicator, and visible presence. The definition of instructional leadership continues to change as the research advances.

Researchers not only have deliberated over the definition of instructional leadership, but also over the usefulness of the term itself. Research literature has referred to the term *instructional leadership* in earlier years (Hallinger & Murphy, 1985; Hallinger and Heck 1996; Leithwood & Duke, 1999; Blase & Blase, 2000; Hallinger, 2003; Marks & Printy, 2003; Hallinger, 2005). Murphy, Elliot, Goldring, and Porter (2007) preferred *instructionally focused leadership* or *leadership for school improvement*. Knapp, Copeland, Portin, and Plecki (2006) conducted research with the term *learning-focused leadership* to replace *instructional leadership*. The term *leadership for/of learning* was utilized next (Bush, 2006; Murphy et al., 2007; MacBeath & Dempster, 2008). Hallinger’s 2011 instructional leadership model used LfL, which emphasizes a more collaborative style. Over the past two decades leadership styles, such as

transactional, transformational, and shared instructional leadership, have been applied to define differences in school leadership practice (Robinson et al., 2008).

Leadership Style

A review of the literature indicates that the style of the educational leader plays a role in school culture and student achievement (Leech & Fulton, 2002). Hallinger (2003) suggested that principals operate with a range of styles depending upon the situation. Transactional, transformational, and distributed are styles of leadership that have been used to denote differences in school leadership practices (Robinson et al., 2008). Hallinger (2003) described the manner in which the transactional leadership style, a top-down view of instructional leadership, has developed into a more distributed style with collective decision making and responsibilities distributed to teachers. Leithwood et al. (2004) proposed the development of people as a key factor in any model of effective leadership, to include teachers, staff, students, and community. The principal cannot shoulder all power, control, and responsibility in schools and at the same time be an effective instructional leader. Hallinger (2003) emphasized that instructional leaders find it more necessary to delegate responsibilities, particularly in managerial functions. Principal and teachers sharing the task for leading the instructional program of the school is a chief idea of shared leadership models. Hallinger's (2011) LfL model utilizes the distributed leadership model to promote collaborative leaders.

Before the educational reforms that required more instructional accountability for teachers and principals, the main role of a principal was to manage the day-to-day operations of the school. As transactional leaders, they were concerned with following a prescribed set of rules and standards. Efforts were concentrated on the day flowing

smoothly and keeping the ship afloat. Perceived as a boss figure, the transactional principal depends on the faculty to contend with student learning and to be the instructional leaders. Principals who use transactional leadership motivate the teachers with the help of external motivators and rewards for effort and good performance (Bass, 2000). Transactional leaders center their attention on meeting the basic needs of their staff without providing a high level of motivation, job satisfaction, or commitment (Bass & Bass, 2008).

Educational reform efforts and updated accountability expectations have exposed weaknesses in the transactional leadership style. Increased accountability for students, teachers, and administrators, has required principals to move past the limitations of transactional leadership. As instructional leaders, they are focused on student academic outcomes driven by data. In order for the paradigm shift to occur, principals must evolve from a transactional leader to a transformational leader. Adding to the research of Burns (1978), Bass (1985), and Bass and Avolio (1990), Leithwood (1994) built a transformational model of school leadership, arguing that, in order for principals to meet the increased expectations of the 21st century educational system, transformational leadership skills are necessary. Current studies conducted by numerous academic scholars in the field of education have indicated that principals who demonstrate a transformational leadership style have faculty with increased job satisfaction, a greater sense of teaching efficacy, demonstrate higher levels of organizational commitment, and have less staff turnover (Griffith, 2004; Ross & Gray, 2006).

Burns (2003) declared that leaders grow in reaction to followers' needs. In line with Saban and Wolfe (2009), leaders must know what they believe and the reason they

believe it. They must openly express their beliefs, and live their beliefs inspiring others to work toward a common vision and group mission (Bass, 1990). Transformational leaders focus on intrinsic motivation and the positive development of followers (Bass & Riggio, 2006). Transformational leadership helps to provide strong leadership for high levels of student and teacher accountability while facing changing mandates in the education field (Leithwood et al., 2008). According to Betz (2000), transformational leadership behaviors of principals play a vital function in the implementation of change in the field of education. Transformational leadership changes and transforms individuals as it finds a place in the hearts of great leaders.

Liontos (1992) noted that transformational leadership entertains three goals. First, the leader works with staff to develop and to maintain a collaborative culture. Second, the leader supports the growth and development of staff from custodians to classroom teachers. Finally, the transformational leader relies on the commitment and aptitude of others to develop new activities and solutions for the attainment of school-wide goals. School principals who employ these skills communicate to their faculty the value of staff input and the belief that goals are best created together (Leithwood et al., 2004). A problem with the many school reform movements was that the principals often are too busy with juggling the roles required to successfully lead schools through the mandates. With the additional skill set needed and increased accountability for student achievement, the option for principals to share leadership in their schools was essential (Camburn, Rowan, & Taylor, 2003). By identifying the changing and increasing demands of leadership in education that create conditions for distributed leadership, a case is made for the way the distributed leadership model supports student achievement.

Principals very often are extremely busy with management of their schools and being responsible for instruction, school culture, strategic development, and human resources. With the educational reform mandates, any principal would experience difficulty handling all these areas alone. A hybrid of transformational leadership was developed, known as the distributed leadership model, in which the principal shares authority and power and teachers assume leadership roles and participate in the decision-making process (Camburn et al., 2003). Principals must be strong instructional leaders while guiding teachers, students, and parents through the learning process. They create leadership opportunities that allow capable teachers to focus on leadership capacity (Loeser, 2008). According to Spillane (2005), distributed leadership is concentrated on leadership practice rather than leadership roles and functions. Primarily it is concerned with leadership practice and the influence of leadership on organizational and instructional improvement (Spillane, 2006). Leadership practice is the interaction between leaders and followers, while leadership roles and functions are the day-to-day management skills necessary in a school or organization (Spillane, Halverson, & Diamond, 2004). Research has shown that the use of distributed leadership practices is more apt to align with improved school performance and outcomes (Leithwood, Mascall, Strauss, Sacks, Memon, & Yashkina, 2007).

Distributing leadership within the school can be challenging and precarious. Principals must conduct themselves as leaders who steer others in the decision-making process. Datnow and Park (2009) reported that principals serve as role models in the leadership and decision-making process. In distributed leadership, supporting faculty with the essential time and resources to make informed, data-driven decisions is

important. Faculty should be encouraged to work collaboratively in order to share ideas and build collegial relationships (Datnow & Park, 2009). With the additional accountability for increasing student achievement, principals have used this as a premise to operate under distributed leadership. Strong instructional leaders comprehend the significance of building collaboration and collegiality among staff. Clearly communicating and working toward a common goal is crucial to improving student achievement (Camburn et al., 2003). Marks and Printy (2003) indicated that, while involving others in instructional leadership is beneficial for principals, establishing a clear instructional focus on improving student academic performance must be the collective mission of the school.

Empirical research has indicated that successful school leadership facilitates conditions that reinforce effective teaching and learning, as well as build capacity for professional learning and change (Fullan, 2001; Hallinger & Heck, 1996; Robinson et al., 2008; Hallinger, 2011). Although the research has found some distinctions among the terms of distributed, shared, and collaborative leadership, all three expressions reflect a comparable point for increasing the effectiveness of school leadership. Hallinger's (2011) model referred to this as collaborative leadership, which allows for school leaders to build capacity among teachers within the school.

Effective School Leaders

Ron Edmonds (1979) asserted that some schools may have strong instructional leaders but are not effective. However, no effective schools have been found without a strong instructional leader as the principal. Leadership acts as a catalytic agent; without it other positive things likely will not happen. According to Leithwood et al. (2008), no

evidence was found of a successful school turnaround without the presence of a talented leader. Lambert (2006) emphasized the importance of principals setting intentional goals to build leadership capacity. Effort must be spent to cultivate positive relationships before school leaders build leadership capacity in teachers, as relationships are the foundation of effective leadership (Orozco & Allison, 2008).

Leithwood and Riehl (2003) highlighted key concepts of effective leaders, which relates to Hallinger's (2011) framework of LfL. The authors stated that a successful leader is reflective, has a clear vision, achieves a shared vision among stakeholders, effectively fosters communication, grows leaders, utilizes models of distributive leadership, and creates an environment of collaboration by building and maintaining positive relationships with all stakeholders. Hallinger's model suggests that collaborative leadership should focus on similar school-wide actions aimed at school improvement.

Effective principals exhibit leadership characteristics consistent with the leadership research of Kouzes and Posner (2007), who identified four qualities of effective leaders: trustworthiness, competence, forward thinking, and enthusiasm. Whitaker (2003) identified three leadership themes exhibited by great principals. One theme in his study is the importance assigned to individuals within the school. Surrounding oneself with effective teachers and staff is important for successful principals. A second important feature of Whitaker's research is the need for a positive school culture. Additional research is presented later in this chapter on the topic of school culture. A third characteristic of effective leaders is the importance of establishing a clear mission and set of beliefs for the school community. The mission of the school drives all educational decisions and should include buy-in by the entire school community.

Whitaker's leadership themes are related to increasing the school's academic capacity through efforts designed to influence teaching and learning (Hallinger, 2011).

Key findings from various studies have further defined successful school leadership. Although each factor is not equal in strength, each is recognized as an important component of leadership success throughout the plethora of research. Seven strong claims about successful school leadership have emerged from research and include the following concepts:

- School leadership is second only to classroom teaching as an influence on pupil learning.
- Most successful leaders draw on the same repertoire of basic leadership practices.
- The ways in which leaders apply these basic leadership practices -- not the practices themselves -- demonstrate responsiveness to, rather than dictation by, the context in which they work.
- School leaders improve teaching and learning indirectly and most powerfully through their influence on staff motivation, commitment, and working conditions.
- School leadership greatly influences schools and students when it is widely distributed.
- Some patterns of distribution are more effective than others.
- A small handful of personal traits explains most of the variation in leadership effectiveness (Leithwood et al., 2008).

Principals who practice collaborative leadership and share responsibility have a tremendous impact on their school environment. According to Southworth (2004), sharing leadership aids in the creation of an atmosphere that fosters teamwork among teachers and staff. Principals demonstrating this collaborative leadership view all teachers and staff as indispensable resources and equal contributors to the success of the school. McEwan (2003) studied the process of principals building a community of leaders, which in turn assists the entire school in reaching a higher potential. Teachers who feel empowered from gaining leadership roles from the school leaders transfer the sense of efficacy to students, parents, and school community. Students are the ultimate beneficiaries; as collaborative leadership has the potential for higher student achievement.

DuFour and Marzano (2009) agreed that time is well spent for principals devoted to building capacity of teachers through effective leadership. Successful collaborative leadership involves the utilization of governance structures and organizational processes that empower faculty and students, promotes shared decision making, and adopts shared accountability for student outcomes (Hallinger & Heck, 2010).

Impact of School Leaders on Student Achievement

School leaders and principals are held accountable for the academic success of all students (Gruenert, 2005). Numerous studies have been conducted to establish the association between school leaders and student outcomes (Hallinger, 2011). The empirical link is noteworthy and is framed through a variety of contrasting conceptual perspectives. Leithwood et al. (2004) surmised that the direct and indirect effects of principal leadership on student achievement account for one-fourth of the total school

effect. Hallinger and Heck (1998) developed a specific description of instructional leadership's effects on student achievement based on empirical research. They developed three classifications of principal effects on student and school outcomes:

1. Direct effects in which the principal's actions influence school outcomes.
2. Mediated effects in which principal actions affect outcomes indirectly through other variables.
3. Reciprocal effects in which the principal affects teachers and teachers affect the principal, and through these processes outcomes are affected. (pp. 162-163)

The direct effects of instructional leadership are leaders' practices that can impact school outcomes; these can be measured separate from different related variables (Witziers, Bosker, & Kruger, 2003). Witziers et al. (2003) conducted a meta-analysis on approximately 40 school effectiveness studies from 1986 to 1996. Attempts were made to estimate the direct effect size of school leaders on student achievement, and to determine the factors that interact with the effect size. Results indicate that educational leadership has a small significant direct effect on student achievement, educational leadership as a one-dimensional concept does not have a significant impact on student achievement, and four specific leaders' practices show a positive relationship with student achievement. Additional studies that have employed a one-dimensional, direct effects model did not yield significant results; subsequently, scholars were discouraged from pursuing this model (Hallinger & Heck, 1996).

In an additional study, researchers examined the impact of school leaders on student achievement in primary schools and whether a direct relationship exists between the two variables (Kythreotis et al., 2010). A longitudinal study was conducted. A survey

was given to 22 administrators in Cyprus primary schools with 1,224 students and compared with student achievement tests in language and mathematics. Multilevel analysis was employed to arrive at the conclusions that proposed a direct correlation between principal leadership and student achievement. Only one variable of leadership style, the principal's human resource frame, had a statistically significant positive effect, whereas none of the variables concerning the principal's effectiveness had any statistically significant effect (Kythreotis et al., 2010). Overall, studies utilizing a direct effects model did not yield significant results and researchers were guided from pursuing this model (Hallinger & Heck, 1996).

Based on the negative results of the direct effects studies, effectiveness researchers should utilize an indirect model to better conceptualize instructional leadership. Indirect effects of instructional leadership are a leader's contribution mediated by other individuals, events, or organizational and cultural factors (Witziers et al., 2003). It characteristically emphasizes a principal's indirect influence on student outcomes through the behaviors and manner with which they conduct their business to improve classroom instruction (Robinson, 2010). Leitner (1994) noted that instructional leadership provides the theoretical support for the principal's indirect influence on student learning and direct influence on the instructional behaviors, beliefs, knowledge, practices, and competencies of teachers. In a review of empirical literature, Hallinger and Heck (1998) examined 43 studies linking principal instructional leadership and student outcomes. Conclusions show a direct correlation between principal instructional leadership and student outcomes.

Hallinger and Heck (1998) distinguished indirect effects of leadership on student achievement as mediated and reciprocal effects. Mendro (1998) found that the principal leaders indirectly impact school improvement efforts. In mediated models, variables appear to mediate the effects of principal leadership on student outcomes and to adopt the premise that changes in leadership and capacity are the results of trickle-down impacts on teacher classroom behavior and student outcomes. School leadership indirectly affects student outcomes by setting, supporting, and sustaining high expectations, goals, and student outcomes (Stronge, Richard, & Catano, 2008). Leadership efforts are most evident through the influence of the leader on those who interact directly with students in instructional settings (Hallinger & Heck, 1996). The indirect effects on student outcomes are attained by developing the school's capacity for academic improvement (Hallinger & Heck, 2010; Hallinger, 2011).

Hallinger and Heck (2010) noted that a reciprocal effects model implies that variables mutually influence one another over time. Marsh and Craven (2006) reported that the reciprocal effect model justifies leadership, school improvement capacity, and student outcomes as variables explaining the subsequent change in the other two variables. Hallinger and Heck (2010) formulated that the interaction over time between leadership and capacity building provides impacts on student outcomes beyond the individual effects of either construct. Reciprocal effects are difficult to measure due to the lack of longitudinal data, as well as the lack of analytical tools capable of measuring these effects over time (Hallinger & Heck, 2010).

Distinguished academic student achievement is linked to effective schools, which are associated with effective principals (Barth, 2001). In contrast, most studies utilized

for this research have concluded that the principal increases student achievement by improving instructional practices and organizational culture, which are indirect means (Heck & Hallinger, 2010). A meta-analysis of 69 studies on school leadership and the impacts on student achievement from 1978 to 2001 were conducted. A total of 2802 schools in the United States participated and utilized standardized testing as student academic achievement data. Marzano et al. (2005) created 21 responsibilities of school leaders based upon their study. Grounded on the meta-analysis, the 21 responsibilities were correlated to student achievement. The highest correlation was situational awareness with $r = 0.33$. Flexibility was second with $r = 0.28$. Discipline, outreach, and monitoring/evaluation were third with $r = 0.27$ (Marzano et al., 2005). Table 1 provides a complete listing of the 21 responsibilities of the school leader as well as the correlations (r) with student achievement.

Louis, Leithwood, Wahlstrom, and Anderson (2010) concurred with the research that identified principal instructional leadership as a key to increased student achievement. Louis et al. (2010) conducted an exhaustive study on the impact of school leaders on student achievement when they discovered every school that showed growth in student outcomes also had an effective principal. In line with Hallinger's model (2011), Louis et al. (2010) recognized that principal knowledge, involvement with teachers, and empowering teacher learning, leads to increased student achievement.

The reevaluation of the importance of the principal as a leader correlates to the transformation that occurred in the public school system since the 1990s. Education has become focused on student standards, data-driven instruction, and intervention and assessments based on measuring demonstrated student performance (Shipman & Murphy,

Table 1

Marzano's 21 Responsibilities of the School Leader

Leadership Responsibilities	The extent to which the principal...	Average Effect Size
Affirmation	recognizes and celebrates school accomplishments and acknowledges failures	.19
Change Agent	is willing to and actively challenges the status quo	.25
Contingent Rewards	recognizes and rewards individual accomplishments	.24
Communication	establishes strong lines of communication with teachers and among teachers	.23
Culture	fosters shared beliefs and a sense of community and cooperation	.25
Discipline	protects teachers from issues and influences that would detract from their teaching time of focus	.27
Flexibility	adapts his or her leadership behavior to the needs of the current situation and is comfortable with dissent	.28
Focus	establishes clear goals and keeps those goals in the forefront	.24
Ideals/Beliefs	communicates and operates from strong ideals and beliefs about schooling	.22
Input	involves teachers in the design and implementation of important decisions and policies	.25

Table 1. *Marzano's 21 Responsibilities of the School Leader* (continued)

Leadership Responsibilities	<i>The extent to which the principal...</i>	Average Effect Size
Involvement in curriculum, instruction, and assessment	is directly involved in the design and implementation of curriculum, instruction, and assessment	.20
Knowledge of curriculum, instruction, and assessment	is knowledgeable about current curriculum, instruction, and assessment practices	.25
Monitors/Evaluates	monitors the effectiveness of school practices and their impact on student learning	.27
Optimizer	inspires and leads new and challenging innovations	.20
Order	establishes a set of standard operating procedures and routines	.25
Outreach	is an advocate and spokesperson for the school to all stakeholders	.27
Relationships	demonstrates an awareness of the personal aspects of teachers and staff	.18
Resources	provides teachers with materials and professional development necessary for the successful execution of their jobs	.25
Situational awareness	is aware of the details and undercurrents in the running of the school, and uses this information to address current and potential problems	.33
Visibility	has quality contact and interactions with teacher and students	.20

Note. Adapted from *School Leadership that Works* by R. Marzano, B. McNulty, and T. Waters, 2003, p. 5. Copyright 2003 by the Association for Supervision and Curriculum Development.

2001). Efforts were required to establish a set of standards to train and evaluate principals on the habits and characteristics of effective school administrators.

Prior to Hallinger's (2011) LfL model being developed, principal standards that align with Hallinger's model and provide a base for the model emerged over time. In 1996 the Council of Chief State School Officers instituted a series of standards for school administrators (CCSSO, 1996). These standards mirror the models and characteristics of effective school leadership reviewed in this chapter and in Hallinger's (2011) leadership model. Employees from state education agencies and professional educational organizations in more than 24 states established the Interstate School Leaders Licensure Consortium (ISLLC). This group created the ISLLC Standards that shaped leadership in public schools in Kentucky and across the nation. These standards embody the broad, relevant themes that school leaders must concentrate their focus to encourage the success of every student. Although the ISLLC standards are broad in a thematic nature, they are very detailed in that which they require of a school administrator. With only six standards, several functions fall under each and outline the principal's needs in order to build leadership capacity. The standards were updated in 2008 and entitled the Educational Leadership Policy Standards: ISLLC 2008. The standards are:

Standard 1: An education leader promotes the success of every student by facilitating the development, articulation, implementation, and stewardship of a vision of learning that is shared and supported by all stakeholders.

Standard 2: An education leader promotes the success of every student by advocating, nurturing, and sustaining a school culture and instructional program conducive to student learning and staff professional growth.

Standard 3: An education leader promotes the success of every student by ensuring management of the organization, operation, and resources for a safe, efficient, and effective learning environment.

Standard 4: An education leader promotes the success of every student by collaborating with faculty and community members, responding to diverse community interests and needs, and mobilizing community resources.

Standard 5: An education leader promotes the success of every student by acting with integrity, fairness, and in an ethical manner.

Standard 6: An education leader promotes the success of every student by understanding, responding to, and influencing the political, social, economic, legal, and cultural context. (Council of Chief State School Officers, 2008)

Another set of standards was released in 2015 after an intense examination of the educational leadership arena. With a stronger, clearer focus on students and student achievement, the 2015 Professional Standards for Educational Leaders, formerly known as ISLLC standards, outline principles of leadership to aid in the education and preparation of children for the 21st century (National Policy Board for Educational Administration, 2015). In alignment with Hallinger's (2011) model, the 2015 standards recognize the value of human relationship in leadership, teaching, and student learning. Emphasis is placed on high academic expectations and the development of human capacity. The 2015 standards reflect interdependent domains and qualities and values of leadership work that research and practice have suggested are integral to student success. Each standard includes a title and a statement that describes the work of effective

educational leaders. The series of elements are necessary indicators for school leaders to accomplish in order to meet the standard. A list of the standards follows:

Standard 1. Mission, Vision, and Core Values

Effective educational leaders develop, advocate, and enact a shared mission, vision, and core values of high-quality education and academic success and well-being of each student.

Effective leaders:

- a) Develop an educational mission for the school to promote the academic success and well-being of each student.
- b) In collaboration with members of the school and the community and using relevant data, develop and promote a vision for the school on the successful learning and development of each child and on instructional and organizational practices that promote such success.
- c) Articulate, advocate, and cultivate core values that define the school's culture and stress the imperative of child-centered education; high expectations and student support; equity, inclusiveness, and social justice; openness, caring, and trust; and continuous improvement.
- d) Strategically develop, implement, and evaluate actions to achieve the vision for the school.
- e) Review the school's mission and vision and adjust them to changing expectations and opportunities for the school, and changing needs and situations of students.

f) Develop shared understanding of and commitment to mission, vision, and core values within the school and the community.

g) Model and pursue the school's mission, vision, and core values in all aspects of leadership.

Standard 2. Ethics and Professional Norms

Effective educational leaders act ethically and according to professional norms to promote each student's academic success and well-being.

Effective leaders:

a) Act ethically and professionally in personal conduct, relationships with others, decision-making, stewardship of the school's resources, and all aspects of school leadership.

b) Act according to and promote the professional norms of integrity, fairness, transparency, trust, collaboration, perseverance, learning, and continuous improvement.

c) Place children at the center of education and accept responsibility for each student's academic success and well-being.

d) Safeguard and promote the values of democracy, individual freedom and responsibility, equity, social justice, community, and diversity.

e) Lead with interpersonal and communication skill, social-emotional insight, and understanding of all students' and staff members' backgrounds and cultures.

f) Provide moral direction for the school and promote ethical and professional behavior among faculty and staff.

Standard 3. Equity and Cultural Responsiveness

Effective educational leaders strive for equity of educational opportunity and culturally responsive practices to promote each student's academic success and well-being.

Effective leaders:

- a) Ensure that each student is treated fairly, respectfully, and with an understanding of each student's culture and context.
- b) Recognize, respect, and employ each student's strengths, diversity, and culture as assets for teaching and learning.
- c) Ensure that each student has equitable access to effective teachers, learning opportunities, academic and social support, and other resources necessary for success.
- d) Develop student policies and address student misconduct in a positive, fair, and unbiased manner.
- e) Confront and alter institutional biases of student marginalization, deficit-based schooling, and low expectations associated with race, class, culture and language, gender and sexual orientation, and disability or special status.
- f) Promote the preparation of students to live productively in and contribute to the diverse cultural contexts of a global society.
- g) Act with cultural competence and responsiveness in their interactions, decision making, and practice.
- h) Address matters of equity and cultural responsiveness in all aspects of leadership.

Standard 4. Curriculum, Instruction, and Assessment

Effective educational leaders develop and support intellectually rigorous and coherent systems of curriculum, instruction, and assessment to promote each student's academic success and well-being.

Effective leaders:

- a) Implement coherent systems of curriculum, instruction, and assessment that promote the mission, vision, and core values of the school, embody high expectations for student learning, align with academic standards, and are culturally responsive.
- b) Align and focus systems of curriculum, instruction, and assessment within and across grade levels to promote student academic success, love of learning, the identities and habits of learners, and healthy sense of self.
- c) Promote instructional practice that is consistent with knowledge of child learning and development, effective pedagogy, and the needs of each student.
- d) Ensure instructional practice that is intellectually challenging, authentic to student experiences, recognizes student strengths, and is differentiated and personalized.
- e) Promote the effective use of technology in the service of teaching and learning.
- f) Employ valid assessments that are consistent with knowledge of child learning and development and technical standards of measurement.
- g) Use assessment data appropriately and within technical limitations to monitor student progress and improve instruction.

Standard 5. Community of Care and Support for Students

Effective educational leaders cultivate an inclusive, caring, and supportive school community that promotes the academic success and well-being of each student.

Effective leaders:

- a) Build and maintain a safe, caring, and healthy school environment that meets that the academic, social, emotional, and physical needs of each student.
- b) Create and sustain a school environment in which each student is known, accepted and valued, trusted and respected, cared for, and encouraged to be an active and responsible member of the school community.
- c) Provide coherent systems of academic and social supports, services, extracurricular activities, and accommodations to meet the range of learning needs of each student.
- d) Promote adult-student, student-peer, and school-community relationships that value and support academic learning and positive social and emotional development.
- e) Cultivate and reinforce student engagement in school and positive student conduct.
- f) Infuse the school's learning environment with the cultures and languages of the school's community.

Standard 6. Professional Capacity of School Personnel

Effective educational leaders develop the professional capacity and practice of school personnel to promote each student's academic success and well-being.

Effective leaders:

- a) Recruit, hire, support, develop, and retain effective and caring teachers and other professional staff and form them into an educationally effective faculty.
- b) Plan for and manage staff turnover and succession, providing opportunities for effective induction and mentoring of new personnel.
- c) Develop teachers' and staff members' professional knowledge, skills, and practice through differentiated opportunities for learning and growth, guided by understanding of professional and adult learning and development.
- d) Foster continuous improvement of individual and collective instructional capacity to achieve outcomes envisioned for each student.
- e) Deliver actionable feedback about instruction and other professional practice through valid, research-anchored systems of supervision and evaluation to support the development of teachers' and staff members' knowledge, skills, and practice.
- f) Empower and motivate teachers and staff to the highest levels of professional practice and to continuous learning and improvement.
- g) Develop the capacity, opportunities, and support for teacher leadership and leadership from other members of the school community.
- h) Promote the personal and professional health, well-being, and work-life balance of faculty and staff.
- i) Tend to their own learning and effectiveness through reflection, study, and improvement, maintaining a healthy work-life balance.

Standard 7. Professional Community for Teachers and Staff

Effective educational leaders foster a professional community of teachers and other professional staff to promote each student's academic success and well-being.

Effective leaders:

- a) Develop workplace conditions for teachers and other professional staff that promote effective professional development, practice, and student learning.
- b) Empower and entrust teachers and staff with collective responsibility for meeting the academic, social, emotional, and physical needs of each student, pursuant to the mission, vision, and core values of the school.
- c) Establish and sustain a professional culture of engagement and commitment to shared vision, goals, and objectives pertaining to the education of the whole child; high expectations for professional work; ethical and equitable practice; trust and open communication; collaboration, collective efficacy, and continuous individual and organizational learning and improvement.
- d) Promote mutual accountability among teachers and other professional staff for each student's success and the effectiveness of the school as a whole.
- e) Develop and support open, productive, caring, and trusting working relationships among leaders, faculty, and staff to promote professional capacity and the improvement of practice.
- f) Design and implement job-embedded and other opportunities for professional learning collaboratively with faculty and staff.

g) Provide opportunities for collaborative examination of practice, collegial feedback, and collective learning.

h) Encourage faculty-initiated improvement of programs and practices.

Standard 8. Meaningful Engagement of Families and Community

Effective educational leaders engage families and the community in meaningful, reciprocal, and mutually beneficial ways to promote each student's academic success and well-being.

Effective leaders:

a) Are approachable, accessible, and welcoming to families and members of the community.

b) Create and sustain positive, collaborative, and productive relationships with families and the community for the benefit of students.

c) Engage in regular and open two-way communication with families and the community about the school, students, needs, problems, and accomplishments.

d) Maintain a presence in the community to understand its strengths and needs, develop productive relationships, and engage its resources for the school.

e) Create means for the school community to partner with families to support student learning in and out of school.

f) Understand, value, and employ the community's cultural, social, intellectual, and political resources to promote student learning and school improvement.

g) Develop and provide the school as a resource for families and the community.

h) Advocate for the school and district, and for the importance of education and student needs and priorities to families and the community.

- i) Advocate publicly for the needs and priorities of students, families, and the community.
- j) Build and sustain productive partnerships with public and private sectors to promote school improvement and student learning.

Standard 9. Operations and Management

Effective educational leaders manage school operations and resources to promote each student's academic success and well-being.

Effective leaders:

- a) Institute, manage, and monitor operations and administrative systems that promote the mission and vision of the school.
- b) Strategically manage staff resources, assigning and scheduling teachers and staff to roles and responsibilities that optimize their professional capacity to address each student's learning needs.
- c) Seek, acquire, and manage fiscal, physical, and other resources to support curriculum, instruction, and assessment; student learning community; professional capacity and community; and family and community engagement.
- d) Are responsible, ethical, and accountable stewards of the school's monetary and non- monetary resources, engaging in effective budgeting and accounting practices.
- e) Protect teachers' and other staff members' work and learning from disruption.
- f) Employ technology to improve the quality and efficiency of operations and management.

- g) Develop and maintain data and communication systems to deliver actionable information for classroom and school improvement.
- h) Know, comply with, and help the school community understand local, state, and federal laws, rights, policies, and regulations so as to promote student success.
- i) Develop and manage relationships with feeder and connecting schools for enrollment management and curricular and instructional articulation.
- j) Develop and manage productive relationships with the central office and school board.
- k). Develop and administer systems for fair and equitable management of conflict among students, faculty and staff, leaders, families, and community.
- l) Manage governance processes and internal and external politics toward achieving the school's mission and vision.

Standard 10. School Improvement

Effective educational leaders act as agents of continuous improvement to promote each student's academic success and well-being.

Effective leaders:

- a) Seek to make school more effective for each student, teachers and staff, families, and the community.
- b) Use methods of continuous improvement to achieve the vision, fulfill the mission, and promote the core values of the school.

- c) Prepare the school and the community for improvement, promoting readiness, an imperative for improvement, instilling mutual commitment and accountability, and developing the knowledge, skills, and motivation to succeed in improvement.
 - d) Engage others in an ongoing process of evidence-based inquiry, learning, strategic goal setting, planning, implementation, and evaluation for continuous school and classroom improvement.
 - e) Employ situationally-appropriate strategies for improvement, including transformational and incremental, adaptive approaches and attention to different phases of implementation.
 - f) Assess and develop the capacity of staff to assess the value and applicability of emerging educational trends and the findings of research for the school and its improvement.
 - g) Develop technically appropriate systems of data collection, management, analysis, and use, connecting as needed to the district office and external partners for support in planning, implementation, monitoring, feedback, and evaluation.
 - h) Adopt a systems perspective and promote coherence among improvement efforts and all aspects of school organization, programs, and services.
 - i) Manage uncertainty, risk, competing initiatives, and politics of change with courage and perseverance, providing support and encouragement, and openly communicating the need for, process for, and outcomes of improvement efforts.
 - j) Develop and promote leadership among teachers and staff for inquiry, experimentation and innovation, and initiating and implementing improvement.
- (CCSSO, 2015)

In John C. Maxwell's (2007) book, *The 21 Irrefutable Laws of Leadership*, the leadership specialist explained that a leader is one who knows the way, goes the way, and shows the way. As principals concentrate on professional standards for their professional growth, positive changes occur within the school environment for teachers and student learning. The standards established provide a framework for Kentucky's reform movements. With the influence of school culture being an integral part of the standards, school leaders must have a strong knowledge of developing school culture and its effects on student achievement.

School Culture

Hallinger's (2011) LfL model emphasizes the development of positive school culture and the way in which principals influence student achievement through culture by leading collaboratively and building academic capacity. All schools have a unique culture that sets the tone for the school environment (Marzano et al., 2005). McEwan (2003) suggested that effective principals must comprehend school culture and shape it by facilitating, modeling, leading, and applying a range of leadership traits and behaviors. Fullan and Hargreaves (1996) described school culture as the guiding beliefs, assumptions, and expectations evident in a school's operation. As early as 1932, Waller noted that every school has a culture that is unique with complex rituals of personal relationships, folkways, and a moral code. According to Deal and Peterson (1999), "School cultures are complex webs of traditions and rituals that have been built up over time as teachers, students, parents, and administrators work together and deal with crisis and accomplishments. Cultural patterns are highly enduring, have a powerful impact on

performance, and shape the ways, people think, act and feel” (p. 4). In simple language, Marvin Bower (1997) defined culture as, "the way we do things around here” (p. 248). School culture is the common experiences that create a sense of community, family, and belonging. The terms of climate, ethos, and saga have been used synonymously with school culture (Deal & Peterson, 1999). Regardless of its definition, it acts as a critical element for the success of a school.

Effect of Culture on Student Achievement

Various researchers have suggested a school’s culture is the key for successful school improvement. Comparisons between school culture and student achievement can help school leaders concentrate their efforts to improve student outcomes. Deal and Peterson (2009) stated that many studies have confirmed that positive and professional cultures of a school result in improvements of student achievement. Even early studies have indicated a strong correlation between positive school cultures and student outcomes. Fyans and Maehr (1990) found that students are more driven to learn in schools with a solid culture. They considered the effects of five dimensions of school culture: academic challenges, comparative achievement, recognition for achievement, school community, and perception of school goals. In a survey focusing on those dimensions, more than 16,000 students in 820 Illinois public schools participated in the project. Students reported higher levels of motivation in schools with strong cultures.

Thacker and McInerney (1992) studied the effects of school culture on student achievement in Indiana elementary schools. The researchers analyzed it in relation to student test scores. Staff, parents, community, and students were introduced to school improvement efforts based on effective schools research. Student achievement scores

were reported before and after implementation of the culture improvement plans. In a study by Thacker and McInerney (1992), the number of students who did not pass the state assessment dropped by 10 % and efforts showed significant academic improvements. The results build a case for the importance of principals working to establish a strong, collaborative culture that focuses on student achievement.

Shutt (2004) conducted a study in 110 Kentucky elementary schools to analyze the relationship between teachers' perceptions of school culture and state assessment accountability scores. In Shutt's quantitative study, a statistically significant difference was noted on the three individual school culture behaviors within the five performance categories designated to all Kentucky schools based on the school's assessment results. Collaboration, affiliative collegiality, and self-determination/efficacy were among the school culture behaviors assessed. Shutt found that as the score on the survey increased, the state assessment score increased as well. The reverse also was true. The lower the score, the lower the state assessment score. She concluded that efficacy/self-determination was the most prevalent school culture indicator in the study and that school leaders in low performing school should examine their school's culture. The knowledge regarding the importance of school culture, and recognizing school culture behaviors as schools seek proficient student outcomes, were key principles of this study. As in Hallinger's framework (2011), the knowledge and experience of the school leader is integrated with the school culture to indirectly affect student achievement.

Pritchard, Morrow, and Marshall (2005) performed a study to determine the relationship between school culture and student outcomes, as well as to formulate a vivid description of school culture based on students' perceptions in written essays. Students

from 18 districts across the United States responded to prompts assessing their sense of belongingness to the school, perception of trust and respect shared by teachers and students, and feelings of support for student learning in a collaborative work environment. Two experienced teachers rated the essays for writing achievement by utilizing a six-point rubric and tallying occurrences for the seven categories of school culture in the student essays. The following seven categories were determined to represent the content of the prompts: Social/People, Educational Climate and Programs, Codes and Rules, Extracurricular Activities, Physical Facilities, Location/Community, and Special References. In addition, a 10-point District Culture Scale was used to rate each of the 18 districts after represented districts were visited. A score was assigned to each based upon: (1) personnel doing the right things for students as compared to managing students, (2) personnel focusing on problem-solving rather than blaming, (3) patterns of leadership, (4) positive level of trust and relationships across the district, (5) positive communication and cooperation among teachers and administrators.

Upon coding and analysis of the essays and District Culture Scales, statistical differences were found for three categories: Social/People ($p < 0.01$), Education/Curriculum ($p < 0.05$), and Extracurricular activities ($p < 0.01$). Significantly more students with higher achievement scores made positive comments than students with lower achievement scores. Pritchard et al. (2005) determined that school culture is a reflection of school and district administration. Elementary students who identified positive culture in their school referenced administrators frequently and in positive terms. The study inferred that school culture is related directly to district culture with school leaders impacting it. Similar to Hallinger's (2011) framework, leadership in a school

affects the school organization and institutional system while maintaining student growth as a measure of learning outcomes. High achieving students could perceive principal leaders as positive influences in the culture of their school.

Gruenert (2005) applied a quantitative method to research the relationship between school culture and student achievement. Data from a 35-item school culture survey were received from teachers in 81 Indiana schools. The survey was divided into and focused on six factors: collaborative leadership, teacher collaboration, professional development, unity of purpose, collegial support, and learning partnership. As noted in Table 2, collaborative leadership and teacher collaboration are significantly correlated with student achievement in math. Unity of purpose and learning partnership strongly correlated with math and reading achievement scores. Relationships were found to be strongest at the elementary level.

Gruenert (2005) concluded that improving culture and the academic capacity of the school are complementary goals, and higher student achievement is a likely outcome of a more collaborative school culture. In agreement with Fullan (2002), school leadership concerns creating the best conditions for student learning. Gruenert's conclusion ties into Hallinger's (2011) framework of LfL. Collaborative cultures may be the most appropriate setting for student outcomes, therefore affirming the literature on the need for positive school cultures by focusing on the relationships among the members of the educational community in order to boost student outcomes.

Table 2

Gruenert's Factor Relationship to Student Achievement: All Schools

Factor	Math	Language Arts
Collaborative leadership (11 items), which describes the behaviors of school leaders as they interact with teachers and facilitate the collaboration among teachers	.336 ^b	.173
Teacher collaboration (6 items), which describes teacher behaviors that are expressive of collaborative cultures	.253 ^b	.079
Professional development (6 items), which describes the attitudes of teachers toward gaining new ideas and their overall sentiment toward the notion of school improvement	.278 ^a	.234 ^a
Unity of purpose (5 items), which demonstrates how the mission statement influences teaching	.455 ^b	.397 ^b
Collegial support (4 items), which describes the collegiality among teachers	.379 ^b	.206
Learning partnership (4 items), which describes the quality of teacher-parent communications	.471 ^b	.506 ^b

^a $p < 0.05$.

^b $p < 0.01$.

MacNeil et al. (2009) investigated the relationship between school culture and academic performance in 29 schools categorized as Exemplary, Recognized, or Acceptable based on their achievement of the Texas Assessment of Academic Skills (TAAS). The Organizational Health Instrument (OHI) was utilized to measure school culture based on a percentile score assigned to the 10 key internal dimensions of organizational health. Goals Focus, Communication Adequacy, Optimal Power Equalization, Resource Utilization, Cohesiveness, Morale, Innovativeness, Autonomy,

Adaptation, and Problem-Solving Adequacy were the dimensions of organizational health used to gauge school culture.

Table 3

Differences Between Exemplary, Recognized and Acceptable Schools on 10 Dimensions of Organizational Health

Variable	Exemplary	Recognized	Acceptable	F
Goal Focus	68.60 ± 9.75 ^a	61.19 ± 15.93 ^a	39.10 ± 16.43 ^b	11.49 ^c
Communication	70.66 ± 15.45 ^a	62.17 ± 21.14 ^{ab}	48.97 ± 18.23 ^b	3.43 ^d
Power equalization	65.29 ± 13.36	54.71 ± 19.39 ^{ab}	43.93 ± 16.75 ^b	4.30 ^d
Resource utilization	70.46 ± 13.97 ^a	64.77 ± 22.15 ^{ab}	42.40 ± 16.00 ^b	6.29 ^c
Cohesiveness	66.91 ± 13.34 ^a	58.91 ± 23.95 ^{ab}	35.77 ± 18.45 ^b	7.04 ^c
Morale	70.33 ± 16.21 ^a	61.17 ± 24.89 ^{ab}	43.28 ± 23.40 ^b	4.01 ^d
Innovativeness	75.19 ± 16.28 ^a	67.61 ± 26.29 ^{ab}	43.65 ± 22.19 ^b	4.40 ^d
Autonomy	67.21 ± 12.64 ^a	65.66 ± 22.87 ^{ab}	463.77 ± 18.78 ^b	4.49 ^d
Adaptation	71.71 ± 9.93 ^a	60.96 ± 24.15 ^a	33.75 ± 19.56 ^b	11.87 ^c
Problem solving	67.30 ± 14.84 ^a	60.93 ± 20.29 ^{ab}	43.13 ± 17.54 ^b	4.54 ^d

^{a,b}Means ± SD sharing a common superscript are not significantly different by Tukey HSD comparison.

^c $p < 0.001$.

^d $p < 0.05$.

As shown in Table 3, each of the 10 dimension's statistical significance was found at $p < 0.05$, which indicates that Exemplary schools outperform Acceptable schools on student achievement as measured by the TAAS. McNeil et al. (2009) concluded that exemplary schools with higher levels of achievement possess healthier cultures than Acceptable schools. The authors added that principals enhance student learning by

developing goals supported and accepted by the faculty and by building academic capacity that supports individuals to tolerate stress and to maintain stability while responding to the demands of the school environment.

Researchers have compiled impressive evidence on the impact of school culture on student outcomes. Positive and healthy school cultures strongly correlate with higher student achievement and motivation. A collaborative environment in which all parties feel supported and cared for by a cultural leader promotes increased student outcomes through more effective teaching and learning.

Cultural Leadership

Using existing research as models, Deal and Peterson (1999) emphasized that effective schools have strong cultures when they have the following characteristics:

1. A mission that focuses on learning for both students and teachers
2. An awareness of the school's history and goals
3. Values and beliefs that focus on collegiality, performance, and improvement
4. Rituals and ceremonies that reinforce these values
5. A professional community that utilizes knowledge and research to improve school practices
6. Shared leadership that balances stability and progress
7. Stories that celebrate the successes of others
8. A mutual sense of respect and caring for all

Snowden and Gorton (2002) identified four central elements that exist in schools with effective cultures. The following elements are the basis for an effective school culture: having a common belief that all students can learn, practicing school-wide norms

that communicate a clearly defined school vision, committing to continuous professional development among all staff members, and maintaining a safe and orderly environment. Of course, schools operate along a continuum of healthy cultures. Fullan and Hargreaves (1996) depicted schools as having one of five types of cultures: fragmented, balkanized, contrived collegiality, comfortably collaborative, and true collaboration. With a fragmented culture in a school, the teachers keep to themselves within and outside the school. Collaboration and support among staff members are nonexistent. A balkanized culture is when faculty are in competition with one another. They form their own subcultures with each set, having their own agenda and reducing unity in the school. Schools with cultures of contrived collegiality function under administrative regulations and are compulsory and predictable. Comfortably collaborative cultures include teachers who have begun to have a dialogue about school improvement, as well as the changes that need to occur. However, sharing of ideas and resources is not evident in the school culture. Finally, a culture that has true collaboration is based on a set of shared beliefs and values among the staff members. In addition, the staff members support one another and work together to achieve the goals and objectives of the group.

Such a continuum suggests principals should be proactive in intentionally moving their schools toward a culture of true collaboration. Schein (2004) explained that leadership and culture formation are linked and the ultimate duty of leadership is to enhance an organizational culture. Principals are change agents and have influential bearing on the school by changing the culture (Leithwood et al., 2004). However, this is no easy task (Barth, 2001). Extensive evidence exists regarding the importance of leaders in creating effective schools and strategies for improving school culture.

Principals develop the culture of a school in a variety of ways. Deal and Peterson (1993) advised leaders to consistently model certain behaviors and values. Culture-minded principals continuously communicate core values in words and in actions. Teachers in the classroom display the same values during lessons and communication. McEwan (2003) asserted that a principal should be an activator by showing initiative, enthusiasm, drive, motivation, humor, and communicating effectively with all stakeholders. Another key element of leadership is building and maintaining relationships within the school and school community to build a positive school culture. Kouzes and Posner (1998) believed that leaders create relationships, and key characteristics exist to developing the relationships. Maxwell (2007) challenged leaders by stating, “You’ve got to love your people more than your position” (p. 288). By improving the relationships between administrators and teachers, school culture can shift in positive ways. Teachers who believed their principal attempted to engage them in emotional connections indicated they were motivated to improve their teaching skills (Cherkowski, 2012). Providing opportunities for celebrations of shared values and progress feed positive relationships and enhance the culture (Dufour & Eaker, 1998). Marzano et al. (2005) explained shared leadership and that the building up of other leaders in the school promotes a more positive culture. As teachers participate in the decision-making process, a collaborative culture is formed. Continually and deliberately cultivating the culture of a school increases the opportunities for leaders to improve student learning.

As Fullan (2002) argued, if principals are not proactive in positively shaping school culture, internal and external forces will determine the school’s culture. A school does not have a positive school culture by accident. Clark (1972) claimed that new

cultures occur when one of three conditions transpire: (1) an organization is new; (2) an organization is willing to change; or (3) a crisis forces the school to scrutinize its practices, norms and values. Intentionally developing the school's culture signifies that student and teacher learning are priorities for effective school leaders. The school principal is the most culturally influential person in a school (Barth, 2002). The responsibility of developing and facilitating changes within the school creates the greatest impact for principals on school culture. School leaders must recognize the importance of a positive culture and its influence on student outcomes. The empirical school culture studies have been consistent with the premise that school culture has a strong impact on student achievement. Simultaneously, researchers indicate principals' effects on student learning are mediated by other school conditions that directly influence student achievement (Hallinger & Heck, 1998, 2010; Louis et al., 2010; Witziers et al., 2003).

Hallinger (2011) highlighted three main avenues or paths through which leadership is linked to learning: vision and goals, academic structures and processes, and people. A school's culture plays a role in all three. Measuring the effectiveness of the school leader who helps to shape the culture can be completed by using teacher perceptions.

Teacher Perceptions of School Leadership

The performance of school leaders can be measured by the perceptions of teachers with whom they are associated through their leadership role. If, as research has suggested, principals affect student achievement through several variables associated with school culture, measuring leader behavior and school culture becomes imperative to the work of school improvement. Leaders who are fulfilling their roles and

responsibilities according to the established standards should be reviewed and assessed often. One method of assessing a principal's effectiveness is to examine the teachers' perceptions of the principal. Several research studies have suggested that teacher perceptions are a promising vehicle for assessing school leadership and culture (Lovette & Watts, 2002; Stipek, 2012; Williams, 2009). Teacher perception surveys are used in Kentucky and other states to determine working conditions and the possible impact of those conditions on student achievement. Teachers often agree that they have valuable information to share through perception scales.

Lovette and Watts (2002) conducted a study to determine whether principals meet expected standards by using teacher perceptions of principal performance for assessment. The survey used was the Principal Profile (PP), which is based on a five-point Likert scale and consists of 134 items related to qualities or actions grouped into areas identified as Management, Relationships, Delegation, and Personal Qualities. Teachers at each principal's school completed an evaluation, and each principal evaluated their own performance. After statistical analysis of data, the results suggest a solid relationship was present between teacher perceptions of principal leadership and the school success when they examined teachers' perceptions of leadership roles of a principal as the main indicator for the school's achievement or failure. The research of Lovette and Watts (2002) is important to understand the way in which teachers perceived the effectiveness of their leader and the significance of having a joint vision, focusing first on student needs, and the impact of building a collaborative teaching culture on the successful school. Although they may have conflicting opinions and agendas, teachers usually share the similar expectation that school leaders "must exhibit characteristics that motivate

teachers, students, and parents to higher levels of involvement and ultimately improved student achievement” (Lovette & Watts, 2002, p. 4).

Williams (2009) explored the relationship between student achievement scores and teacher perceptions of school leaders. Georgia’s Criterion-Referenced Competency (CRCT) student achievement scores and a teacher perception instrument were used to measure leadership competency. A Pearson correlation determined whether a significant relationship was present between teacher perceptions of principals and student achievement performance. Williams concluded that leadership behaviors of the principals, as perceived by teachers, do not necessarily align with student achievement, but principals who focus on inspiring educators through the execution of a school’s vision can help transform struggling schools.

Stipek (2012) directed a quantitative study that examined the results of 473 surveys from third-grade and fifth-grade teachers in 196 school districts across three states. The research focused on high poverty schools. A teacher survey designed by the researcher was utilized to measure teachers’ perceptions of principal support. Multiple regression techniques were used to analyze predictors of teacher efficacy. The study concluded that teacher perceptions of principals affect their teaching and, therefore, student achievement. Stipek surmised, “these findings suggest that teacher’s beliefs about their ability to promote student learning are in part based upon the support they believe they receive” (p. 601).

In order to assemble additional information for school improvement, Kentucky utilized the New Teacher Center’s Teaching, Empowering, Leading, and Learning (TELL) Survey, which employs teacher perceptions of working conditions. According to

TELL Kentucky (2011), working conditions and teacher perceptions of them are linked to student achievement success. The TELL Survey measures eight constructs of perceptions of (a) time, (b) facilities and resources, (c) community support and involvement, (d) managing student conduct, (e) teacher leadership, (f) school leadership, (g) professional development, and (h) instructional practices and support (TELL Kentucky, 2011). Allen (2014) sought to recognize differences in teachers' perceptions in schools identified as not improving and those that are improving by analyzing data from the TELL Kentucky Survey 2011 and 2013. Beyond other findings, the 2013 TELL Survey identified changes in perceptions, suggesting that improving schools experienced improvements in teachers' views of working conditions. Scholars and research have agreed that the principal plays an essential role in all aspects of the school and fosters high standards for student achievement. "An effective leader is important to teachers, and more effective principals are able to staff schools with more effective teachers" (Rice, 2010, p. 1). School leaders who fulfill their important duties and roles promote positive culture and teacher perceptions. Subsequently, student achievement is impacted. Factors, other than school leaders, may have direct and indirect relationships to student achievement outcomes.

Relationship of Demographic Factors to Student Outcomes

According to Thomas and Bainbridge (2005), effective school principals guarantee academic achievement for all students despite demographic factors. The quality of education typically is assessed in Kentucky based on academic performance, with achievement scores considered the primary indicators. However, academic achievement scores alone cannot provide an adequate interpretation of the causes of

success or failure. In addition, scores do not propose the method to improve academic achievement. Identifying and analyzing the various factors that can affect academic performance is important. By understanding the relationship of the demographic factors to achievement, one can better understand the connection of leadership and culture by controlling for these variables.

Educational leaders should establish a culture that generates academic accountability and high levels of student achievement among a diverse student population (Weckstein, 2003). Research on academic achievement has inferred a correlation with some demographic factors. After KERA was initiated in Kentucky, researchers Smith, Neff, and Nemes (1999) conducted the first examination of KDE test data to observe correlations of academic achievement with demographic factors. Gender, socioeconomic status (SES), and race are factors that may contribute to the success, or lack of success, with academic achievement in students.

The role of gender on a student's academic achievement has been researched over the decades (Chambers & Schreiber, 2004). Jaeger and Eagan (2007) and Cole and Espinoza (2009) found gender differences in the academic performance of male and female students. Females often are more successful than males in elementary and middle school (Holmlund & Sund, 2008). Females often try harder in the school setting that, in turn, increases performance (Ceballo, McLoyd, & Toyokawa, 2004). The U.S. Department of Education's 2000 analysis of an international comparison of Third International Mathematics and Science Study data determined that males outperform females in three of the 25 countries at the fourth-grade level, in eight of the 39 countries at the eighth-grade level, and in 18 of the 21 countries at the graduation level. Additional

research has shown that females have higher academic performance in reading, while males outperform females in science and mathematics. An international aptitude test given in 35 countries to fourth graders also revealed that females outscore males in reading achievement in every country. The males began to outperform the females in science in fourth grade (Zembar & Blume, 2009). Gender in the elementary school is an important factor in explaining academic achievement.

The socioeconomic status (SES) of a student is calculated generally by combining parents' educational level, occupational status, and income level (Jeynes, 2002). Subsequent to the 1966 landmark study by Coleman et al. on *Equality of Educational Opportunity*, socioeconomic status is a strong predictor of student achievement. The researchers indicated that the influence of socioeconomic status is greater than any events that occur while the student is at school. Additional research studies have claimed that the SES impacts achievement outcomes (Baharudin & Luster, 1998; Jeynes, 2002; Eamon, 2005; Majorbanks, 1996; Hochschild, 2003; McNeal, 2001; Seyfield, 1998). Poverty is a factor among children in the United States. Students with low SES typically score nearly 10 % lower than higher SES students (Eamon, 2005).

The U.S. Department of Education conducted *The Longitudinal Evaluation of School Change and Performance (LESCP) in Title I Schools* (2001) to examine the effectiveness of Title I schools. It was determined that when a student has a low SES status, a negative effect on student achievement ensues. Students who attend schools with the highest percentages of low SES students perform at a lower level initially on both reading and mathematics tests. A strong negative correlation was shown to exist in an analysis of achievement scores in reading and mathematics from 2,000 fifth graders in

Texas (Klein, Hamilton, McCaffrey, & Stetcher, 2000). The percentage of students in the federal free and reduced lunch program was predicted by the school's mean on the achievement test. It is believed that low SES negatively affects academic achievement because students do not have the same exposure to resources while at home.

The factor of race or ethnicity is closely associated with that of poverty as a predictor of academic achievement. Kim and Sunderman (2005) indicated that many schools with low SES, as well as ethnically diverse, struggle to meet the accountability demands. Schools fall short in minority student achievement gains, performance, and academic successes (Weckstein, 2003). Maleyko and Gawlik (2011) asserted that schools with higher percentages of minority groups more likely fail to meet academic expectations. According to Springer (2008), schools with a large minority population have only an 8% likelihood of meeting academic standards. Clotfelter, Ladd, and Vigdor (2006) examined academic outcomes of elementary and middle school students by race. An analysis found gaps between four racial groups: White, Asian, Hispanic, and Black. They found that the Black and White gaps are substantial, while Hispanic and Asian students often make academic gains on White students as they are promoted through school (Clotfelter et al., 2006).

The academic achievement gaps based on demographic factors of gender, socioeconomic status, and race continue to hinder the academic progress for some students. Barton (2004) proclaimed that the basic right to equal school access is a reality, but it has not led to equal achievement. Kentucky has attempted to address the achievement gaps based on demographic factors by concentrating efforts of reform toward specific gap group populations.

The Kentucky Context

Kentucky has been a leader in education reform for two decades. The challenge of building a world-class system for all children was monumental. Willingness to change and to grow provided dramatic results in Kentucky's schools and in the achievement of Kentucky's students (Ramsey, 2016).

Kentucky's Educational Accountability System

Education reform in Kentucky has brought many changes to the Commonwealth's school systems over the last 25 years. In 1989 the state was sued by the Coalition for Better Schools, who represented 66 of 176 school districts in Kentucky and argued that the system of financing schools was inadequate and unequal. In 1990 the Kentucky General Assembly passed the Kentucky Education Reform Act (KERA) in response to the ruling that Kentucky's education system is unconstitutional. With the claim of being the most comprehensive education package ever passed by a government, KERA entirely revamped Kentucky's education system in finance, governance, and curriculum and introduced new supports for at-risk students (Steffy, 1993). High quality public education for all children and goals of increased student achievement were established and implemented. The accountability and assessment goal of KERA was to establish a statewide, criterion-referenced testing system, the Kentucky Instructional Results Information System (KIRIS), which was used by the Kentucky Department of Education from 1992 to 1998. KIRIS was revised to the Commonwealth Accountability Testing System (CATS), which used nationally norm-referenced tests in addition to the Kentucky Core Content Tests (KCCT) to measure academic achievement (Hoyt, 1999). Both systems added to the emphasis on student assessments, increasing pressure on the

principal as an instructional leader.

President George Bush signed the No Child Left Behind Act (NCLB) into law in 2002 and mandated states to create education standards and to assess student progress in reading and math. Kentucky was ahead of the federal government concerning accountability measures with the implementation of KERA. NCLB required a goal of proficiency for all students by 2014. In response, KDE developed specific goals for each school for adequate yearly progress (AYP) in math and reading. All schools were required to meet AYP as a whole and among subgroups. The Kentucky General Assembly passed Senate Bill 168 that required schools to address achievement gaps among subgroups. The CATS assessment was updated for NCLB requirements and its use was continued from 1998 to 2010. Similar to KERA, NCLB increased accountability pressures for school leaders in an assessment system that had flaws. The Kentucky legislature approved another landmark piece of legislation in 2009 that added goals of increasing academic performance, ensuring greater educator accountability, and measuring school progress. Senate Bill 1 required a realignment of Kentucky's instruction with national standards in all grades and restructured accountability assessment with national performance standards.

Over the last two decades, Kentucky's assessment program for measuring accountability has evolved to such an extent that KDE now claims it is one of the country's leading programs in preparing students for future success (KDE, 2013). The accountability system was devised to measure that which students have learned and the skills they develop based on the education received. Accountability relies on five basic assumptions: (a) performance measured as academic achievement is the most important

goal of schooling, consequently accountability systems must focus on outcomes; (b) the instruments designed by the systems can appropriately measure performance with accuracy and reliability; (c) the consequences are powerful to the extent to motivate both students and school staff; (d) due to this motivation, instruction will be more effective and performance will improve; and (e) unexpected and undesired consequences are minimal or pose no real threat to the systems (Fuhrman & Elmore, 2004).

The Kentucky Performance Rating for Educational Progress (K-PREP) is the collection of tests created and administered to assess Common Core State Standards (KDE, 2013). As a result of Senate Bill 1, the assessment program was designed to prepare students for the demands of the 21st century. K-PREP is a mixture of criterion-referenced and norm-referenced test content. The criterion-referenced test (CRT) portion is structured using test content written specifically for Kentucky's assessment. The norm-referenced portion consists of test content from the Stanford Achievement Test Series, Tenth Edition, and uses existing norms to report student achievement on a national scale (KDE, 2013). In addition to older grade levels, elementary students in third, fourth, and fifth grades are required to participate in K-PREP assessment as part of a school's accountability system. A school's overall accountability index also includes program reviews, which account for 23% of the score. Program reviews are a systematic method of self-analyzing the components of a school's instructional program in the areas of Arts and Humanities, Writing, Practical Living and Career Studies, and K-3.

Kentucky's Attempt to Measure Effects of Leadership and Culture

In the era of increased accountability and educational reform, significant time and effort have been applied to discovering behaviors and methods that improve the quality

of leadership in school systems. In 1998 the Kentucky General Assembly enacted legislation mandating a scholastic audit of all schools unable to meet Kentucky's improvement goals, as well as an audit of a sample of schools that were successful in meeting improvement goals (Lyons & Barnett, 2011). In 2000 Kentucky's Department of Education (KDE) adopted the *Standards and Indicators for School Improvement: Kentucky's Model for Whole School Improvement* (SISI), which gives schools and districts a framework for academic improvement (Kentucky Department of Education, 2004). KDE published SISI to assist school personnel in formulating improvement activities, which are required for the scholastic audits (Browne-Ferrigno, Allen, & Hurt, 2008). The document was used as the rubric by which all schools were to be evaluated during the scholastic audit process (KDE, 2003). The SISI was implemented as a means to enhance instructional leadership in all schools and required principals to extend great efforts to promote high academic achievement.

The research regarding the SISI was based on earlier efforts to identify practices, policies, and procedures that distinguish high performing schools, including the effective schools movement, which started in the 1960s and continued into the 1970s. Researchers from the effective school movement and the work of Hallinger and Heck (1996) on effective school leadership influenced the development of SISI (Ennis, 2007). Effective schools researchers Brookover and Lezotte (1979) published a series of studies indicating that school culture is directly related to academic achievement, particularly in low socioeconomic, high achieving schools. They conceptualized school culture as a system of social relationships that define morale within the school. Studies were conducted in Michigan using a set of questionnaires designed to identify characteristics of schools that

were improving or declining. Edmonds (1979) considered achievement data from schools having a low socioeconomic status with high achievement and correlated the data to similar neighborhood schools that were not meeting the achievement mark. The characteristics and strategies common in the schools in which effective learning occurred despite family backgrounds suggest practices that should be used in all schools. These attributes eventually became known as the Correlates of Effective Schools, which have laid the foundation for future transformation of the educational process.

Fitzpatrick (1998) identified critical indicators of school quality that support sound teaching and learning in his National Study of School Evaluation (NSSE). Hallinger and Heck (1998) performed a meta-analysis of 40 international empirical studies conducted between the years of 1980 and 1995 concerning a principal's impact on school achievement. This analysis indicated that principals exercise a measurable effect on student outcomes. They found that leadership shapes teachers' perceptions of increased student achievement and advancements in implementing educational reorganization. The Department of Education used much of this standards and reform movement research as cornerstones of SISI. The SISI document consists of nine standards that are divided into three sections: (a) Standards 1, 2, and 3 focus on Academic Performance; (b) Standards 4, 5, and 6 focus on Learning Environment; and (c) Standards 7, 8 and 9 focus on Efficiency (KDE, 2003). The nine Standards are as follows:

Standard 1: The school develops and implements a curriculum that is rigorous, intentional, and aligned to state and local standards.

Standard 2: The school utilizes multiple evaluation and assessment strategies to continuously monitor and modify instruction to meet student needs and support proficient student.

Standard 3: The school's instructional program actively engages all students by using effective, varied, and research-based practices to improve student academic performance.

Standard 4: The school/district functions as an effective learning community and supports a climate conducive to performance excellence.

Standard 5: The school/district works with families and community groups to remove barriers to learning in an effort to meet the intellectual, social, career, and developmental needs of students.

Standard 6: The school/district provides research-based, results driven professional development opportunities for staff and implements performance evaluation procedures in order to improve teaching and learning

Standard 7: School/district instructional decisions focus on support for teaching and learning, organizational direction, high performance expectations, creating a learning culture, and developing leadership capacity.

Standard 8: There is evidence that the school is organized to maximize use of all available resources to support high student and staff performance.

Standard 9: The school/district develops, implements and evaluates a comprehensive school improvement plan that communicates a clear purpose, direction and action plan focused on teaching and learning (KDE, 2008, p. 3).

The SISI provides for diagnostic intervention and establishes the framework for improvement activities in schools requiring assistance (Lyons & Barnett, 2011). The SISI standards that were constructed from literature on school improvement, change, school reform, instructional effectiveness, leadership, and capacity-building are indicators of best practices. The document became part of the school improvement process when the Kentucky Department of Education used the nine standards and 88 indicators as a measure for the scholastic audit process (see Appendix A). The indicators are subsections of each standard and more closely describe various aspects and perspectives of the standard in observable terms. In a typical scholastic audit, team members spend a week in the school setting rating each of the 88 indicators of the standards. The school principal or leadership team presents boxes of documentation based on the SISI framework to the scholastic audit team. After an exhaustive week, the audit team reports findings and makes recommendations to improve teaching and learning to the faculty, SBDM council, board of education, and KDE (KDE, 2004).

The Kentucky Department of Education has done little work to validating the SISI and the Scholastic Audit. Koger and Thacker (2004) were hired by KDE to conduct a preliminary validation study that was limited because it focused more on the process of utilizing the Scholastic Audit than a true assessment of the validity of Kentucky's Standards and Indicators (Todd, 2010). Four dissertation studies (Ennis, 2007; McKinney, 2007; Saravia, 2008; Todd, 2010) have confirmed the construct validity and reliability of all nine Standards from the SISI document, as well as their external criterion validity (Todd, 2010). Factor analysis was completed to affirm that the indicators under each standard are a valid construct. Multiple regressions upheld the efficacy of the

standards while accounting for demographic information. The combined use of the SISI and the Scholastic Audit was a valuable school improvement framework. In 2012 the Kentucky Department of Education began partnering with the school accreditation company, AdvancEd, to conduct school-level performance audits. As AdvancEd developed its own variation of a standards and indicators framework, SISI essentially was dropped from use by the KDE.

With the belief that SISI remains a beneficial research-based framework, a group of researchers at Western Kentucky University designed a new teacher perception survey based on SISI. Race to the Top funds were utilized by the Rock Solid Evaluation team to update and to revise the original standards (Miller et al., 2014). The replacements for the SISI and the audit are Standards and Indicators for School Improvement-Revised (SISI-R) and School Improvement Scholastic Review (SISR). Appendix B contains the complete SISI-R with the nine standards and corresponding indicators. The original structure of the SISI was preserved in the SISR, with expansions in Standards 4 and 6, a reduction in the number of indicators, and updated language to reflect recent changes in policy and practice (Miller et al., 2014). Standard 4 of the SISI is school culture and the SISR divided the standard into two parts: Standard 4A (Respectful, Orderly Environment that Prioritizes Learning), and Standard 4B (Teacher Expectations and Beliefs about Student Learning). Standard 6 of the SISI, Professional Development, also was split on the SISR Standard 6 of Teacher Improvement. Standard 6A, Professional Development, and Standard 6B, Professional Growth and Evaluation, were addressed on the SISR. The revised nine standards of the SISI utilized for the SISR include the following:

Academic Performance (Standards 1-3)

Standard 1 (Curriculum). The school develops and implements a curriculum that is rigorous, intentional, and aligned to local, state, and national standards.

Standard 2 (Classroom and School Evaluation/Student Assessment).

The school/teachers utilize high quality classroom evaluation/student assessment strategies to monitor and modify instruction on an ongoing basis to meet student needs and maximize student growth.

Standard 3 (Instruction). The school's instructional program actively engages all students by using effective, varied, and research-based practices to improve student academic performance.

Learning Environment (Standards 4-6)

Standard 4 (School Learning Climate/Culture). The school functions as an effective learning community, reflecting high standards and high expectations for achievement and other outcomes across all student groups.

Standards 4A (Respectful, Orderly Environment that Prioritizes Learning). The school reflects a safe, orderly environment in which students, faculty, and staff are respected as individuals and student learning outcomes are a collective priority.

Standard 4B (Teacher Expectations and Beliefs about Student Learning). Teachers believe that all students can learn at effective levels,

have high expectations across all student subgroups, and hold students accountable for learning outcomes.

Standard 5 (Student, Family, and Community Support). The school/district works with families and community groups to involve them in the life of the school and remove barriers to learning in an effort to meet the intellectual, social, career, and developmental needs of students.

Standard 6 (Teacher Improvement). The school identifies teacher growth needs based on an analysis of student achievement patterns, provides high-quality professional development opportunities for staff, and implements a performance evaluation system that improves teaching and learning.

Standard 6A (Professional Development). The school/district provides research-based, collaboratively-developed, results-driven professional development opportunities for teachers/staff in order to improve teaching and learning.

Standard 6B (Professional Growth and Evaluation). The principal/leadership team provides an effective performance evaluation system that is focused on helping teachers improve the quality of their instruction in order to improve teaching and learning.

Efficiency (Standards 7-9)

Standard 7 (Leadership). The principal/leadership team provides constructive, effective guidance that is collaboratively developed and respectful of all stakeholders, while holding all individuals and groups

accountable for their part in the collective focus on teaching, learning, and school improvement.

Standard 8 (Organizational Structure and Resource Allocation

Focused on School Improvement). The school is organized to maximize the effective use of all available resources so that students and staff can achieve at high levels.

Standard 9 (Strategic Planning). Strategic planning for the school/district involves leadership, faculty, staff, and parents/community in the development of a comprehensive long-term framework that communicates clear purpose, direction, and action strategies focused on teaching and learning (Miller et al., 2014).

The SISR potentially is a useful tool for school improvement that may, based on pilot data, have a strong degree of predictive validity relative to student achievement. It is administered online and in 45 minutes, as compared with a week-long visit by an audit team (Miller et al., 2014). The survey includes teachers' priorities for the 11 standards, including sub-standards for Standards 4 and 6, level of implementation for the 63 indicators, and a brief demographic section. It utilizes a five-point Likert scale with categories from very low to very high.

The revisions of SISI at WKU and the information from SISI utilized in other educational research ensure the continued use of Kentucky Standards and Indicators for School Improvement through the use of the SISR. Additional and continued use of SISI can help researchers to distinguish the way in which teacher perceptions are different

between high performing and low performing schools, while assisting the leadership in predicting trends and with school improvement planning.

Summary

This review of current literature focused on principals as school leaders, school culture, student achievement, and the use of the SISR as a tool for exploring the relationships among the variables in Kentucky elementary schools. Understanding effective school leadership is imperative as school accountability pressures mount (Houchens & Keedy, 2009). Hallinger's model (2011) provides a framework to theorize the paths through which principal leaders influence student achievement. By utilizing effective leadership styles and best practices, principals foster collaboration. Empowering others to become leaders builds human capacity.

Based on the review of literature, proof exists distinctly indicating that school leaders and school culture are correlated. Endeavoring to understand one concept without having an understanding of the other will fail in obtaining the needed results of establishing the connection to student outcomes. Therefore, principals must possess a complete knowledge of their position's influence on positive school culture and building school capacity. Every aspect of the educational process is impacted by school culture. Increasing the depth of knowledge on understanding the need for principals to create a positive culture through effective leadership has potential to indirectly affect student outcomes in schools across Kentucky and other states. This research study utilizing Hallinger's (2011) LfL model will assist in filling the gap of information utilizing collaborative leadership to build academic capacity by promoting positive school culture.

CHAPTER III: METHODOLOGY

Today's principals feel the pressure to ensure the students under their leadership meet or exceed the academic standards set by the state and local school district. According to Marzano et al. (2005), specific leadership habits and practices promote an increased level of student achievement. Empirical research has shown that principal leadership has a positive impact on student achievement, as mediated by the principal's influence on the collaborative environment and academic capacity of the school (Hallinger, 2011). One dimension of the collaborative environment and academic capacity is the school's culture (MacNeil et al., 2009). Therefore, the intent of this study was to further explore the linkage between leadership, culture, and student achievement as measured by the Scholastic Improvement School Review (SISR) teacher perception survey and the achievement scores from Kentucky Performance Rating for Educational Progress (K-PREP) and Unbridled Learning accountability model.

Chapter III delivers an overview of the methods and procedures utilized to conduct this study. The methodology is organized according to the following topics: (a) research questions, (b) research design, (c) subjects, (d) instrumentation, (e) procedures, (f) data management and analysis, and (g) summary.

Research Questions

The following research questions guide this study:

1. To what degree do the school demographic factors such as gender, SES, and race relate to SISR Standard 7 (Instructional Leadership), Standard 4B (representing school culture), and student achievement?

2. To what degree does SISR Standard 7 (Instructional Leadership) affect Standard 4B (representing school culture) and student achievement?
3. To what degree does SISR Standard 4B (representing school culture) relate to student achievement?
4. To what degree do teacher perceptions of SISR Standard 4B (representing school culture) mediate the effect of teacher perceptions from SISR Standard 7 (Instructional Leadership) on student achievement as measured by state accountability achievement scores while controlling for demographic factors?

Research Design

This quantitative research study analyzed secondary data provided by the Kentucky Department of Education (KDE) and the SISR teacher survey. An examination was conducted on the effects of teacher perceptions regarding elementary school principal leadership and school culture on student achievement, as measured by state accountability achievement results in Kentucky elementary schools while controlling for demographic factors such as ethnicity, socioeconomic status, and gender. The research design was quantitative, which tests hypotheses about the nature of reality by utilizing statistical analysis (Sprinthall, 2000).

Elementary schools in Kentucky are the focus of this study. Upper elementary students in third, fourth, or fifth grade bear the brunt of educational accountability for elementary grades. These years are pivotal in identifying students who have a high likelihood of dropping out of high school, have social problems, or have issues with disengagement from school (Scales, Sesma, & Bolstrom, 2004). Hatch (2002) found that homogeneous groups who share common characteristics are useful when studying small

subgroups in depth. As learning expectations grow and accountability rises at the elementary level, principals can make the difference for students who are at risk (Finnan, 2009).

Subjects

The population for the current study included all elementary teachers in Kentucky. All eligible schools have teachers certified through the Kentucky Education Professional Standards Board. The sample utilized for this study included Kentucky elementary teachers in schools participating in the Green River Regional Educational Cooperative (GRREC) and the Ohio Valley Educational Cooperative (OVEC) Race to the Top Kid-Friendly grant. In October 2012, GRREC and OVEC submitted an application to the U.S. Department of Education's Race to the Top District competition. GRREC and OVEC's proposal was entitled kid-FRIENDLY (Kids Focused, Responsible, Imaginative, Engaged and Determined to Learn). It was a winning application and was awarded \$41 million. Four goals related to improving students' achievement were tied to the grant:

- increasing the number of students who have access to highly effective teachers and leaders;
- improving the academic and non-cognitive outcomes for students in prekindergarten through third grade;
- ensuring all students are on track to be college and career ready; and
- ensuring all students are prepared for postsecondary careers, college, and/or technical school.

External evaluators for the grant utilized the SISR to collect teacher perception data on a host of school-level factors in order to conduct various analyses assessing the impact of the grant. The survey required approximately 45 minutes to complete. Sixty-one elementary schools were represented, with 1922 teacher respondents.

Instruments

The study used quantitative data to evaluate the relationships among instructional leadership, school culture, and student achievement. The two data sources were the SISR and state accountability performance results as reported on publically available School Report Cards. The SISR measures teacher perceptions of the nine Standards and 88 Indicators found in the Standards and Indicators for School Improvement. Miller et al. (2014) developed the SISR as a tool for school improvement built on the research-proven framework of the SISI that summarized the relationship between the implementation of the SISR standards and student outcomes. The instrument assessed the school leaders' implementation of the standards, the efficacy of the implementation, and the extent to which each standard was viewed as a short- and long-term priority by the school. Teacher responses for level of implementation were utilized as the measure. Knowledge regarding the perception of the level of indicators throughout a school building was essential for this study. Overall results of pilot data that tested the revised SISR in seven elementary schools and one middle school, with $N = 252$ responses, revealed strong correlations with total student achievement across the nine standards. The original Scholastic Audit had average correlations with achievement of .57 across the nine standards. The correlations among the SISR pilot data and student achievement were stronger than those found when the original Scholastic Audit was used (Miller et al., 2014).

For this study, the data for Leadership (Standard 7) and School Culture (represented as Standard 4B) were the only variables examined from the SISR. The research used demographic control factors and the SISR instrument to evaluate relationships with student achievement from the selected standards. Standard 7 of the SISR encompasses leadership, as it provides effective guidance and focus on teaching, learning, and school improvement. The seven indicators for Standard 7 of the SISR are:

- 7.1. The principal's leadership style brings out the best in faculty and staff.
- 7.2. The principal is an instructional leader.
- 7.3. Leadership ensures that school improvement/school policy committees are focused on improving academic performance.
- 7.4. Leadership utilizes data-driven decision making to inform choices about instruction and learning.
- 7.5. The leadership team systematically monitors the implementation of the school improvement plan, holding all individuals accountable for carrying out the goals/objectives/strategies for which they are charged.
- 7.6. The principal solicits teachers' professional judgments in decisions about teaching, learning, and school improvement.
- 7.7. The principal is adamant about protecting instructional time.

Standard 4 of the SISR is labeled as School Learning Climate/Culture and is divided into two sections: Standard 4A (Respectful, Orderly Environment that Prioritizes Learning) and Standard 4B (Teacher Expectations and Beliefs about Student Learning).

The five indicators associated with Standard 4A are:

- 4.A.1. The school is a safe and caring environment for students: bullying, fighting, abusive language, etc. are not tolerated.
- 4.A.2. The school provides an orderly environment that prioritizes learning.
- 4.A.3. The learning environment is such that student achievement is highly valued and celebrated publicly.
- 4.A.4. The learning environment is protected by strictly enforcing student discipline in classrooms (interruptions to teaching and learning are not allowed).
- 4.A.5. The school culture reflects a strong “we” feeling where individuals (both teachers and students) are respected.

The five indicators associated with Standard 4B are:

- 4.B.1. Teachers really believe (not just lip service) that all students can learn at high levels.
- 4.B.2. Beliefs that teachers are responsible and accountable for student outcomes are embedded within the school culture.
- 4.B.3. Teachers have high expectations for student learning and the school faculty (collectively and individually) enforces these expectations rigorously.
- 4.B.4. Teachers (collectively and individually) have and enforce a strong commitment to excellence in learning for all students across levels of ability and diversity of background.
- 4.B.5. Teachers (collectively and individually) have and enforce a strong commitment to equity (fair treatment) in learning for all students across levels of ability and diversity of background.

For the current study, the researcher believed the indicators of Standard 4B were more related to the concept of school culture as defined and described in the literature review of Chapter II. Teacher beliefs and expectations about students, in Standard 4B, suggest more about the culture than the safe, orderly environment indicators of Standard 4A, as noted by Fullan and Hargreaves (1996) when they described school culture as the guiding beliefs, assumptions, and expectations. Therefore, the study utilized only the indicators of Standard 4B to represent school culture. The Unbridled Learning accountability data, including Kentucky Performance Rating for Education Progress (K-PREP), was the second data source for this study. K-PREP is a compilation of tests created and administered to assess the performance of students under the Unbridled Learning testing system in Kentucky public schools. It is a mixture of norm-referenced and criterion-referenced content and holds all schools and districts accountable for improving student performance.

For the elementary level and for this study, overall accountability performance scores were based on the following measures: (a) Achievement (a measure of the percentages of students scoring Proficient or Distinguished in the following content areas: reading, mathematics, science, social studies and writing); (b) Gap (a measure of the school's ability to close achievement gaps between overall student performance and the performance of various targeted groups for African-American, Hispanic, Native American, special education, low income, and limited English proficiency students); (c) Growth in reading and mathematics (percentage of students at typical or higher levels of growth); (d) Program Reviews (a systematic method that schools use to analyze components of their instructional programs including Arts and Humanities, Practical

Living and Career Studies, Writing, and K-3) (KDE, 2013). The Next-Generation Learners portion of the testing system combined Achievement, Gap, and Growth categories to calculate 77% of the overall weighted assessment. The Program Review process determined the other 23% of accountability under the 2014-15 Unbridled Learning system. An overall accountability score for each school was obtained based on calculations from the measures. Only the Achievement score was utilized for this study.

Independent and Dependent Variables

This study utilized three independent variables. The first independent variable, Demographic Control Factors, contains sociodemographic factors at the school level as well as school size. This research is designed to control for demographic factors expected to affect student achievement in order to isolate the unique effects of leadership and school culture on student achievement. Demographic factors utilized in the current study were school membership, gender, socioeconomic status, and ethnicity. The second independent variable is teacher perceptions of Instructional Leadership, which is Standard 7 from the SISR. The final independent variable also is taken from the SISR, teacher perceptions of School Culture, which is represented as Standard 4B.

School performance measured by the 2014-15 Achievement score on the Unbridled Learning accountability model for Kentucky elementary schools was identified as the dependent variable. The scores are presented on a School Report Card available on the Kentucky Department of Education's website. Elementary schools that participated in the SISR and have reported accountability scores were included in the study.

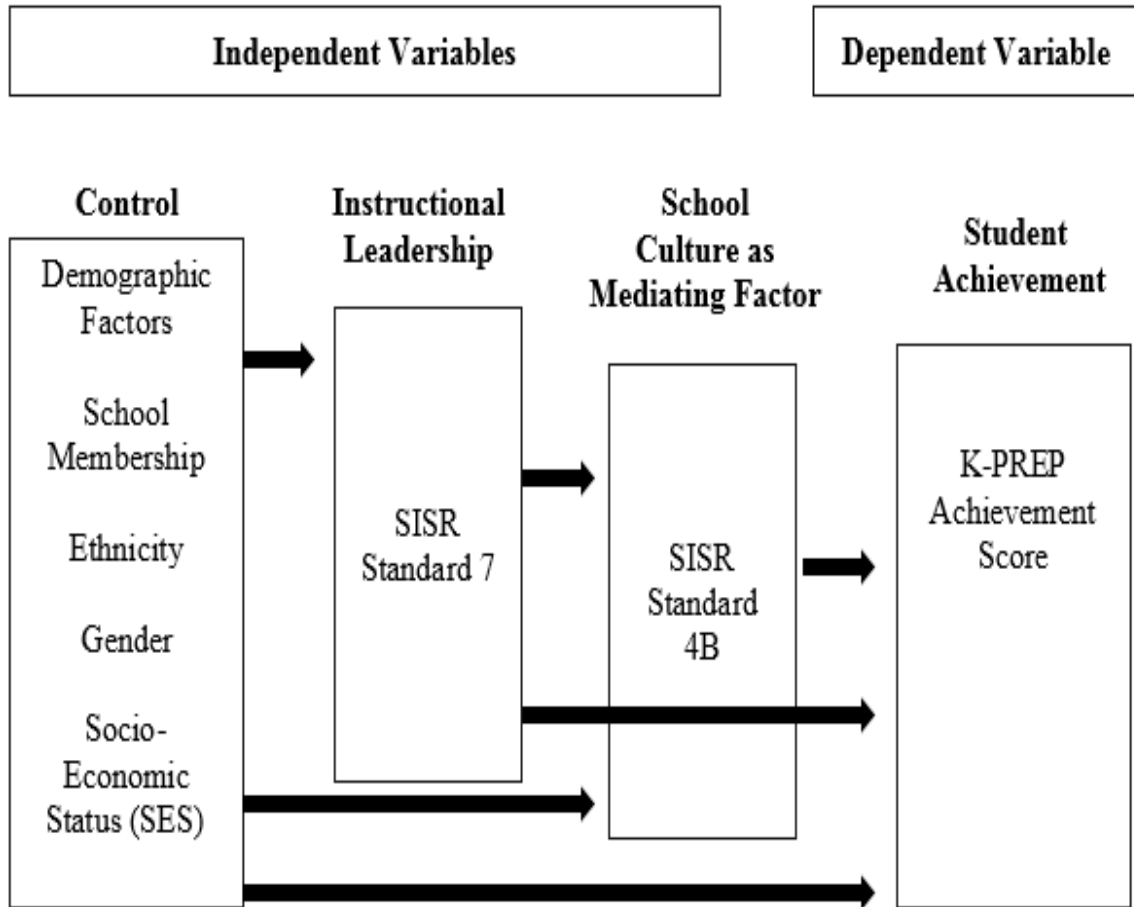


Figure 4. Logic model for effects of leadership (Standard 7) on student achievement, as mediated by school culture (represented by Standard 4B).

Procedures

The data in this study were deemed to secondary. After approval was secured for the study from Western Kentucky University (WKU), data retrieval and analysis began. An open data bank from the Kentucky State Report Card (KDE, 2013) provided assessment score summary information and school demographic data. The reports detail information for educators and administrators to compare student outcomes at various levels. The state summary report provided a summary of test performance for all students within a school for a particular subject and grade, along with summary information at the district and state level for comparison. The SISR data from the Spring 2015

administration were provided to the researcher by the Rock Solid research team from WKU. The quantitative data were analyzed using the Statistical Package for the Social Sciences (SPSS).

Data Management and Analysis

Data for this study were quantitative and were collected from teacher responses on the SISR from Kentucky elementary school teachers; however, the school was the unit of analysis, with the Achievement score being utilized for the entire school. Standardized assessments for each elementary school in the state of Kentucky for the 2014-15 school year were acquired from the Kentucky Department of Education website. Student outcome data in the form of Achievement scores from the elementary schools were reported. Schools who participated in the SISR survey were the only elementary schools utilized for this study. The total number of elementary schools was 61, with a total of 1922 teacher respondents.

The research questions were addressed by conducting descriptive and correlational analyses to discover the significance of the independent variables in contributing to the dependent variable. Data regarding the dependent variable and the three independent variables were compiled and entered into SPSS. Ordinary least square (OLS) regression was the primary statistical analysis employed to show the relationships among the variables. Regression techniques are useful to describe a relationship between two variables (Gravetter & Wallnau, 2008); further, multiple regression techniques help to determine not only the relationship, but also the degree of that relationship (Gay, Mills, & Airasian, 2009).

Summary

This research is a quantitative analysis of secondary data collected by the Rock Solid SISR team from WKU in the 2014-15 school year from elementary schools across Kentucky. The investigation examined the relationship between instructional leadership, school culture, and student achievement at the elementary level with numeric statistics on specific demographic factors. The researcher analyzed data using SPSS and organized the data into tables and narratives for reporting and interpreting the findings. Chapter III provided a synopsis of the methods utilized for the indicated research. Chapter IV outlines a detailed reporting of the informative data of this research study and Chapter V provides a conclusion and recommendations.

CHAPTER IV: RESULTS

Introduction

The purpose of this quantitative study was to explore the possible relationships among teacher perceptions of instructional leadership, school culture, and student achievement while controlling for demographic factors such as school size, ethnicity, gender, and socioeconomic status. Specifically, this study determined whether teachers' perceptions of school leadership behaviors and school culture are related to student academic performance represented by achievement scores in Kentucky elementary schools.

Figure 5 characterizes the separate categories of variables and their hypothesized connections. The demographic data are the control variables. Leadership (Standard 7) was the alterable variable, while School Culture (represented by Standard 4B) functioned to mediate the effects of Leadership (Standard 7). Student Achievement was the school-level dependent variable.

Following the examination of descriptive statistics, psychometric analysis -- exploratory factor analysis and reliability analyses -- were performed to establish the scalability of the indicators believed to represent Standard 7 (Leadership) and Standard 4B (representing school culture). Factor analysis determined whether indicators believed to represent an abstract (i.e., underlying concept) load into a single factor through the examination of the relationships between the indicators themselves. Reliability analyses (using Cronbach's alpha statistic) also was conducted to determine whether the internal reliability of the factors yielded by the factor analysis could be improved by removing one or more items from the proposed scales.

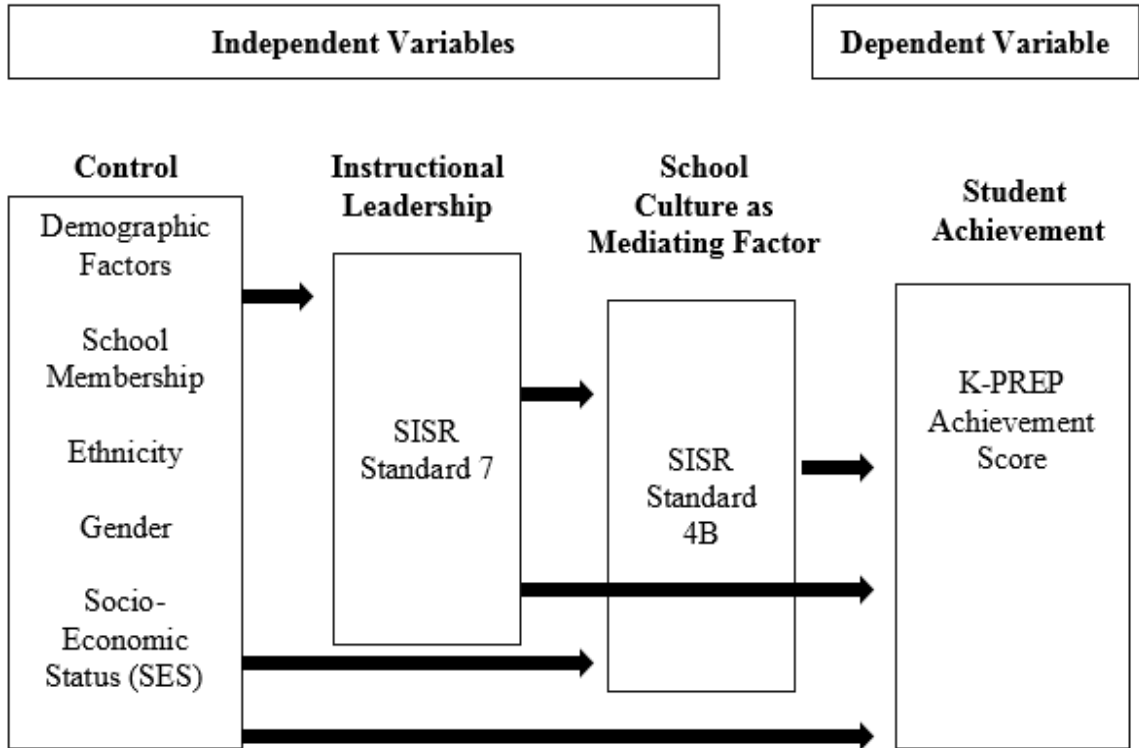


Figure 5. Logic model for effects of leadership (Standard 7) on student achievement, as mediated by school culture (represented by Standard 4B).

After scales for Leadership and School Culture were created, a correlation matrix of the control, independent, and dependent variables was produced. The matrix allowed for preliminary bivariate examination of the research questions and also assessed the possibility of multicollinearity between the variables entered in the multivariate regression analyses that are the true test of the research questions. Multiple regression analyses inferred the relationships outlined in the research questions.

Descriptive Statistics

Data for the study were obtained from the Kentucky Department of Education (KDE) and from Rock Solid researchers at WKU. Descriptive statistics are reported for the demographic data, Leadership (Standard 7), School Culture (represented by Standard 4B), and student achievement scores. Summaries are reported for each variable. The

study included teachers from 61 elementary schools who chose to voluntarily participate in the SISR. Other than school size, the demographic variables were representative of tested students in third, fourth, and fifth grades.

Dependent Variable

Descriptive statistics for student achievement, the dependent variable, were designated as Achievement scores and are reported in this section. The Achievement score calculated by the KDE was a composite score created from individual students' scores in a school for all content areas assessed by K-PREP. KDE's desired goal is for every school in the Commonwealth to attain an achievement score of 100.

The lowest achieving school in the study had a score of 52.3. The highest had a score of 94.7. The range between the lowest and highest was 42.4, which is high because both low-performing and successful schools were included in the study. The Achievement score mean and standard deviation for the elementary sample ($N = 61$) were 70.7 and 10.6, respectively. The standard deviation of 10.6 suggested the scores of the sample schools were widely dispersed on the achievement index.

Independent Variables

The independent variables for this study were divided into three separate categories: demographic controls, instructional leadership, and the mediating factor of school culture. The descriptive statistics for the demographic controls are reported in the current section. The descriptive data for Instructional Leadership (Standard 7) and mediating factors that include School Culture (represented as Standard 4B) are presented in the Psychometric Analysis section.

Demographic Controls

The Demographic Controls for this study were School Size based on student membership (MEMBERS), Percent White (% WHITE), Percent Free and Reduced Lunch (%FRL), and Percent Male (%Male). As noted in Chapter II, these demographics represent variables that have been previously found to significantly influence student achievement. Table 4 presents the descriptive statistics for the Demographic Controls. Schools in the sample averaged 431.03, students although their membership varied widely from a low of 145 to a high of 828. Schools participating in the study most often were majority White, with a mean of 83.5% White. The state average of White students in Kentucky schools is 79%. Schools participating in the study had slightly more Male than Female students, with 51.5% Male on average. Slightly more than 64% of the students qualified for Free and Reduced Lunch on average, which is slightly less than the state average of 68.6%, according to KDE (2016).

Table 4

Descriptive Statistics for Demographic Controls (N = 61)

Measure	<i>M</i>	<i>SD</i>	Minimum	Maximum	Range
MEMBERS	431.03	144.66	145	828	683
% WHITE	83.50	12.57	42.72	97.27	54.55
% MALE	51.5	2.73	43.21	57.18	13.97
% FRL	64.45	13.89	25.35	96.66	71.31

Psychometric Analysis

The SISR encompassed the Standards and Indicators from the SISI and was the instrument used by the Rock Solid grant researchers. The indicators are behaviors that describe a successful school's implementation of each standard. Instructional Leadership is Standard 7 and has seven indicators. For purposes of this study, School Culture was represented by Standard 4B (Teacher Expectations and Beliefs about Student Learning) and includes five indicators. Standard 4B was chosen over Standard 4A (Respectful, Orderly Environment that Prioritizes Learning), as the indicators in Standard 4B are more closely aligned to Hallinger's (2011) LfL model and to the research presented in Chapter II. An exploratory factor analysis was calculated for each standard followed by Cronbach's alpha, to examine the internal reliability of the set of indicators. These procedures were performed to ensure the indicators could form an internally consistent scale and be reliably scaled together.

Exploratory factor analysis is a statistical procedure that examines the intercorrelations among a set of variables to determine those variables in the set that form coherent subsets that are relatively independent of one another (Tabachnick & Fidell, 2013). Indicators that highly correlate, but are largely independent of other subsets of measures, are combined (extracted) into factors. Factors are assumed to represent an underlying process or concept that caused the observed correlations. Because the factor extraction techniques can be arcane, the definition of largely independent subsets is slippery. As researchers can force the software to retain any number of factors they choose, one of the largest tasks for the researcher is to determine the number of factors that should be retained in any analysis. According to Tabachnick and Fidell (2013), "One

wants to retain enough factors for an adequate fit, but not so many that parsimony is lost” (p. 649). Several techniques are available to determine the number of factors that are appropriate to retain. Costello and Osborne (2005) noted that statistical software generally examines the eigenvalues, retaining all factors with eigenvalues above 1.0.

The initial eigenvalues for the seven possible factors among the variables believed to represent Leadership (Standard 7) are reported in the left columns of Table 5. The eigenvalues retained appear in the right columns. The single factor retained, based on having an eigenvalue above 1.0, explained 79.93% of the variance in the correlation matrix of the seven items believed to represent Standard 7, Leadership.

Table 5

Total Variance Explained for Standard 7, Leadership

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.595	79.932	79.932	5.356	76.518	76.518
2	.424	6.050	85.983			
3	.301	4.304	90.287			
4	.239	3.416	93.703			
5	.188	2.688	96.391			
6	.153	2.180	98.571			
7	.100	1.429	100.000			

Note. Extraction Method: Maximum Likelihood.

Nevertheless, the consensus of the research literature has been that using the eigenvalue rule is the least accurate method for determining the number of factors to be retained in factor analysis (Velicer & Jackson, 1990). The most easily available and

accurate measure, according to Costello and Osborne (2005), is examination of the scree plot, which is a plot of the eigenvalues for each potential factor (i.e., the eigenvalues on the left side of Table 5). Figure 6 the scree plot of the eigenvalues for Standard 7 (Leadership) provides additional evidence to the number of highly correlated factors. Those above the natural bend in the plot usually are the number of factors that should be retained. In Figure 6, the scree plot suggests one factor should be retained as well. As both methods suggested the same single factor solution gives us confidence in its appropriateness.

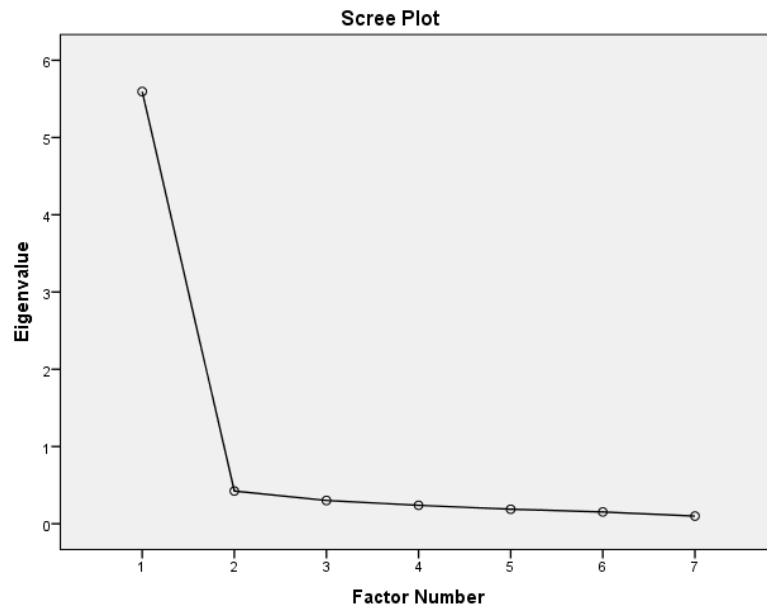


Figure 6. Scree plot for Standard 7, Leadership.

Table 6 contains a list of the seven indicators and their respective factor loadings for the single factor solution to Standard 7, Leadership. As evidenced from the analysis, the seven indicators are highly correlated with the underlying Leadership standard. Factor loadings (the correlation between each item and the underlying concept) ranged from .816 to .912.

Table 6

Factor Loadings for Standard 7, Leadership

Indicators	Loadings
7.1. The principal's leadership style brings out the best in faculty and staff.	.907
7.2. The principal is an instructional leader.	.912
7.3. Leadership ensures that school improvement/school policy committees are focused on improving academic performance.	.879
7.4. Leadership utilizes data-driven decision making to inform choices about instruction and learning.	.849
7.5. The leadership team systematically monitors the implementation of the school improvement plan, holding all individuals accountable for carrying out the goals/objectives/strategies for which they are charged.	.868
7.6. The principal solicits teachers' professional judgments in decisions about teaching, learning, and school improvement.	.890
7.7. The principal is adamant about protecting instructional time.	.816

Cronbach's alpha was determined to evaluate the scale reliability. Table 7 displays the descriptive statistics and reliability analysis of the seven indicators for Standard 7 (Leadership). Cronbach's alpha for the scale was .946, which suggests very high reliability. Deleting item 7.7 would increase the reliability to .951; however, given the tradeoff of cutting an item to raise the alpha value by .006, it was decided to retain the item to maintain the scale. Individual items and composite totals demonstrate positive psychometric properties; the composite scale included mean and standard deviation of 3.97 and .996, respectively.

Table 7

Internal Reliability and Item Characteristics for Standard 7, Leadership (N = 1649)

Indicator	<i>M</i>	<i>SD</i>	Range	$\alpha - d^a$
7.1.	3.85	1.098	4	.944
7.2.	3.93	1.069	4	.943
7.3.	4.03	.922	4	.947
7.4.	4.12	.881	4	.949
7.5.	3.90	.975	4	.946
7.6.	3.91	1.061	4	.945
7.7.	4.07	.969	4	.951
Total	3.97	.996	4	.946

^a $\alpha - d$ = alpha with item deleted.

^bValue for $\alpha - d$ for Total is Cronbach's coefficient alpha for the entire scale.

Mediating Factors

Standard 4B (representing school culture) of the SISR consists of five indicators. A single factor was produced from the original factor analysis. Again, the eigenvalues of the five possible factors are displayed in the left-hand columns of Table 8, while the single factor retained using the eigenvalue rule appears in the right-hand columns. The single factor accounted for 77.5% of the variance among the five indicators. Only one component had an eigenvalue greater than one (3.875), reinforcing the view that the one factor solution was preferred.

Table 8

Total Variance Explained for Standard 4B, Representing School Culture

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.098	81.955	81.955	3.875	77.499	77.499
2	.331	6.618	88.573			
3	.277	5.545	94.118			
4	.175	3.510	97.628			
5	.119	2.372	100.00			

Note. Extraction Method: Maximum Likelihood.

Figure 7 presents a visual depiction of the eigenvalues with a scree plot for Standard 4B, representing school culture. The number of data points above the bend typically is the number of factors to preserve. Thus, the scree plot for Standard 4B also indicated the single factor solution was preferable.

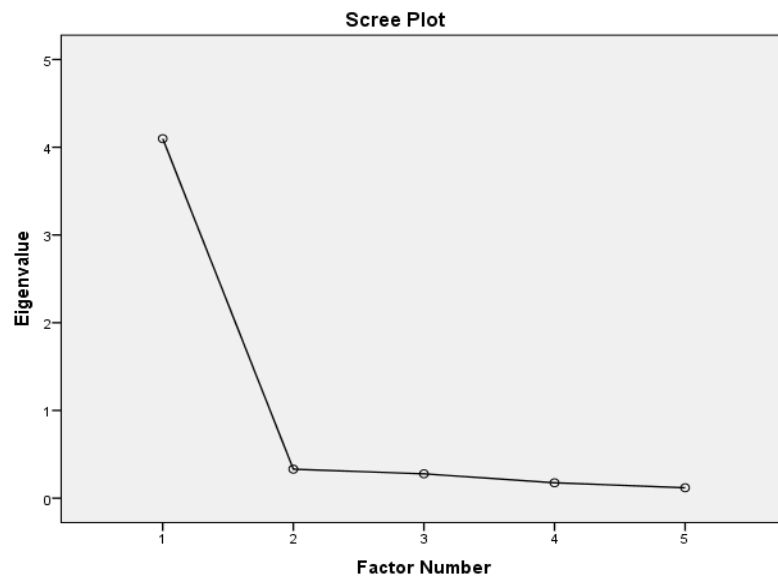


Figure 7. Scree plot for Standard 4B, representing school culture.

Table 9 lists the five indicators for the one component solution for Standard 4B (representing school culture) and the factor analysis loading for each indicator. All five indicators showed strong correlations to the underlying factor, ranging from .797 for 4.B.1 to .938 for 4.B.4.

Table 9

Factor Loadings for Standard 4B, Representing School Culture

Indicators	Loadings
4.B.1. Teachers really believe (not just lip service) that all students can learn at high levels.	.797
4.B.2. Beliefs that teachers are responsible and accountable for student outcomes are embedded within the school culture.	.833
4.B.3. Teachers have high expectations for student learning and the school faculty (collectively and individually) enforces these expectations rigorously.	.914
4.B.4. Teachers (collectively and individually) have and enforce a strong commitment to excellence in learning for all students across levels of ability and diversity of background.	.938
4.B.5. Teachers (collectively and individually) have and enforce a strong commitment to equity (fair treatment) in learning for all students across levels of ability and diversity of background.	.910

Table 10 displays reliability analysis for the five indicators for Standard 4B (representing school culture). Cronbach's coefficient alpha of .929 for the overall composite represents high internal consistency for the scale and supports a single instructional construct. Removing a single item would not sufficiently raise the overall scale reliability to overcome the value of maintaining the additional indicator, as they ranged from .921 for 4.B.4 to .943 for 4.B.1. The composite mean and composite standard deviation are 4.10 and .736, respectively.

Table 10

Internal Reliability and Item Characteristics for Standard 4B, Representing School Culture (N = 1651)

Indicator	<i>M</i>	<i>SD</i>	Range	$\alpha - d^a$
4.B.1.	3.96	.835	4	.943
4.B.2.	4.13	.711	2	.934
4.B.3.	4.14	.708	2	.922
4.B.4.	4.13	.717	2	.921
4.B.5.	4.16	.710	2	.925
Total	4.10	.736	2.4	.929 ^b

^a $\alpha - d$ = alpha with item deleted.

^bValue for $\alpha - d$ for Total is Cronbach's coefficient alpha for the entire scale

The factor analyses and reliability analyses suggest that each standard's indicators can form reliable indices. Based on these analyses, the indicators were altered to factor-weighted scales using the SPSS Factor command.

Research Questions

This research study was guided by four empirical questions. Prior to answering the research questions, an examination of the correlation matrix was vital for two reasons. First, the correlation matrix provided the first read and a preliminary analysis of each Research Question. A relationship or lack of relationship between intervening variables provides pertinent information for a study. The correlation matrix allows the researcher to ponder the way in which the intervening and/or control variables change the relationships and therefore, provide a better understanding of connecting this research with previous studies.

A second reason to examine the correlation matrix is that it allows the researcher to view any variables that may result in problems with multicollinearity. The correlation matrix shows the bivariate relationship and allows the researcher to confirm whether the independent variables are unrelated. By having an understanding of the bivariate relationships, the researcher is able to better recognize the action of the variables in a regression analysis.

Table 11 displays the correlation matrix for the Demographic Factors, Leadership, School Culture, and Student Achievement. The correlations provide the bivariate relationships between the variables used in this study. Moderate strength correlation should fall between .40 and .60. Percent White produced a moderate impact on student achievement, denoted as ACHIEVE. The strongest correlations were related to School Culture, one standard in the study, as they were associated with student achievement and Leadership. The highest individual correlation was $r = .847$ for School Culture with Leadership, which is noteworthy, as they were the focal constructs of this study. School Culture also had the strongest correlation to the dependent variable of student achievement ($r = .503$). The correlations aid in the understanding of the research questions. Each question was stated before presenting the results for the reader's convenience.

Research Question 1

To what degree do the school demographic factors such as gender, SES, and race relate to SISR Standard 7 (Instructional Leadership), Standard 4B (representing school culture), and student achievement?

Table 11

Correlation Matrix for Demographic Factors, Leadership, School Culture, and Student Achievement (N = 61)

	ACHIEVE	LEAD	CUL	MEM	%WH	%MALE	%FRL
ACHIEVE	--	.454*	.503*	.062	.292*	-.174	-.480*
LEAD		--	.847*	-.106	.118	-.170	-.108
CUL			--	-.201	.178	-.141	-.151
MEM				--	-.198	.253*	-.150
%WH					--	-.143	-.432*
%MALE						--	.124
%FRL							--

**significant correlation*
 $p \leq .05$.

The first research question assessed the relation of demographic factors to Standard 7 (Leadership), Standard 4B (representing school culture), and student achievement measured by the overall achievement score of Kentucky elementary schools that participated in the 2014-15 SISR administration. The regression results associated to Research Question 1 are shown in Tables 12, 13, and 14. Table 12 presents the results of multiple regression analysis to establish the relation to the Demographic Factors on Leadership. Table 13 illustrates the effects of the Demographic Factors on School Culture. Table 14 includes the replicated effects on student achievement. Tables 12, 13, and 14 utilize the independent variables of School Size, Percent White, Percent Male, and

Percent Free and Reduced Lunch. Of the models studied, only one significantly explained the variation in any of the dependent variables examined.

In Table 12 the F-test checked to determine whether the model significantly explained variation in the dependent variable. With $F(4, 56) = .609, p = .658$, the model was not significant; therefore, it did not explain variation in leadership. The particularly small (and negative) effect size, Adjusted $R^2 = -.027$, also suggested the lack of significant relationships between the four independent variables and Leadership, which denoted that leadership does not significantly vary among schools solely based on demographics.

Table 12

Regression of Standard 7, Leadership, on the Demographic Variables (N = 61)

Variable	<i>B</i>	<i>SE B</i>	Beta	<i>T</i>	Sig. <i>t</i>
Constant	1.531	1.712		.894	.375
MEM	-9.095E-5	.000	-.026	-.190	.850
%WH	.003	.007	.072	.484	.563
%MALE	-.032	.029	-.146	-1.076	.287
%FRL	-.003	.006	-.061	-.410	.683

Table 13 reports the regression of School Culture on the Demographic Variables. As with Leadership, the model again was not significant, $F(4, 56) = 1.304, p = .280$. The adjusted $R^2 = .020$, which indicated that only 2% of the independent variables explained School Culture. Again, none of the individual variables was significantly related to School Culture upon controlling for the other variables in the model. As none of the

bivariate relationships were significant in the correlation table, again this was not remarkable and signified that teacher perceptions do not vary significantly among schools solely based on demographics.

Table 13

Regression of Standard 4B, Representing School Culture, on the Demographic Variables (N = 61)

Variable	<i>B</i>	<i>SE B</i>	Beta	<i>T</i>	Sig. <i>t</i>
Constant	.821	1.206		.680	.499
MEM	.000	.000	-.199	-1.479	.145
%WH	.003	.005	.078	.541	.590
%MALE	-.011	.021	-.070	-.527	.600
%FRL	-.004	.004	-.133	-.915	.364

Table 14 reports the results of the regression analysis to determine the effects of student achievement on the Demographic Factors. The ANOVA was statistically significant, with $F(4,56) = 4.628, p = .003$. The Adjusted R^2 of .195 indicated that approximately 19.5% of the variation in Student Achievement was accounted for by Independent variables in the equation. Percent Free and Reduced Lunch produced significant effects on Student Achievement, $p \leq .05$. Controlling for the other variables in the model, Percent Free and Reduced Lunch showed strong effects with standardized beta of $-.440$, which indicated a loss of .44 standard deviation units associated with a one standard deviation increase in Percent Free and Reduced Lunch. This signified that poverty impacts student achievement among the represented schools.

Table 14

Regression of Achievement, on the Demographic Variables (N = 61)

Variable	<i>B</i>	<i>SE B</i>	Beta	<i>T</i>	Sig. <i>t</i>
Constant	108.732	27.473		3.958	.000
MEM	-.002	.008	-.038	-.311	.757
%WH	.060	.111	.071	.539	.592
%MALE	-.391	.471	-.100	-.830	.410
%FRL	-.338	.101	-.440	-3.345	.001

Research Question 2

To what degree does SISR Standard 7 (Instructional Leadership) affect Standard 4B (representing school culture) and student achievement, without controlling for demographic factors?

The results for Research Question 2 are depicted in Tables 15 and 16. Table 15 reports the results of the multiple regression analysis for Standard 7 (Leadership) on Standard 4B (representing school culture). Table 16 reports the results of the multiple regression analysis of Standard 7 (Leadership) on student achievement, the dependent variable. In Table 15, Standard 7 (Leadership) produced a significant effect on Standard 4B (representing school culture), with $F(1, 59) = 149.537, p < .001$, which explained 71.2% of the variation in Standard 4B with an Adjusted $R^2 = .712$. The standardized beta of .847 indicated that a one standard deviation unit increase in Standard 7, Leadership, would produce a .847 standard deviation increase in school culture.

Table 15

Regression of Standard 7, Leadership, on Standard 4B, Representing School Culture (N = 61)

Variable	<i>B</i>	<i>SE B</i>	Beta	<i>t</i>	Sig. <i>t</i>
Constant	.010	.029		.361	.719
Leadership	.611	.050	.847	12.229	.000

Table 16 displays the results of multiple regression to establish the effects of Standard 7 (Leadership) on student achievement, without controlling for demographic variables. The $R = .454$ and Adjusted $R^2 = .192$ indicated that leadership moderately affects student achievement. The overall regression for Leadership and school performance was significant, $F(1, 59) = 15.288, p < .001$. Examining the Beta, a one unit increase in the standard deviation for Leadership produced a change of .454 standard deviation units in student achievement.

Table 16

Regression of Standard 7, Leadership, on Achievement (N = 61)

Variable	<i>B</i>	<i>SE B</i>	Beta	<i>t</i>	Sig. <i>t</i>
Constant	70.912	1.219		58.193	.000
Leadership	8.221	2.103	.454	3.910	.000

Research Question 3

To what degree does SISR Standard 4B (representing school culture) relate to student achievement?

Table 17 exhibits the relation of Standard 4B (representing school culture) on

student achievement, without controlling for demographic factors. The ANOVA was significant, $F(1, 59) = 20.026, p < .001$, explaining 24% of the variance in student achievement, the dependent variable. A one unit increase in school culture generated a .503 unit gain in student achievement. The influence of School Culture on Student Achievement was significant without controlling for demographic factors. A unit increase in School Culture had a larger effect on student achievement than a unit increase in Leadership.

Table 17

Regression of Standard 4B, Representing School Culture, on Achievement (N = 61)

Variable	<i>B</i>	<i>SE B</i>	Beta	<i>t</i>	Sig. <i>t</i>
Constant	70.769	1.181		59.940	.000
Culture	12.648	2.826	.503	4.475	.000

Research Question 4

To what degree do teacher perceptions of SISR Standard 4B (representing school culture) mediate the effect of teacher perceptions from SISR Standard 7 (Instructional Leadership) on student achievement as measured by state accountability achievement scores while controlling for demographic factors?

Table 18 combines all independent variables in a nested multiple regression to determine the effects of Leadership on school performance, when controlling for the Demographic Factors and as mediated by School Culture. A nested multiple regression allows the researcher to specify a fixed order of entry for variables in order to control for the effects of certain predictors independent of the influence of others. A full and reduced

model F -test was completed by calculating the residual sums of square of the models. This test indicated whether adding new variables would improve the model when going from Step 1 (Demographics only) to Step 2 (Demographics and Leadership) to Step 3 (Demographics, Leadership, and School Culture). The model was improved after each step. Step 1 was very much in line with Table 14. In Step 1, the ANOVA $F(4,56) = 4.628, p = .003$ indicated that the model significantly explained some variance in student achievement. The Adjusted R^2 of .195 indicated a small effect on the student achievement score that represented student outcomes. Again, Percent Free and Reduced Lunch was the sole statistically significant predictor when other variables were controlled ($p < .001$).

For Step 2, Standard 7 (Leadership) was added to the equation to establish its effect after Demographic Factors were controlled with the ANOVA for the model significant, $F(5,55) = 7.275, p < .001$. The Adjusted R^2 of .343 was an increase from .195. An interesting result was the change in the standardized beta for Percent of Free and Reduced Lunch from -.440 in Step 1 to .395 in Step 2. Poverty and Leadership were significant at $p = .001$, which indicated that leadership decreases the effect of poverty on student achievement.

Finally, for Step 3, Standard 4B (representing school culture) was added to consider the extent that School Culture mediated Leadership when demographics were controlled. The model for Step 3 reported the ANOVA as $F(6,54) = 6.740, p < .001$. The Adjusted R^2 of .365 showed an increase from .343 in Step 2. The model remained significant; however, it explained less about Leadership.

As noted in Table 18 and in the final step with the Beta results, adding School Culture negated the influence of Leadership on student achievement to .105, and the

results were not significant. The Percent Free and Reduced Lunch remained significant at $p < .05$, with a Beta of $-.388$. The high correlation between School Culture and Leadership, as seen in the correlation matrix and in Table 15, accounted for the reduction of significance for Leadership and School Culture in Step 3. As a regression coefficient in a multiple regression model represents the effects of an independent variable when others are held constant, it tends to lose meaning when multicollinearity exists (Agresti & Finlay, 2009). The concepts of Leadership and School Culture are bound together tightly on the SISR. However, the correlation matrix and the nested analysis inferred that, while school culture was an important part of the school leader's focus, it was not the entirety of a school leader's responsibilities. Moreover, school culture was more proximal to student achievement, as predicted in the model. This was demonstrated by the bivariate correlations between leadership and achievement and school culture and achievement, as well as the difference in the standardized betas in the regression analyses.

Summary

This quantitative study explored the possible relationships among instructional leadership, school culture, and student achievement, while controlling for specific demographic factors such as school size, ethnicity, gender, and socioeconomic status. Secondary data from KDE and WKU's Rock Solid Research Team were utilized. The study was limited to data provided by Kentucky elementary schools that completed the SISR. The SISR is based on the *Standards and Indicators for School Improvement (SISI)*, a guide for school improvement, and contains nine standards and 88 indicators. The SISR applies the Standards and Indicators in the form of a teacher perception survey. This study focused on Standard 7 (Instructional Leadership) and Standard 4B (representing

Table 18

Regression of Achievement on SISR Standard 7, Leadership, Controlling for Demographic Factors and as Mediated by Standard 4B, Representing School Culture (N = 61)

Variable	<i>B</i>	<i>SE B</i>	Beta	<i>T</i>	Sig. <i>t</i>
Step 1					
Constant	108.732	27.473		3.958	.000
MEM	-.002	.008	-.038	-.311	.757
%WH	.060	.111	.071	.539	.592
%MALE	-.391	.471	-.100	-.830	.410
%FRL	-.338	.101	-.440	-3.345	.001
Step 2					
Constant	97.770	24.986		3.913	.000
MEM	-.002	.007	-.028	-.250	.803
%WH	.036	.100	.042	.357	.722
%MALE	-.165	.429	-.042	-.384	.702
%FRL	-.320	.091	-.416	-3.497	.001
LEAD	7.161	1.937	.395	3.698	.001
Step 3					
Constant	98.644	24.582		4.013	.000
MEM	.002	.007	.034	.298	.767
%WH	.030	.099	.036	.308	.759
%MALE	-.236	.424	-.060	-.555	.581
%FRL	-.298	.091	-.388	-3.277	.002
LEAD	1.898	3.655	.105	.519	.606
CUL	8.750	5.187	.348	1.687	.097

school culture), controlling for Demographics Factors obtained from the School Report Card for each of the 61 elementary schools in the study.

The statistical procedures included descriptive statistics, psychometric analysis, correlation analysis, and multiple regressions. Simultaneous and nested regressions were conducted. The dependent variable was Student Achievement and utilized the school Achievement score from the 2014-15 administration of K-PREP and Unbridled Learning as the measure. Two of the 11 standards from the SISR served as independent variables: Standard 7 (Leadership) and Standard 4B (representing school culture). Demographic factors served as control variables and included School Membership Size, Percent White, Percent Male, and Percent Free/Reduced Lunch.

Factor analysis was performed on Standard 7 (Leadership) and Standard 4B (representing school culture). The analysis resulted in a single factor for each. Seven indicators loaded for Leadership, while five loaded for School Culture. Cronbach's coefficient alpha produced a composite value of .946 for Standard 7 and .929 for Standard 4B. The results for coefficient alphas reflected an exceptional degree of internal reliability and confirmed the factor analysis. The means and standard deviations reflected similar reflected solid psychometric properties.

The overall results of the analysis demonstrated the influence of the central research question: To what extent are instructional leadership and school culture related to student achievement outcomes in Kentucky elementary schools? Four research questions guided the study, with inconclusive results utilizing the SISR as a measure for teacher perceptions of the effects of Leadership mediated by school culture on student achievement. The nested multiple regression produced an effect size of .365, although the

filter of school culture explained less than simply the effect of leadership alone on student achievement while controlling for demographic factors.

CHAPTER V: DISCUSSION AND CONCLUSIONS

Introduction

This research study investigated the relationship between leadership, school culture, and student achievement. Earlier chapters introduced the study, imparted research and literature supporting it, outlined the methodology utilized, and delivered the results. Chapter V provides a summary of the findings and presents an interpretation of the outcomes presented in Chapter IV. Also, Chapter V reviews the results in light of existing literature presented in Chapter II, reveals possible implications of the findings, discusses limitations, offers recommendations for future research, and delivers conclusions.

This study reflected a concern for the changing role of the school principal. The principal has become a key focal point for a school's success or failure. Increased accountability pressures require the principal, as the school leader, to pursue strategies that promote school success. Hallinger's (2011) LfL model illustrates that the influence of school leadership on student outcomes predominately is indirect and mediated through various school conditions. One dimension of principal leadership is the development of a school's culture. Successful principals create an academic capacity through the development of high expectations and standards, and a school culture that nurtures incessant learning and improvement (Fullan, 2002).

The central research question for the study was: To what extent are teacher perceptions of instructional leadership and school culture related to student achievement outcomes in Kentucky elementary schools? More specifically, this study was guided by the following research questions:

1. To what degree do the school demographic factors such as gender, SES, and race relate to SISR Standard 7 (Instructional Leadership), Standard 4B (representing school culture), and student achievement?
2. To what degree does SISR Standard 7 (Instructional Leadership) affect Standard 4B (representing school culture) and student achievement?
3. To what degree does SISR Standard 4B (representing school culture) relate to student achievement?
4. To what degree do teacher perceptions of SISR Standard 4B (representing school culture) mediate the effect of teacher perceptions from SISR Standard 7 (Instructional Leadership) on student achievement as measured by state accountability achievement scores while controlling for demographic factors?

The Study in Brief

The Kentucky Department of Education at one point utilized the Standards and Indicators for School Improvement (SISI) as the main guideline for judging a school's continuous improvement efforts (KDE, 2004). The nine standards and 88 indicators of the SISI provided a framework for describing that which occurs in successful schools. KDE designed the Scholastic Audit to gauge the level of implementation of the SISI, which promoted a growth framework for whole school reform. Schools were rewarded for high performance, and those with low performance were selected for the Scholastic Audit. The Scholastic Audit had tremendous merit, but it was expensive, time consuming, and imposing. When the Scholastic Audit no longer was feasible, an alternative was needed in order that schools and leaders could continue to show growth and to provide high student achievement.

This research study was a quantitative analysis of secondary data provided by KDE in the form of Unbridled Learning student achievement and secondary data from WKU's Rock Solid Research Team in the form of School Improvement Scholastic Review (SISR) teacher perception survey data. The SISR is an assessment tool based on the nine standards and 88 indicators of the SISI document and offered a quicker, less invasive assessment of the degree of implementation of the SISI while providing quality, reliable information.

Demographic Factors of school size (measured as Membership of a school), race (measured as Percent White), gender (measured as Percent Male), and socioeconomic status (measured as percent of participation in the Free and Reduced Lunch program) were considered and controlled for to segregate the effect of Leadership and School Culture, the two standards of interest in this study. Relationships among the demographic factors and student achievement also were explored. Research has suggested that various demographic factors in the school have an influence on principal leadership and its effect on student outcomes.

Descriptive statistics were obtained for the demographic factors and for the achievement scores from the state accountability system, Unbridled Learning, published on School Report Cards. Factor analyses were performed to determine whether Leadership or School Culture Standards from the SISR could be considered as single variables alone, or whether they should be divided into separate indicators. Cronbach's coefficient alpha was utilized to establish the reliability of the factors.

The remainder of this chapter includes discussion and analysis of the results of the study, research recommendations, and conclusions.

Discussion of Findings

The data gathered from the teacher perception survey and from student accountability results can be understood by reexamining the four research questions. The questions are considered individually according to the relationships depicted on Figure 2 found in Chapter I. The first research question assessed the relation of demographic factors to SISR Standard 7 (Instructional Leadership), Standard 4B (representing school culture), and student achievement measures. It presents a statistical analysis of the relationships between demographic factors and student outcomes, as well as the direct effects of demographic factors on leadership and school culture. The independent variables of School Size, Percent White, Percent Male, and Percent Free and Reduced Lunch were utilized as Demographic Factors for this study. Sixty-one of the 466 Kentucky elementary schools participated in the study, with a mean enrollment of 431 students.

Three simultaneous regressions were conducted to answer Research Question 1. The results indicated that no significant relationship exists among the Demographic factors and Leadership; i.e., leadership does not significantly vary among schools solely based on demographics. Likewise, the second regression suggested that no significant relationships are present between the Demographic variables and School Culture, which denotes that teacher perceptions of culture do not vary significantly among schools solely based on demographics. The multiple regression of the Demographic Factors on Student Achievement suggested a significant relationship at $p < .05$ for Percentage of Free and Reduced Lunch, with a standardized beta of .440, which indicated a loss of .44 standard

deviations units of student achievement associated with a standard deviation unit of Percent Free and Reduced Lunch.

This study confirms the available research concerning the effects of poverty (Percentage of Free and Reduced Lunch) on student achievement. Poverty is the strongest demographic hindrance for academic proficiency. Kentucky is attempting to meet the diverse needs by addressing Gap populations for a portion of the accountability scores on state testing. The Gap populations are student groups that historically have had achievement gaps and include Race, Special Education, Poverty and Limited English Proficiency. Students in the Gap groups scoring proficient or higher yield a Gap score for accountability testing.

This study is consistent with other research on the effects of poverty on student achievement outcomes (Baharudin & Luster, 1998; Jeynes, 2002; Eamon, 2005; Majorbanks, 1996; Hochschild, 2003; McNeal, 2001; Seyfield, 1998). Principals must help low-income students to succeed academically. It is encouraging that, at least within the sample of elementary schools considered for this study, significant differences did not appear to be present in leadership between high and low poverty schools. Likewise, a significant difference was not found in school culture based on demographics. While not controlling the socioeconomic status of students, principals can control instruction and the culture in the school. Providing opportunities for success, despite of the financial obstacles that inhibit progress, is a must.

Research Question 2 explored the impact of leadership on school culture and student achievement. Two simultaneous multiple regressions were utilized to answer Research Question 2. Tables 15 and 16 discuss the results. The first regression confirmed

a significant relationship between Standard 7 (Leadership) and Standard 4B (representing Student Culture). The findings indicated that schools in which teacher perceptions of leadership are high also tend to have teachers with strong perceptions of culture. The second regression demonstrated a significant relationship between Standard 7 (Leadership) and student achievement, without controlling for demographics. In addition, the findings indicated that schools in which teacher perceptions of leadership are high also tend to have higher levels of student performance.

Leadership and school culture are two concepts that affect one another. The findings regarding the connectivity between leadership and school culture are supported by other researchers (Kouzes & Posner, 1998; Deal & Peterson, 1999; Leithwood et al., 2004; Schein, 2004; Marzano et al., 2005). This study and previous research have confirmed that the principal, as a school leader, plays an instrumental role in the development of a positive school culture (Hallinger, 2011). All schools have a representative culture, whether positive or toxic or healthy or fragile. Leadership behaviors in this study produced a change of .847 unit increase per unit of school culture. A healthy and positive culture increases the enthusiasm and morale of school faculty and produces higher teacher perceptions of school culture. Therefore, it is crucial that principal leaders develop the school culture (MacNeil et al., 2009).

The relationship between Leadership and Student Achievement may be attributed to the leadership styles or behaviors applied at the elementary level. By utilizing effective leadership styles and best practices, principals can lead collaboratively. Louis et al. (2010) stated that every school showing growth in student outcomes has an effective principal. As with Marzano et al. (2005), specific behaviors and responsibilities are

correlated to student outcomes. Research has indicated that principals who are situationally aware, flexible, successful with discipline, and promote outreach display behaviors that are more effective and increase student outcomes.

In order to answer Research Question 3, simultaneous regression was used to discover the relation of School Culture to the student achievement score for the Unbridled Learning accountability model while not controlling for demographics. Standard 4B includes five indicators, and Table 17 reports the effects of School Culture as represented by Standard 4B on student achievement. The results of this research study indicated that school culture has a significant effect on student outcomes ($p < .001$), while explaining 24% of the variance in the school accountability achievement score. One unit increase in School Culture produces an increase of .503 points on the student achievement score. This conclusion is consistent with Shutt (2004) and MacNeil (2009), who established that school culture can be a powerful variable to high student achievement. Gruenert (2005) determined that learning partnership and unity of purpose are the cultural factors that have a positive correlation with student achievement. Based on the results of this and previous studies, school leaders should focus on improving school culture to increase student outcomes.

Last, Research Question 4 analyzed the mediated effect of School Culture on Leadership and, ultimately, on student achievement. Nested multiple regression was utilized to address the fourth research question. The regression produced an effect size of .365, which emphasizes the role of leadership filtered through positive school culture while controlling for demographics, as elementary schools strive for continued school improvement. However, the mediated effects of school culture on student achievement

utilizing the SISR for teacher perceptions was inconclusive for this study. The multicollinearity between Standards 7 and Standard 4B resulted in losing meaning for the final regression model. The results of Research Question 4 confirmed that the demographic factor of socioeconomic status plays a pivotal role in student achievement.

As Hallinger's (2011) LfL model suggests, other researchers have found an indirect impact on student achievement (Robinson et al., 2008; Marzano et al., 2005; Leithwood et al., 2004; Hallinger & Heck, 1996). This study was unable to confirm the indirect impact of leadership through the mediation of school culture on student achievement when controlling for demographics and while using teacher perceptions measured by the SISR survey.

Limitations

Several limiting factors may affect the generalizability of this research study. The study utilized only elementary schools in Kentucky and did not include middle or high school populations. Therefore, the results would be problematic to generalize to the entire population of teachers and principals, as the study was limited to public elementary teachers, principals, and schools. Private, alternative, and charter schools were excluded in the research. Further, other states struggle with improving student achievement through effective leadership, and this study focused on only Kentucky.

Another limitation was that it was restricted to Demographic Factors of School Size, Percent Male, Percent White, and Percent Free and Reduced Lunch. Other demographic information was excluded, such as Percent Gifted and Talented or Percent Special Education, which would have provided further evidence of outcomes on specific populations. The sample was slightly less diverse and impoverished than the state

averages. Results revealed that 83.5% of the students in the participating schools were White, in comparison to the state average of 79% White in all Kentucky schools (KDE, 2016). The percentage of SES for the sample was 64%, which is slightly less than the state average of 68.6%, according to KDE (2016). A more representative sample of students would have yielded slightly different results.

The current study was restricted to only teacher perception scales as a measurement for this quantitative research. A mixed methods study or adding qualitative data from interviews, observations, and additional sources would have allowed additional information on principal performance that could have further advanced the study. Findings were limited due to the use of a single score to represent achievement as the measure for student outcomes. With the Unbridled Learning Accountability Testing model, other categories of measurement are available including an Overall Accountability Performance score, Gap score, or Growth score. Conducting a study with multiple student outcome measures may have been more fruitful.

Finally, the methodological limitations of this study hindered the results. The interaction of the variables did not allow for a full explanation of the effects of leadership mediated by school culture on student achievement. Not controlling for poverty in the analyses between Standard 7 and Standard 4B contributed to the methodological limitations. In addition, a possibility exists that there are limitations in the SISR to explain the high correlation between Standard 7 and Standard 4B. The researcher believes that, based on the limitations and analyses of the results, recommendations for future study are warranted.

Recommendations

The recommendations are a result of perceptions acquired from this and related research studies and may afford additional insights into the relationships among leadership, school culture, and student achievement.

Practical Implications of the Study

The current study offers significant information to educators and school leaders. The importance of understanding the impact of school leadership and school culture should not be underestimated. Using the results of this study, practical implications for action are noted. Measuring teacher perceptions about leadership and school climate should be included in every school's yearly plan. Time should be spent analyzing perception data to recognize areas for growth and success. By identifying the perceptions, school leaders and educators can formulate informed decisions involving strategies to improve school leadership behaviors and climate. School improvement teams and leaders should consider the data encompassing school culture and effective leadership. This study validates the SISR as a means to measure teacher perceptions of the leader's implementation of school improvement strategies. However, the SISR may be further revised to provide a clearer distinction between actual leadership behaviors and school culture.

It may be of additional value to implement a leadership development program for principals and teachers who are interested in growing leadership behaviors and skills. The findings of this study encourage principal leaders to build a positive school culture and to exhibit strong leadership skills, which are indicated in the SISR. Teacher perceptions have indicated that a principal's leadership style should bring out the best in

faculty and staff; most important, a principal should be an instructional leader. Applicable training and professional development are necessary to grow strong leaders.

Development programs for leaders would offer varied sessions covering the nine Standards. Capacity building, one of Hallinger's (2011) key points, would be addressed with the implementation of this program.

Recommendations for Future Research

The current study researched a limited scope of the educational leadership field and can be expanded with various methods. One study cannot effectively investigate all aspects of a specific topic; hence, recommendations for future research are offered. The current study utilized the SISR and student accountability data from KDE to explore relationships among Leadership, School Culture, and student achievement. This study investigated only a small portion of the wealth of data related to the state's public education system that is accessible from the Kentucky Department of Education and other sources. Educational data on topics such as enrollment, finance, and additional test scores are available for analysis.

The SISR, which was utilized in this study and based on the SISI, encompasses 11 standards, with Standards 4 and 6 being divided:

Standard 1: Curriculum

Standard 2: Classroom and School Evaluations

Standard 3: Instruction

Standard 4A: Respectful, Orderly Environment that Prioritizes Learning

Standard 4B: Teacher Expectations and Beliefs about Student Learning

Standard 5: Student, Family, and Community Support

Standard 6A: Professional Development

Standard 6B: Professional Growth and Evaluation

Standard 7: Leadership

Standard 8: Organizational Structure and Resource Allocation Focused on School
Improvement

Standard 9: Strategic Planning

The current study was built upon work of other researchers who conducted similar studies utilizing the SISI as a directing framework. Ennis (2007), McKinney (2007), Saravia (2008), Todd (2010), and Keeling (2015) utilized the standards in different configurations for their studies. Many other configurations exist for further studies, such as the relationships among Standard 5, Standard 7, and student outcomes.

If the current study was expanded, additional years of data could be included to yield more longitudinal information. Clear patterns of a specific variable over time can be explained with a longitudinal study. By examining similar variables from several years of outcomes, a researcher can investigate the connections among the results. Given the multicollinear relation between leadership and school culture, it may be useful to develop additional measures and to conduct further factor analysis in an attempt to create more independent measures. Alternately, some statisticians have suggested ridge regression as a way in which to produce less multicollinear regression coefficients, although the technique is controversial (Tabachnick & Fidell, 2013).

Expanding the current study to include an assortment of achievement measures may generate stronger correlations. The use of Measures of Academic Progress (MAP), which is a computer adaptive achievement test in mathematics and reading, or attendance

rates are alternate outcome measures. The supplementary data could provide deeper insight and understanding into the relationships among the variables. As the findings are inconclusive, future research on the same standards of the SISR may be repeated using a different methodological design. Structural equation modeling rather than regression may have afforded additional information. Also, expanding the study utilizing a different teacher perception survey, such as TELL Kentucky, may provide interesting correlations.

The current study did not address middle and secondary schools. Similar studies that address these schools could be completed to investigate whether the conclusions are consistent with this study at the elementary level. It would be advantageous to discover whether relationships among leadership, school culture, and student outcomes exist at the middle and high school levels. Recommendations for future research include a larger, more diversified sample population. The expansion of the study to other states may add depth as well. The diversification of the research would provide a broader generalizability of the results.

Other researchers should broaden this line of study to delve deeper into instructional leadership practices that foster strong, positive school cultures and that essentially demonstrate heightened amounts of student achievement outcomes. An analysis of the broadened study could focus on the characteristics of principal leadership that promote school culture and the way in which those behaviors are encapsulated within a leadership development program for aspiring principals and school leaders.

Conclusions

Instructional leadership, as a model of principal leadership, has experienced significant study within the field of educational research. With the increased emphasis on

student accountability and standards in the reforms of KERA, NCLB, Race to the Top, and Every Child Succeeds, the pressure for school principals to focus on leadership practices continues to intensify. As school accountability pressures grow, understanding school leadership and the effects of school culture on leadership and student outcomes becomes essential. Hallinger's (2011) LfL framework furnishes a powerful structure for interpreting school leadership, as it explains the primary variables that influence and explain leadership behaviors that affect student outcomes.

The purpose of this study was to determine the impact of school leadership and school culture on student outcomes based on teacher perceptions in Kentucky elementary schools. This study provides the following results: (a) Percentage of Free and Reduced lunch as a Demographic Factor affects student achievement; (b) Leadership significantly affects School Culture without controlling for demographics; (c) Leadership significantly impacts student achievement without controlling for demographics; (d) School Culture has a significant effect on student achievement without controlling for demographics; and (e) The current study reported significant results concerning the use of the SISR to measure the nine SISI standards as an effective measurement tool.

The use of Hallinger's (2011) LfL model as a theoretical framework provides strong empirical support for increasing academic success by building human capacity through relationships, school culture, and effective leadership. Although the final results of this study were inconclusive, principals as school leaders impact student outcomes through the school culture in which they foster. Principals make a difference in a school and in a student's level of success by the manner in which they lead. While the SISR previously had not been used to measure teacher perceptions of Leadership and School

Culture at the elementary level, the SISR supplied a valid method for measuring the nine SISI Standards at the elementary level. The results of the research quantify the impact of leadership and school culture on student achievement. In addition, this study adds to the research concerning the magnitude of socioeconomic status on student achievement and suggests the SISR is a promising measure as a teacher perception survey.

REFERENCES

- Abrams, L. M., Pedulla, J. J., & Madaus, G. F. (2003). Views from the classroom: Teachers' opinions of statewide testing programs. *Theory into Practice, 42*(1), 19-29.
- Agresti, A., & Finlay, B. (2009). *Statistical methods for the social sciences* (4th ed.). Upper Saddle River, NJ: Prentice Hall.
- Allen, A. (2014). *Teachers' perceptions of working conditions: The difference between static and improving schools in Kentucky* (Unpublished doctoral dissertation). Western Kentucky University, Bowling Green.
- Baharudin, R., & Luster, T. (1998). Factors related to the quality of the home environment and children's achievement. *Journal of Family Issues, 19*(4), 375-403.
- Barth, R. (2001). Teacher leader. *Phi Delta Kappan, 82*(6), 443-449.
- Barth, R. S. (2002). The culture builder. *Educational Leadership, 59*(8), 6-11.
- Barton, P. E. (2004). Why does the gap persist? *Educational Leadership, 62*(3), 9-13.
- Bass, B. M. (1985). *Leadership and performance beyond expectations*. New York: Free Press.
- Bass, B. M. (1990). From transactional to transformational leadership: Learning to share the vision. *Organizational Dynamics, 18*(3), 19-31.
- Bass, B. M. (2000). The future of leadership in learning organizations. *Journal of Leadership & Organizational Studies, 7*(3), 18-40.
- Bass, B. M., & Avolio, B. J. (1990). Developing transformational leadership: 1992 and beyond. *Journal of European Industrial Training, 14*, 21-27.

- Bass, B. M., & Bass, R. (2008). *The Bass handbook of leadership: Theory, research, and managerial applications* (4th ed.). New York: The Free Press.
- Bass, B. M., & Riggio, R. E. (2006). *Transformational leadership*. Mahwah, NJ: Lawrence Erlbaum Associates.
- Betz, M. (2000). Information technology and schools: The principal's role. *Educational Technology & Society*, 3(4), 1-19.
- Blase, J., & Blase J. (2000). Effective instructional leadership: Teachers' perspectives on how principals promote teaching and learning in schools. *Journal of Educational Administration*, 38(2), 130-141.
- Bolman, L. G., & Deal, T. E. (2013). *Reframing organizations: Artistry, choice and leadership* (5th ed.). San Francisco: Jossey-Bass.
- Bossert, S., Dwyer, D., Rowan, B., & Lee, G. (1982). The instructional management role of the principal. *Educational Administration Quarterly*, 18(3), 34-64.
- Bower, M. (1997). *The will to lead: Running a business with a network of leaders*. Boston: Harvard Business School Press.
- Branch, G., Hanushek, E., & Rivkin, S. (2012). *Estimating the effect of leaders on public sector productivity: The case of school principals*. CALDER Working Paper 66.
- Brewer, D. J. (1993). Principals and student outcomes: Evidence from US high schools. *Economics of Education Review*, 12(4), 281-292.
- Brookover, W., & Lezotte, L. (1979). *Changes in school characteristics coincident with changes in student achievement*. East Lansing, MI: The Institute for Research on Teaching, Michigan State University. (ERIC Document Reproduction Service, No. ED181005).

- Browne-Ferrigno, T., Allen, L. W., & Hurt, P. (2008). Longitudinal reform and renewal efforts to improve public schools: Kentucky's standards and indicators for school improvement. *Leadership and Policy in Schools, 7*(4), 401-427.
- Burns, J. M. (1978). *Leadership*. New York: Harper & Row.
- Burns, J. M. (2003). *Transforming leadership: A new pursuit of happiness*. New York: Atlantic Monthly Press.
- Bush, G. (2006). Learning about learning: From theories to trends. *Teacher Librarian, 34*(2), 14-19.
- Camburn, E., Rowan, B., & Taylor, J. (2003). Distributed leadership in schools: The case of elementary schools adopting comprehensive school reform models. *Educational Evaluation and Policy Analysis, 25*(4), 347-343.
- Ceballo, R., McLoyd, V., & Toyokawa, T. (2004). The influence of neighborhood quality on adolescents' educational values and school effort. *Journal of Adolescent Research, 19*(6), 716-739.
- Chambers, E. A., & Schreiber, J. B. (2004). Girls' academic achievement: Varying associations of extracurricular activities. *Gender and Education, 16*(3), 327-346.
- Cherkowski, S. (2012). Teacher commitment in sustainable learning communities: A new ancient story of educational leadership. *Canadian Journal of Education, 35*(1), 56-68.
- Clark, B. R. (1972). The organizational saga in higher education. *Administrative Science Quarterly, 17*, 178-183.
- Clotfelter, C. T., Ladd, H. F., & Vigdor, J. L. (2009). The academic achievement gap in grades 3 to 8. *Review of Economics and Statistics, 91*(2), 398-419.

- Cole, D., & Espinoza, A. (2009). When gender is considered: Racial ethnic minority students in STEM majors. *Journal of Women and Minorities in Science and Engineering, 15*, 263-277.
- Coleman, J. S., Campbell, E. Q., Hobson, C. J., McPartland, J., Mood, A. M., Weinfeld, F. D., & York, R. L. (1966). *Equality of educational opportunity*. Washington, DC: National Center for Educational Statistics.
- Costello, A., & Osborne, J. (2005). Best practices in exploratory factor analysis: Four recommendations for getting the most from your analysis. *Practical Assessment Research and Evaluation, 10*(7), 1-9.
- Council of Chief State School Officers. (1996). *Interstate School Leaders Licensure Consortium (ISLLC) standards for school leaders*. Washington, DC: Author.
- Council of Chief State School Officers. (2008). *Educational leadership performance standards: ISLLC 2008*. Washington, DC: Author.
- Council of Chief State School Officers. (2015). *ISLLC 2015: Model policy standards for educational leaders*. Washington, DC: Author.
- Creswell, J. W. (2013). *Qualitative inquiry and research design: Choosing among five approaches*. Los Angeles: SAGE Publications.
- Datnow, A., & Park, V. (2009). Conceptualizing policy implementation: Large scale reform in an era of complexity. In G. Sykes, B. Schneider, & D. Plank (Eds.), *Handbook of education policy research* (pp. 348-361). New York: Routledge Publishers.
- Davis, J. A. (1963). Intellectual climates in 135 American colleges and universities. *Sociology of Education, 37*, 110-128.

- Deal, T. E., & Peterson, K. D. (1990). *The principal's role in shaping school culture*. Washington, DC: U.S. Dept. of Education, Office of Educational Research and Improvement, Programs for the Improvement of Practice.
- Deal, T. E., & Peterson, K. D. (1993). Strategies for building school cultures: Principals as symbolic leaders. In M. Sashkin & H. J. Walberg (Eds.), *Educational Leadership and School Culture* (pp. 89-99). Berkeley, CA: McCutchan.
- Deal, T. E., & Peterson, K. D. (1999). *Shaping school culture: The heart of leadership*. San Francisco: Jossey-Bass.
- Deal, T. E., & Peterson, K. D. (2009). *Shaping school culture: Pitfalls, paradoxes and promises* (2nd ed.). San Francisco: Jossey Bass.
- DuFour, R., & Eaker, R. (1998). *Professional learning communities at work: Best practices for enhancing student achievement*. Bloomington, IN: National Education Service.
- DuFour, R., & Marzano, R. (2009). High-leverage strategies for principal leadership. *Educational Leadership*, 66(5), 62-68.
- Eamon, M. K. (2005). Social-demographic, school, neighborhood, and parenting sports participation and achievement. *Journal of Youth and Adolescence*, 34(2), 163-175.
- Edmonds, R. (1979). Effective schools for the urban poor. *Educational Leadership*, 37(1), 15.
- Ennis, B. C. (2007). *Professional development, leadership, and accountability scores: Evidence from Kentucky's Scholastic Audits* (Unpublished doctoral dissertation). University of Louisville, Louisville, KY.

- Finnan, C. (2009). *The upper elementary years: Ensuring success in grades 3-6*. Thousand Oaks, CA: Corwin Press.
- Fitzpatrick, K. A. (1998). *Indicators of school quality*. Schaumburg, IL: National Study of School Evaluation (NSSE).
- Fuhrman, S. H., & Elmore, R. F. (2004). *Redesigning accountability systems for education*. New York: Teachers College Press.
- Fullan, M. (2001). *Leading in a culture of change*. San Francisco: Jossey-Bass.
- Fullan, M. (2002). The Change Leader. *Educational Leadership*, 59(8), 16-20.
- Fullan, M. (2004). *Leadership and sustainability: System thinkers in action*. London, UK: Corwin Press.
- Fullan, M., & Hargreaves, A. (1996). *What's worth fighting for in your school?* New York: Teachers College Press.
- Fyans, M. G., & Maehr, M. L. (1990). *School culture, student ethnicity, and motivation*. Urbana, IL: The National Center for School Leadership. (ED 327947)
- Gay, L. R., Mills, G. E., & Airasian, P. (2009). *Educational research: Competencies for analysis and applications*. Columbus, OH: Pearson.
- Gravetter, F. J., & Wallnau, L. B. (2008). *Essentials of statistics for the behavioral sciences* (6th ed.). Columbus, OH: Pearson.
- Griffith, J. (2004). Relation of principal transformational leadership on school staff job satisfaction, staff turnover, and school performance. *Journal of Educational Administration*, 42(3), 333-356.
- Gruenert, S. (2005). Correlations of collaborative school cultures with student achievement. *NASSP Bulletin*, 89(645), 43-55.

- Hallinger, P. (2003). Leading educational change: Reflections on the practice of instructional and transformational leadership. *Cambridge Journal of Education*, 33(3), 329-351.
- Hallinger, P. (2005). Instructional leadership and the school principal: A passing fancy that refuses to fade away. *Leadership and Policy in Schools*, 4(3), 221-239.
- Hallinger, P. (2009). *Leadership for 21st century schools: From instructional leadership to leadership for learning*. Hong Kong: The Hong Kong Institute of Education.
- Hallinger, P. (2011). Leadership for learning; Lessons from 40 years of empirical research. *Journal of Educational Administration*, 49(2), 125-142.
- Hallinger, P., & Heck, R. (1996). Reassessing the principal's role in school effectiveness: A review of empirical research, 1980-1995. *Educational Administration Quarterly*, 32(1), 5-44.
- Hallinger, P., & Heck, R. (1998). Exploring the principal's contribution to school effectiveness: 1980-1995. *School Effectiveness & School Improvement*, 9, 157-191.
- Hallinger, P., & Heck, R. (2010). Leadership for learning: Does collaborative leadership make a difference in school improvement? *Educational Management Administration & Leadership*, 38(6), 654-678.
- Hallinger, P., & Murphy, J. (1985). Assessing the instructional management behavior of principals. *The Elementary School Journal*, 86, 217-247.
- Hallinger, P., & Murphy, J. F. (2012). Running on empty? Finding the time and capacity to lead learning. *NASSP Bulletin*, 97, 5-21.

- Hatch, J. A. (2002). *Doing qualitative research in education settings*. Albany, NY: State University of New York Press.
- Heck, R., & Hallinger, P. (2009). Assessing the contribution of distributed leadership to school improvement and growth in math achievement. *American Educational Research Journal*, *46*, 626-658.
- Heck, R., & Hallinger, P. (2010). Collaborative leadership effects on school improvement. *Elementary School Journal*, *111*(2), 226-252.
- Hochschild, J. L. (2003). Social class in public schools. *Journal of Social Issues*, *59*(4), 821-840.
- Holmlund, H., & Sund, K. (2005). Is the gender gap in school performance affected by the sex of the teacher? *Labour Economics*, *15*, 37-53.
- Houchens, G. W., & Keedy, J. L. (2009). Theories of practice: Understanding the practice of educational leadership. *Journal of Thought*, *44*(3-4), 49-61.
- Hoy, W. K., Tarter, C. J., & Bliss, J. (1990). Organization climate, school health, and effectiveness: A comparative analysis. *Educational Administration Quarterly*, *26*, 260-279.
- Hoy, W., Tarter, C., & Hoy, A. (2006). Academic optimism of schools: A force for student achievement. *American Educational Research Journal*, *43*(3), 425-446.
- Hoyt, W. H. (1999). An evaluation of the Kentucky Education Reform Act. *Kentucky Annual Economic Report*, University of Kentucky, Lexington, KY.
- Irvin, J. L. (2013). *School TVAAS rank and teacher perceptions of elementary school culture in East Tennessee* (Unpublished doctoral dissertation). East Tennessee State University, Johnson City.

- Jaeger, A. J., & Eagan, M. K. (2007). Exploring the value of emotional intelligence: A means to improve academic performance. *NASPA Journal*, 44(3), 512-537.
- Jeynes, W. H. (2002). Examining the effects of parental absence on the academic achievement of adolescents: The challenge of controlling for family income. *Journal of Family and Economic Issues*, 23(2).
- Keeling, E. (2015). *Career and technical education: The impact of leadership on school improvement and student achievement* (Unpublished doctoral dissertation). Western Kentucky University, Bowling Green.
- Kelley, R. C., Thornton, B., & Daugherty, R. (2005). Relationships between measures of leadership and school climate. *Education*, 126(1), 17-25.
- Kentucky Department of Education. (2003). *The Scholastic Audit: A report on school improvement in Kentucky*. Frankfort, KY: Author.
- Kentucky Department of Education. (2004). *Standards and Indicators for School Improvement: A Kentucky model for student-centered accountability*. Frankfort, KY: Author.
- Kentucky Department of Education. (2008). *School level performance descriptors for Kentucky's Standards and Indicators for School Improvement*. Frankfort, KY: Author.
- Kentucky Department of Education. (2013). *Kentucky performance rating for educational progress: 2013-14 technical manual*. Frankfort, KY: Author.
- Kentucky Department of Education (2016). *Kentucky Education Facts*. Retrieved March 1, 2016, from <http://education.ky.gov/comm/edfacts/Pages/default.aspx>

- Kim, J. S., & Sunderman, G. L. (2005). Measuring academic proficiency under the No Child Left Behind Act: Implications for educational equity. *Educational Researcher, 34*, 3-13.
- Klein, S., Hamilton, L., McCaffrey, D., & Stetcher, B. (2000). *What do test scores in Texas tell us?* Santa Monica, CA: RAND.
- Knapp, M., Copeland, M., Portin, B., & Plecki, M. (2006). *Building coherent leadership systems in education: Roles, resources, information and authority to act*. Paper presented at the Annual Meeting of the American Educational Research Association, Seattle, WA.
- Koger, M. E., & Thacker, A. A. (2004). *Comparative study of Standards and Indicators for School Improvement (SISI) and Academic Index for selected elementary schools*. Louisville, KY: Human Resources Research Organization.
- Kouzes, J. M., & Posner, B. Z. (1998). *Encouraging the heart: A leader's guide to rewarding and recognizing others*. San Francisco: Jossey-Bass.
- Kouzes, J. M., & Posner, B. Z. (2007). *The leadership challenge* (4th ed.). San Francisco: Jossey-Bass.
- Kythreotis, A., Pashiardis, P., & Kyriakides, L. (2010). The influence of school leadership styles and culture on students' achievement in Cyprus primary schools. *Journal of Educational Administration, 48*(2), 218-240.
- Lambert, L. (2006). Lasting leadership: A study of high leadership capacity schools. *The Educational Forum, 70*(3), 238-254.

- Leech, D., & Fulton, C. (2002). *The leadership practices of middle and high school principals*. Paper presented at the Annual Meeting of the National Council of Professors of Educational Administration, Burlington, VT.
- Leithwood, K. (1994). Leadership for school restructuring. *Education Administration Quarterly*, 30, 498-518.
- Leithwood, K., Anderson, S., Mascall, B., & Strauss, T. (2010). School leaders' influences on student learning: The four paths. In T. Bush, L. Bell, & D. Middlewood (Eds.), *The principles of educational leadership and management* (pp. 13-30). Thousand Oaks, CA: Sage.
- Leithwood, K., & Duke, D. (1999). A century's quest to understand school leadership. In J. Murphy & K. Seashore-Louis (Eds.), *Handbook of research on educational administration* (2nd ed.). San Francisco: Jossey-Bass.
- Leithwood, K., Harris, A., & Hopkins, D. (2008). Seven strong claims about successful school leadership. *School Leadership and Management*, 28(1), 27-42.
- Leithwood, K., Mascall, B., Strauss, T., Sacks, R., Memon, N., & Yashkina, A. (2007). Distributing leadership to make schools smarter: Taking the ego out of the system. *Leadership and Policy in Schools*, 6(1), 37-67.
- Leithwood, K., Patten, S., & Jantzi, D. (2010). Testing a conception of how school leadership influences student learning. *Educational Administration Quarterly*, 46(5), 671-706.
- Leithwood, K. A., & Riehl, C. (2003). *What we know about successful school leadership*. Philadelphia: Laboratory for Student Success, Temple University.

- Leithwood, K., Seashore-Louis, K., Anderson, S., & Wahlstrom, K. (2004). *Learning from leadership: A review of the literature*. University of Minnesota: Center for Applied Research and Educational Improvement.
- Leitner, D. (1994). Do principals affect student outcomes? *School Effectiveness and School Improvement*, 5(3), 219-238.
- Liontos, L. B. (1992). *Transformational leadership*. Eugene, OR: ERIC Clearinghouse on Educational Management.
- Loeser, J. M. (2008). *School leadership*. Richmond, Victoria: Ebsco Publishing.
- Louis, K. S., Leithwood, K., Wahlstrom, K. L., & Anderson, S. E. (2010). *Investigating the links to improved student learning: Final report of research findings. Learning from leadership project*. St. Paul, MN: University of Minnesota, Center for Applied Research and Educational Improvement.
- Lovette, O., & Watts, S. (2002). *Teachers' perceptions of principal: Refining the instrument*. Paper presented at the annual meeting of the Mid-South Educational Research Association, Chattanooga, TN. (EDRS Document Reproduction Service No. ED 471 351)
- Lyons, R., & Barnett, D. (2011). School audits and school improvement: Exploring the variance point concept in Kentucky. *International Journal of Education Policy and Leadership*, 6(1).
- MacBeath, J., & Cheng, Y. (2008). *Leadership for learning: International perspectives*. Rotterdam: Sense Publishers.
- MacBeath, J., & Dempster, N. (2008). *Connecting leadership and learning: Principles for practice*. London: Routledge.

- MacNeil, A., Prater, D., & Busch, S. (2009). The effects of school culture and climate on student achievement. *International Journal of Leadership in Education*, 12(1), 73-84.
- Majorbanks, K. (1996). Family learning environments and students' outcomes: A review. *Journal of Comparative Family Studies*, 27(2), 373-394.
- Maleyko, G., & Gawlik, M. (2011). No Child Left Behind: What we know and what we need to know. *Education*, 131(3), 600-24.
- Marks, H. M., & Printy, S. M. (2003). Principal leadership and school performance: Integrating transformational and instructional leadership. *Educational Administration Quarterly*, 39(3), 370-397.
- Marsh, H. W., & Craven, R. G. (2006). Reciprocal effects of self-concept and performance from a multidimensional perspective: Beyond seductive pleasure and unidimensional perspectives. *Perspectives on Psychological Science*, 1(2), 133-63.
- Marzano, R., McNulty, B., & Waters, T. (2005). *School leadership that works*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Maslowski, R. (2001). *School culture and school performance: An explorative study into the organizational culture of secondary schools and their effects*. Enschede: Netherlands: Twente University Press.
- Maxwell, J. C. (2007). *The 21 irrefutable laws of leadership: Follow them and people will follow you*. Nashville: Thomas Nelson.
- McEwan, E. (2003). *10 traits of highly effective principals* (2nd ed.). Thousand Oaks, CA: Corwin Press.

- McKinney, L. (2007). *Leadership, curriculum, instruction, and accountability scores: Evidence from Kentucky Scholastic Audits* (Unpublished doctoral dissertation). University of Louisville, Louisville, KY.
- McNeal, R. B. (2001). Differential effects of parental involvement on cognitive and behavioral outcomes by socioeconomic status. *Journal of Socioeconomics*, 30(2), 171.
- Mendro, R. L. (1998). Student achievement and school and teacher accountability. *Journal of Personnel Evaluation in Education*, 12, 257-267.
- Miller, S. K., Houchens, G. W., Smith, D. C., Chon, K. H., & Hunt, R. (2014, May). *Replacing the Scholastic Audit with teacher perceptual scales: Psychometric analysis of the Standards and Indicators Scholastic Review*. Paper presented at The International Conference on Learning and Higher Education, Nashville, TN.
- Mulford, B., & Silins, H. (2009). Revised models and conceptualization of successful school principalship in Tasmania. In B. Mulford & B. Edmunds (Eds.), *Successful school principalship in Tasmania* (pp. 157-83). Launceston, Tasmania: Faculty of Education.
- Murphy, J. (1988). Methodological, measurement and conceptual problems in the study of instructional leadership. *Educational Evaluation and Policy Analysis*, 10(2), 117-39.
- Murphy, J. (2005). *Connecting teacher leadership and school improvement*. Newbury Park, CA: Corwin Press.

- Murphy, J., Elliot, S. N., Goldring, E., & Porter, A. C. (2007). Leadership in learning: A research-based model and taxonomy of behaviors. *School Leadership and Management, 27*(2), 179-201.
- National Policy Board for Educational Administration (2015). *Professional Standards for Educational Leaders 2015*. Reston, VA: Author.
- Orozco, L., & Allison, B. (2008). Looking within: Examining positive relationships and healthy organizational cultures in departments of educational leadership. *Educational Leadership and Administration: Teaching and Program Development, 20*, 64-76.
- Phillips, M. (1997). What makes schools effective? A comparison of the relationships of communitarian climate and academic climate to mathematics achievement and attendance during middle school. *American Educational Research Journal, 34*(4), 633-662.
- Pitner, N. (1988). The study of administrator effects and effectiveness. In N. Boyan (Ed.), *Handbook of research in educational administration* (pp. 106-132). New York: Longman.
- Pritchard, R. J., Morrow, D., & Marshall, J. C. (2005). School and district culture as reflected in student voices and student achievement. *School Effectiveness and School Improvement, 16*(2), 153-177.
- Ramsey, B. B. (2016, June 9). *New report looks at Kentucky education progress, challenges*. Retrieved June 15, 2016, from <http://prichardcommittee.org/new-report-looks-at-kentucky-education-progress-challenges/>

- Rice, J. K. (2010). *Principal effectiveness and leadership in an era of accountability: What research says* (Brief 8). Washington, DC: National Center for Analysis of Longitudinal Data in Education Research.
- Robinson, V. M. (2010). From instructional leadership to leadership capabilities: Empirical findings and methodological challenges. *Leadership and Policy in Schools, 9*(1), 1-26.
- Robinson, V., Lloyd, C., & Rowe, K. (2008). The impact of leadership on student outcomes: An analysis of the differential effects of leadership types. *Educational Administration Quarterly, 44*(5), 564-588.
- Rosberg, J., McGee, M., & Burgett, J. (2003). *What every superintendent and principal needs to know*. Santa Monica, CA: Education Communication Unlimited.
- Ross, J. A., & Gray, P. (2006). Transformational leadership and teacher commitment to organizational values: The mediating effects of collective teacher efficacy. *School Effectiveness and School Improvement, 17*(2), 179-199.
- Saban, J., & Wolfe, S. (2009). Mentoring principals around leadership practices. *Catalyst for Change, 36*(1), 2-6.
- Sammons, P., Day, C., & Ko, J. (2011). Exploring the impact of school leadership on pupil outcomes. *International Journal of Educational Management, 25*(1), 83-101.
- Saravia, A. (2008). *Elementary parent involvement, school culture, and accountability scores: Data from Kentucky's Scholastic Audits* (Unpublished doctoral dissertation). University of Louisville, Louisville, KY.

- Scales, P., Sesma, A., & Bolstrom, B. (2004). *Coming into their own: How developmental assets promote positive growth in middle childhood*. Minneapolis: Search Institute.
- Schein, E. H. (2004). *Organizational culture and leadership*. San Francisco: Jossey-Bass.
- Sebastian, J., & Allensworth, E. (2012). The influence of principal leadership on classroom instruction and student learning: A study of mediated pathways to learning. *Educational Administration Quarterly*, 48(4), 626-663.
- Seyfield, S. F. (1998). Academic achievement of African American preadolescents: The influence of teacher perceptions. *American Journal of Community Psychology*, 26(3), 381-402.
- Shipman, N. J., & Murphy, J. (2001). Standards for school leaders: Gaining momentum. *Principal Leadership*, 1(6), 69-70.
- Shoupe, G., & Pate, J. L. (2010). Teachers' perceptions of school climate, principal leadership style and teacher behaviors on student academic achievement. *National Teacher Education Journal*, 3(2), 87-98.
- Shutt, A. (2004). *School culture in Kentucky elementary schools: Examining the path to proficiency*. (Unpublished doctoral dissertation) University of Louisville, Louisville, KY.
- Smith, D. C., Neff, D. E. O., & Nemes, J. M. (1999). *Assessing race and gender subgroup performance differences in KIRIS accountability cycle 2 results*. Kentucky Department of Education Occasional Paper Series. Frankfort, KY: Kentucky Department of Education.

- Smith, W., & Andrews, R. (1989). *Instructional leadership: How principals make a difference*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Snowden, P. & Gorton, R. (2002). *School leadership and school administration: Important concepts, case studies, and simulations* (6th ed.). New York: McGraw-Hill.
- Southworth, G. (2004). *Primary school leadership in context: Leading small, medium and large sized schools*. London, UK: Routledge Falmer.
- Spillane, J. P. (2005). Distributed leadership. *The Educational Forum*, 69, 143-150.
- Spillane, J. P. (2006). *Distributed leadership*. San Francisco: Jossey-Bass.
- Spillane, J. P., Halverson, R., & Diamond, J. B. (2004). Towards a theory of leadership practice: A distributed perspective. *Journal of Curriculum Studies*, 36(1), 3-34.
- Springer, M. G. (2008). Accountability incentives: Do schools practice educational triage? *Education Next*, 8(1), 74-79.
- Springhall, R. (2000). *Basic statistical analysis* (6th ed.). Needham Height, MA: Allyn and Bacon.
- Steffy, B. E. (1993). *The Kentucky education reform: Lessons for America*. Lancaster, PA: Technomic Publishing.
- Stipek, D. (2012). Effects of student characteristics and perceived administrative and parental support on teacher self-efficacy. *The Elementary School Journal*, 112(40), 590-606.
- Stronge, J. H., Richard, H. B., & Catano, N. (2008). *Qualities of effective principals*. Alexandria, VA: Association for Supervision and Curriculum Development.

- Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics, 6th edition*. New York: Pearson.
- TELL Kentucky. (2011). Retrieved from <http://www.tellkentucky.org>
- Thacker, J. L., & McInerney, W. D. (1992). Changing academic culture to improve student achievement in the elementary schools. *ERS Spectrum, 10*(4), 18-23.
- Thomas, M. D., & Bainbridge, W. L. (2001). All children can learn: Facts and fallacies. *Phi Delta Kappan, 82*(9), 660-62.
- Todd, R. C. (2010). *Leadership, instruction, and accountability scores: Evidence from Kentucky Scholastic Audits* (Unpublished doctoral dissertation). Western Kentucky University, Bowling Green.
- Tschannen-Moran, M., Parish, J., & DiPaola, M. (2006). School climate: The interplay between interpersonal relationships and student achievement. *Journal of School Leadership, 16*, 386-415.
- U.S. Department of Education, National Center for Education Statistics. (2000). *The condition of education 2000 (NCES 2000- 062)*. Washington, DC: Office of Educational Research and Improvement.
- U.S. Department of Education. (2001). *The longitudinal evaluation of school change and performance in Title I schools, Volume 1: Executive summary*. Washington, DC: U.S. Department of Education.
- U.S. Department of Education. (2012). *Race to the Top fund*. Retrieved from <http://www2.ed.gov/programs/racetothetop/index.html>

- Velicer, W. F., & Jackson, D. N. (1990). Component analysis versus common factor analysis: Some issues in selecting an appropriate procedure. *Multivariate Behavioral Research*, 25(1), 1-28.
- Waller, W. (1932). *The sociology of teaching*. New York: Wiley.
- Weckstein, P. (2003). Accountability and student mobility under Title I of the No Child Left Behind Act. *Journal of Negro Education*, 72, 117-125.
- Whitaker, T. (2003). *What great principals do differently: 15 things that matter most*. Larchmont, NY: Eye on Education.
- Williams, E. (2009). Evaluation of a school systems plan to utilize teacher perceptions of principal leadership to improve student achievement. *Challenge: A Journal of Research On African American Men*, 15(1), 15-32.
- Witziers, B., Bosker, R., & Kruger, M. (2003). Educational leadership and student achievement: The elusive search for an association. *Educational Administration Quarterly*, 34(3), 398-425.
- Zembar, M. J., & Blume, L. B. (2009). *Middle childhood development: A contextual approach*. Upper Saddle River, NJ: Pearson.

APPENDIX A

Standards and Indicators for School Improvement

Standard 1: The school develops and implements a curriculum that is rigorous, intentional, and aligned to state and local standards.

Curriculum 1.1

Indicator 1.1a: There is evidence that the curriculum is aligned with the Academic Expectations, Core Content for Assessment, Transformations and the Program of Studies.

Indicator 1.1b: The district initiates and facilitates discussions among schools regarding curriculum standards to ensure they are clearly articulated across all levels (P-12).

Indicator 1.1c: The district initiates and facilitates discussions between schools in the district in order to eliminate unnecessary overlaps and close gaps.

Indicator 1.1d: There is evidence of vertical communication with an intentional focus on key curriculum transition points within grade configurations (e.g., from primary to middle and middle to high.)

Indicator 1.1e: The school curriculum provides specific links to continuing education, life and career options.

Indicator 1.1f: There is in place a systematic process for monitoring, evaluation and reviewing the curriculum.

Indicator 1.1g: The curriculum provides access to a common academic core for all students.

Standard 2: The school utilizes multiple evaluation and assessment strategies to continuously monitor and modify instruction to meet student needs and support proficient student work.

Evaluation/Assessment 2.1

Indicator 2.1a: Classroom assessments of student learning are frequent, rigorous and aligned with Kentucky's core content.

Indicator 2.1b: Teachers collaborate in the design of authentic assessment tasks aligned with core content subject matter.

Indicator 2.1c: Students can articulate the academic expectations in each class and know what is required to be proficient.

Indicator 2.1d: Test scores are used to identify curriculum gaps.

Indicator 2.1e: Multiple assessments are specifically designed to provide meaningful feedback on student learning for instructional purposes.

Standard 3: The school's instructional program actively engages all students by using effective, varied, and research-based practices to improve student academic performance.

Instruction 3.1

Indicator 3.1a: There is evidence that effective and varied instructional strategies are used in all classrooms.

Indicator 3.1b: Instructional strategies and learning activities are aligned with the district, school and state learning goals, and assessment expectations for student learning.

Indicator 3.1c: Instructional strategies and activities are consistently monitored and aligned with the changing needs of a diverse student population to ensure various learning approaches and learning styles are addressed.

Indicator 3.1d: Teachers demonstrate the content knowledge necessary to challenge and motivate students to high levels of learning.

Indicator 3.1e: There is evidence that teachers incorporate the use of technology in their classrooms.

Indicator 3.1f: Instructional resources (e.g., textbooks, supplemental reading, technology) are sufficient to effectively deliver the curriculum.

Indicator 3.1g: Teachers examine and discuss student work collaboratively and use this information to inform their practice.

Indicator 3.1h: There is evidence that homework is frequent and monitored and tied to instructional practice.

Standard 4: The school/district functions as an effective learning community and supports a climate conducive to performance excellence.

School Culture 4.1

Indicator 4.1a: There is leadership support for a safe, orderly, and

equitable learning environment (e.g., culture audits/school opinion surveys).

Indicator 4.1b: Leadership creates experiences that foster the belief that all children can learn at high levels in order to motivate staff to produce continuous improvement in student learning.

Indicator 4.1c: Teachers hold high expectation for all students academically and behaviorally, and this is evidenced in their practice.

Indicator 4.1d: Teachers and non-teaching staff are involved in both formal and informal decision-making processes regarding teaching and learning.

Indicator 4.1e: Teachers recognize and accept their professional role in student success and failure.

Indicator 4.1f: The school intentionally assigns staff to maximize opportunities for all students to have access to the staff's instructional strengths.

Indicator 4.1g: Teachers communicate regularly with families about individual student's progress (e.g., engage through conversation).

Indicator 4.1h: There is evidence that the teachers and staff care about students and inspire their best efforts.

Indicator 4.1i: Multiple communication strategies and contexts are used for the dissemination of information to all stakeholders.

Indicator 4.1j: There is evidence that student achievement is highly valued and publicly celebrated (e.g., displays of student work, assemblies).

Indicator 4.1k: The school/district provides support for the physical, cultural, socioeconomic, intellectual needs of all students, which reflects a commitment to equity and an appreciation of diversity.

Standard 5: The school/district works with families and community groups to remove barriers to learning in an effort to meet the intellectual, social, career, and developmental needs of students.

Student, Family, Community Support Program/Services 5.1

Indicator 5.1a: Families and the community are active partners in the educational process and work together with the school/district staff to promote programs and services for all students.

Indicator 5.1b: Structures are in place to ensure that all students have access to all the curriculum (e.g., school guidance, Family resource/Youth Services Centers, Extended School Services).

Indicator 5.1c: The school/district provides organizational structures and supports instructional practices to reduce barriers to learning.

Indicator 5.1d: Students are provided with a variety of opportunities to receive additional assistance to support their learning beyond the initial classroom instruction.

Indicator 5.1e: The school maintains an accurate student record system

that provides timely information pertinent to the student's academic and educational development.

Standard 6: The school/district provides research-based, results driven professional development opportunities for staff and implements performance evaluation procedures in order to improve teaching and learning.

Professional Development 6.1

Indicator 6.1a: There is evidence of support for the long-term professional growth needs of the individual staff members. This includes both instructional and leadership growth.

Indicator 6.1b: The school has an intentional plan for building Instructional capacity through on-ongoing professional development.

Indicator 6.1c: Staff development priorities are set in alignment with goals for student performance and the individual professional growth plans of staff.

Indicator 6.1d: Plans for school improvement directly connect goals for student learning and the priorities set for the school and district staff development activities.

Indicator 6.1e: Professional development is on-going and job-embedded.

Indicator 6.1f: Professional development planning shows a direct connection to an analysis of student achievement data.

Professional Growth and Evaluation 6.2

Indicator 6.2a: The school/district provides a clearly defined evaluation process.

Indicator 6.2b: Leadership provides the fiscal resources for the appropriate professional growth and development of certified staff based on identified school needs.

Indicator 6.2c: The school/district effectively uses the employee evaluation and the individual professional growth plan to improve staff proficiency.

Indicator 6.2d: Leadership provides and implements a process personnel evaluation which meets or exceeds standards set in statute and regulation.

Indicator 6.2e: The school/district improvement plan identifies specific instructional leadership needs, has strategies to address them, and uses the Effective Instructional Leadership Act requirements as a resource to accomplish these goals.

Indicator 6.2f: Leadership uses the evaluation process to provide teachers with the follow-up and support to change behavior and instructional practices.

Standard 7: School/district instructional decisions focus on support for teaching and learning, organizational direction, high performance expectations, creating a learning culture, and developing leadership capacity.

Leadership 7.1

Indicator 7.1a: Leadership has developed and sustained a shared vision.

Indicator 7.1b: Leadership decisions are focused on student academic performance and are data-driven and collaborative.

Indicator 7.1c: There is evidence that all administrators have a growth plan focused on the development of effective leadership skills.

Indicator 7.1d: There is evidence that the school/district leadership team disaggregates data for use in meeting the needs of a diverse population, communicates the information to school staff and incorporates the data systematically into the school's plan.

Indicator 7.1e: Leadership ensures all instructional staff have access to curriculum related materials and the training necessary to use curricular and data resources relating to the learning goals for Kentucky public schools.

Indicator 7.1f: Leadership insures that time is protected and allocated to focus on curricular and instructional issues.

Indicator 7.1g: Leadership plans and allocates resources, monitors progress, provides the organizational infrastructure, and removes barriers in order to sustain continuous school improvement.

Indicator 7.1h: The school/district leadership provides the organization policy and resource infrastructure necessary for the implementation and maintenance of a safe and effective learning environment.

Indicator 7.1i: Leadership provides a process for the development and the implementation of council policy based on anticipated needs.

Indicator 7.1j: There is evidence that the School Based Decision Making council has an intentional focus on student academic performance.

Indicator 7.1k: There is evidence that the principal demonstrates leadership skills in the areas of academic performance, learning environment, and efficiency.

Standard 8: There is evidence that the school is organized to maximize use of all available resources to support high student and staff performance.

Organization of the School 8.1

Indicator 8.1a: There is evidence that the school is organized to maximize use of all available resources to support high student and staff performances.

Indicator 8.1b: The master class schedule reflects all students have access to all of the curriculum.

Indicator 8.1c: The instructional and non-instructional staff are allocated and organized based upon the learning needs of all students.

Indicator 8.1d: There is evidence that the staff makes efficient use of instructional time to maximize student learning.

Indicator 8.1e: Staff promotes team planning vertically and horizontally across content areas and grade configurations that I focused on the goals, objectives, and strategies in the improvement plan (e.g., common planning time for content area teachers; emphasis on learning time and not seat time; and integrated units.

Indicator 8.1f: The schedule is intentionally aligned with the school’s mission and designed to ensure that all staff provide quality instructional time (e.g., flex time, organization based on developmental needs of students, interdisciplinary units, etc.).

Resource Allocation and Integration 8.2

Indicator 8.2a: The school/district provides a clearly defined process (in accordance with the school council allocation formula) to provide equitable and consistent use of fiscal resources.

Indicator 8.2b: The school/district budget reflects decisions made about discretionary funds and resources are directed by an assessment of need or a required plan, all of which consider appropriate data.

Indicator 8.2c: School councils and school boards analyze funding and other resource requests to ensure the requests are tied to the schools plan and identified priority needs.

Indicator 8.2d: State and federal program resources are allocated and integrated (Safe Schools, Title I, Individuals with Disabilities Education Act, Family Resource/Youth Services Centers, Extended School Services) to address student needs identified by the school/district.

Standard 9: The school/district develops, implements and evaluates a comprehensive school improvement plan that communicates a clear purpose, direction and action plan focused on teaching and learning.

Defining the School’s Vision, Mission, and Beliefs 9.1

Indicator 9.1a: There is evidence that a collaborative process was used to develop the vision, beliefs, mission, and goals that engage the school community as a community of learners.

Development of the Profile 9.2

Indicator 9.2a: There is evidence the school/district planning process involves collecting, managing, and analyzing data.

Indicator 9.2b: The school/district uses data for school improvement planning.

Defining Desired Results for Student Learning 9.3

Indicator 9.3a: School and district plans reflect learning research, current local, state, and national expectations for student learning and are reviewed by the planning team.

Indicator 9.3b: The school/district analyzes their students' unique learning needs.

Indicator 9.3c: The desired results for student learning are defined.

Analyzing Instructional and Organizational Effectiveness 9.4

Indicator 9.4a: Perceived strengths and limitations of the school/district instructional and organizational effectiveness are identified using the collected data.

Indicator 9.4b: The school/district goals for building and strengthening the capacity of the school/district instructional and organizational effectiveness are defined.

Development of the Improvement Plan 9.5

Indicator 9.5a: The action steps for school improvement are aligned with the school improvement goals and objectives.

Indicator 9.5b: The plan identifies the resources, timelines, and persons responsible for carrying out each activity.

Indicator 9.5c: The means for evaluating the effectiveness of the improvement plan are established.

Indicator 9.5d: The improvement plan is aligned with the school's profile, beliefs, mission, desired results for students learning and analysis of instructional and organizational effectiveness.

Implementation and Documentation 9.6

Indicator 9.6a: The plan is implemented as developed.

Indicator 9.6b: The school evaluates the degree to which it achieves the goals and objectives for student learning set by the plan.

Indicator 9.6c: The school evaluates the degree to which it achieves the expected impact on classroom practice and student performance specified in the plans.

Indicator 9.6d: There is evidence of attempts to sustain the commitment to continuous improvement.

APPENDIX B

Standards and Indicators for School Improvement (Revised)

Each of the nine standards with its corresponding set of indicators follows. The standards reflect any new names and/or rewording of the content inherent in each, as compared to the original Standards and Indicators for School Improvement. The revisions to the indicators (final set of 63 after analysis of the Pilot 2 data), include current wording of the SISR and represent the finalized version of the SISIR.

Academic Performance (Standards 1-3)

Standard 1 (Curriculum). The school develops and implements a curriculum that is rigorous, intentional, and aligned to local, state, and national standards.

- 1.1. The curriculum (elementary, middle, or high) prepares students for eventual success in Advanced Placement (AP) and college level courses.
- 1.2. The curriculum provides rigorous exposure to advanced math and science content.
- 1.3. Curriculum standards are systematically monitored for vertical alignment across grade levels and school transitions.
- 1.4. The curriculum provides equal access to rigorous standards and learning expectations for students from all groups/backgrounds.
- 1.5. Regarding the curriculum, performance standards and academic expectations are effectively translated into learning objectives and lesson plans that are clearly articulated to students.
- 1.6. The curriculum is aligned with state and national standards in applicable content areas.

1.7. Regarding the curriculum, coursework connects to life beyond the school (e.g., continuing education, job and life skills, informed citizenship).

Standard 2 (Classroom and School Evaluation/Student Assessment). The school/teachers utilize high quality classroom evaluation/student assessment strategies to monitor and modify instruction on an ongoing basis to meet student needs and maximize student growth.

2.1. Student assessments, program evaluation, and other analyses of student outcomes guide curriculum reviews and the introduction of new content.

2.2. Assessments of student learning are aligned with state and national standards in applicable content areas.

2.3. Assessments of student learning at the classroom level are utilized for diagnostic feedback (formative assessment) to inform instruction on a continuing basis.

2.4. Results of student assessments are utilized regularly for evaluating academic performance to inform future school improvement efforts.

2.5. Statewide accountability testing data are disaggregated across student groups (gender, poverty, race, disability, ELL) to monitor the performance of all student subgroups.

Standard 3 (Instruction). The school's instructional program actively engages all students by using effective, varied, and research-based practices to improve student academic performance.

- 3.1. Teachers' instructional methods address all aspects of student potential by utilizing data from multiple assessment formats (objective, essay, oral, performance, dispositions).
- 3.2. Teachers' instructional practices provide high quality feedback (specific, diagnostic, actionable) to students about their progress (strengths and weaknesses) toward learning standards.
- 3.3. Teachers vary their instructional strategies to meet the needs of students across diverse learner needs.
- 3.4. Teachers' instructional methods challenge all students regardless of their level of achievement: low, medium, or high.
- 3.5. Teachers' instructional strategies and practices emerge from collaborative, school-wide planning focused on the needs of all students.
- 3.6. Teachers' instructional strategies and practices focus on higher order thinking and problem solving.
- 3.7. Teachers' instructional strategies and practices utilize current digital technology.
- 3.8. Instructional quality and classroom management, in tandem, are so effective that time-on-task approaches 90% and student academic engagement (time actively concentrating on the lesson and not off-task, drifting, or daydreaming) approaches 85%.
- 3.9. Teachers pace their instruction (including their homework practices) to ensure in-depth content coverage of applicable local, state, and national standards.

3.10. Teachers' instructional strategies and practices reflect high-quality best practice.

Learning Environment (Standards 4-6)

Standard 4 (School Learning Climate/Culture). The school functions as an effective learning community, reflecting high standards and high expectations for achievement and other outcomes across all student groups.

Standard 4.A. (Respectful, Orderly Environment that Prioritizes Learning).

The school reflects a safe, orderly environment in which students, faculty, and staff are respected as individuals and student learning outcomes are a collective priority.

4.A.1. The school is a safe and caring environment for students: bullying, fighting, abusive language, etc. are not tolerated.

4.A.2. The school provides an orderly environment that prioritizes learning.

4.A.3. The learning environment is such that student achievement is highly valued and celebrated publicly.

4.A.4. The learning environment is protected by strictly enforcing student discipline in classrooms (interruptions to teaching and learning are not allowed).

4.A.5. The school culture reflects a strong “we” feeling where individuals (both teachers and students) are respected.

Standard 4.B. (Teacher Expectations and Beliefs about Student Learning).

Teachers believe that all students can learn at effective levels, have high expectations across all student sub-groups, and hold students accountable for learning outcomes.

4.B.1. Teachers really believe (not just lip service) that all students can learn at high levels.

4.B.2. Beliefs that teachers are responsible and accountable for student outcomes are embedded within the school culture.

4.B.3. Teachers have high expectations for student learning and the school faculty (collectively and individually) enforces these expectations rigorously.

4.B.4. Teachers (collectively and individually) have and enforce a strong commitment to excellence in learning for all students across levels of ability and diversity of background.

4.B.5. Teachers (collectively and individually) have and enforce a strong commitment to equity (fair treatment) in learning for all students across levels of ability and diversity of background.

Standard 5 (Student, Family, and Community Support). The school/district works with families and community groups to involve them in the life of the school and remove barriers to learning in an effort to meet the intellectual, social, career, and developmental needs of students.

5.1. Families and community members are active partners with the school in creating educational programs and services for students.

5.2. Students and their families have access to school- and community-based supports designed to reduce/overcome barriers to student learning.

5.3. Students and their families have access to non-cognitive assistance
(medical/socioemotional/financial) from school/community agencies.

5.4. Students and their families have access to school/community academic
services that support/supplement classroom instruction.

Standard 6 (Teacher Improvement). The school identifies teacher growth needs based on an analysis of student achievement patterns, provides high-quality professional development opportunities for staff, and implements a performance evaluation system that improves teaching and learning.

Standard 6.A. (Professional Development). The school/district provides research-based, collaboratively-developed, results-driven professional development opportunities for teachers/staff in order to improve teaching and learning.

6.A.1. Professional development is based on a long-term plan for helping
teachers improve their instructional practices.

6.A.2. Professional development priorities reflect teachers' professional growth
plans.

6.A.3. Professional development priorities are connected to school improvement
planning.

6.A.4. Professional development is directly linked to analysis of data on student
outcomes.

6.A.5. Professional development content reflects best practice (knowledge, skills,
dispositions) for teachers' instructional strategies.

6.A.6. Professional development priorities are developed collaboratively by the

principal and faculty.

Standard 6.B. (Professional Growth and Evaluation). The principal/leadership team provides an effective performance evaluation system that is focused on helping teachers improve the quality of their instruction in order to improve teaching and learning.

- 6.B.1. The formal teacher evaluation process provides me with useful (fair and accurate) feedback that reflects my strengths and weaknesses as a teacher.
- 6.B.2. The formal teacher evaluation process provides me with sufficient resources/necessary support to help me grow as a teacher.
- 6.B.3. My Professional Growth Plan (PGP) has specific goals designed to help me improve my teaching.
- 6.B.4. The formal teacher evaluation process provides me positive, meaningful feedback that is focused on improving my ability to help students learn.
- 6.B.5. In addition to (or as part of) the formal teacher evaluation process, I receive routine, meaningful feedback on my teaching performance from administrators (walk-throughs, instructional rounds, etc.).

Efficiency (Standards 7-9)

Standard 7 (Leadership). The principal/leadership team provides constructive, effective guidance that is collaboratively developed and respectful of all stakeholders while holding all individuals and groups accountable for their part in the collective focus on teaching, learning, and school improvement.

- 7.1. The principal's leadership style brings out the best in faculty and staff.
- 7.2. The principal is an instructional leader.

- 7.3. Leadership ensures that school improvement/school policy committees are focused on improving academic performance.
- 7.4. Leadership utilizes data-driven decision making to inform choices about instruction and learning.
- 7.5. The leadership team systematically monitors the implementation of the school improvement plan, holding all individuals accountable for carrying out the goals/objectives/strategies for which they are charged.
- 7.6. The principal solicits teachers' professional judgments in decisions about teaching, learning, and school improvement.
- 7.7. The principal is adamant about protecting instructional time.

Standard 8 (Organizational Structure and Resource Allocation Focused on School Improvement). The school is organized to maximize the effective use of all available resources so that students and staff can achieve at high levels.

- 8.1. Decisions about the school's available resources are guided by the goal of improving faculty/staff performance to maximize academic outcomes.
- 8.2. Budgeting decisions reflect the principles of equity and fairness for all student subgroups.
- 8.3. Financial decisions of the SBDM/school council and other school committees are made in compliance with the school's identified priorities for maximizing student achievement.
- 8.4. The school's planning/resource allocation process is focused on continuous improvement of student outcomes (both short- and long-term goals).

- 8.5. Decisions about the structure and alignment of primary components in the school improvement plan (e.g., vision, mission, beliefs, objectives, action strategies, timelines, and resources) are guided by goals for student learning.
- 8.6. School resources are allocated based on a comprehensive long-term cycle of continuing program implementation and program evaluation, with revisions focused around goals for student learning,

Standard 9 (Strategic Planning). Strategic planning for the school/district involves leadership, faculty, staff, and parents/community in the development of a comprehensive long-term framework that communicates clear purpose, direction, and action strategies focused on teaching and learning.

- 9.1. Strategic planning engages leadership, faculty, staff, and parents/community as collaborative partners.
- 9.2. The strategic planning process identifies a limited number of goals (focused on school improvement) that the entire school faculty agrees upon (avoiding counterproductive efforts spread across too many and/or conflicting goals).
- 9.3. The strategic planning process identifies a limited number of goals (focused on school improvement) that the entire school faculty is committed to (avoiding counterproductive efforts spread across too many and/or conflicting goals).

APPENDIX C

School Improvement Scholastic Review (SISR)

Q1 Academic Performance (Standards 1-3)

You will rate each question on two dimensions. Please mark each item as an informant: your sense of the norms, beliefs, and practices throughout your school.

Implementation = Pervasiveness (both how widespread and how frequent) throughout the school

Effectiveness = Quality/impact for producing student outcomes

For both Implementation and Effectiveness: Very Low = 1; Low = 2; Medium = 3; High = 4; Very High = 5

	Implementation					Effectiveness				
	Very Low 1	Low 2	Medium 3	High 4	Very High 5	Very Low 1	Low 2	Medium 3	High 4	Very High 5
1. The curriculum (elementary, middle, or high) prepares students for success in Advanced Placement (AP) and college level courses. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. The curriculum provides rigorous exposure to advanced math and science content. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Curriculum standards are systematically monitored for vertical alignment across grade levels and school transitions. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. The curriculum provides equal access to rigorous standards and learning expectations for students from all groups/backgrounds. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5. The school's curriculum is regularly reviewed for needed adjustments, taking account of new content, feedback from student/program evaluation, disaggregation of data across student groups, etc. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Curriculum performance standards and academic expectations are effectively translated into learning objectives and lesson plans that are clearly articulated to students. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. The curriculum is fully aligned with state and national Common Core Standards (KCAS in Kentucky) in all applicable content areas. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. The curriculum at my school effectively connects coursework to life beyond the school (e.g., continuing education, job and life skills, informed citizenship). (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Classroom assessments of student learning are frequent, rigorous, and aligned with state and national Common Core Standards in applicable content areas. (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. Classroom assessments of student learning are utilized as diagnostic feedback (formative assessment) that informs instruction on an ongoing basis. (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. School and classroom assessments of student	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

learning are utilized regularly to evaluate academic performance to inform future school improvement efforts. (11)										
12. Statewide accountability testing data are disaggregated across student groups (gender, poverty, race, disability, ELL) to monitor the performance of all student subgroups. (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. Classroom assessments are collected in multiple formats (objective, essay, oral, performance, dispositions) to ensure that all aspects of student potential are addressed. (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. Classroom assessments provide high quality feedback (specific, diagnostic, actionable) to students about their progress (strengths and weaknesses) toward learning standards. (14)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. Evaluation of student work is planned/developed collaboratively by teachers and administrators. (15)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. Effective, high quality, rigorous assessment practices are utilized to evaluate student work. (16)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. Instructional strategies are aligned with applicable state and national Common Core Standards (and expectations) for student learning. (17)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. Instructional strategies are varied to meet the needs of students across diverse learner needs. (18)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

19. Classroom instruction reflects teachers' knowledge and utilization of high-level content mastery that challenges all students. (19)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. Classroom instruction reflects collaborative, school-wide teacher planning focused on the needs of all students. (20)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21. Instructional strategies focus on higher order thinking and problem solving. (21)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
22. Classroom instruction utilizes Web access and current technology. (22)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
23. Instructional pacing (including homework policies) ensures content coverage and in-depth treatment of all applicable state and national Common Core Standards. (23)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
24. Teachers' instructional strategies reflect high-quality best practice. (24)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

T1 Great job! Keep going!

Q2 Learning Environment (Standards 4-6)

You will rate each question on two dimensions. Please mark each item as an informant: your sense of the norms, beliefs, and practices throughout your school.

Implementation = Pervasiveness (both how widespread and how frequent) throughout the school

Effectiveness = Quality/impact for producing student outcomes

For both Implementation and Effectiveness: Very Low = 1; Low = 2; Medium = 3; High = 4; Very High = 5

	Implementation					Effectiveness				
	Very Low 1	Low 2	Medium 3	High 4	Very High 5	Very Low 1	Low 2	Medium 3	High 4	Very High 5
25. The school is a safe and caring environment for students: bullying, fighting, abusive language, etc. are not tolerated. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
26. The school provides an orderly environment that prioritizes learning. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
27. The learning environment is such that student achievement is highly valued and celebrated publicly. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
28. Student discipline in classrooms is strictly enforced so that the teaching and learning environment is not interrupted. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
29. Teachers really believe (not just lip service) that all students can learn at high levels. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
30. Beliefs that teachers are responsible and accountable for student outcomes are embedded within the school culture. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
31. Teachers hold and enforce high expectations for student learning. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
32. The school culture reflects a strong “we” feeling where individuals (both teachers and students) are respected. (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
33. The learning environment reflects a strong commitment to	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

excellence in learning for all students across levels of ability and diversity of background. (9)										
34. The learning environment reflects a strong commitment to equity (fair treatment) in learning for all students across levels of ability and diversity of background. (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
35. Families and community members are active partners in the educational process in creating programs and services for students. (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
36. Students and their families have access to school- and community-based supports designed to reduce/overcome barriers to student learning. (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
37. Students and their families have access to non-cognitive assistance (medical/socio-emotional/financial) from school/community agencies. (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
38. Students and their families have access to school/community academic services that support/supplement classroom instruction. (14)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
39. Professional development is based on a long-term plan for helping teachers improve their instructional practices. (15)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
40. Professional development priorities reflect teachers' professional growth plans. (16)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

41. Professional development priorities are connected to school improvement planning. (17)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
42. Professional development is directly linked to analysis of data on student outcomes. (18)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
43. Professional development content reflects best practice (knowledge, skills, dispositions) for teachers' instructional strategies. (19)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
44. Professional development priorities are developed collaboratively by the principal and faculty. (20)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

T2 Your school data are important! Keep focused!

Q3 Learning Environment (Standards 4-6)

Note: for items 45 – 49 below, report for each item based on your own perceptions and experience, not your sense of norms for the entire school.

Implementation = Pervasiveness (both how widespread and how frequent) throughout the school

Effectiveness = Quality/impact for producing student outcomes

For both Implementation and Effectiveness: Very Low = 1; Low = 2; Medium = 3; High = 4; Very High = 5

	Implementation					Effectiveness				
	Very Low 1	Low 2	Medium 3	High 4	Very High 5	Very Low 1	Low 2	Medium 3	High 4	Very High 5
45. The formal teacher evaluation process provides me with useful (fair and accurate) feedback that reflects my strengths and weaknesses as a teacher. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

46. The formal teacher evaluation process provides me with sufficient resources/necessary support to help me grow as a teacher. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
47. My Professional Growth Plan (PGP) has specific goals designed to help me improve my teaching. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
48. The formal teacher evaluation process provides me positive, meaningful feedback that is focused on improving my ability to help students learn. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
49. In addition to (or as part of) the formal teacher evaluation process, I receive routine, meaningful feedback on my teaching performance from administrators (walk-throughs, instructional rounds, etc.). (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

T3 Excellent! You're almost half way through.

Q4 Efficiency (Standards 7-9)

You will rate each question on two dimensions. Please mark each item as an informant: your sense of the norms, beliefs, and practices throughout your school.

Implementation = Pervasiveness (both how widespread and how frequent) throughout the school

Effectiveness = Quality/impact for producing student outcomes

For both Implementation and Effectiveness: Very Low = 1; Low = 2; Medium = 3; High = 4; Very High = 5

	Implementation					Effectiveness				
	Very Low 1	Low 2	Medium 3	High 4	Very High 5	Very Low 1	Low 2	Medium 3	High 4	Very High 5
50. The principal's leadership style brings out the best in faculty and staff. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
51. The principal is an instructional leader. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
52. Leadership ensures that school improvement/school policy committees are focused on improving academic performance. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
53. Leadership's decisions about instruction and learning are data-driven. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
54. The leadership team systematically monitors the implementation of the school improvement plan, holding all individuals accountable for carrying out the goals/objectives/strategies for which they are charged. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
55. The principal involves faculty and staff in collaborative planning for school improvement. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
56. The principal solicits teachers' professional judgments in decisions about teaching and learning. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
57. The principal is adamant about protecting instructional time. (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
58. The school's structure and available resources are organized to	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

maximize/enhance academic outcomes and staff performance. (9)										
59. Allocation of faculty (how teachers are assigned) is based on data-driven needs assessment. (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
60. Budgeting decisions reflect the principles of equity and fairness for all student subgroups. (11)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
61. Financial decisions of the SBDM/school council and other school committees are made in compliance with the school's identified priorities for maximizing student achievement. (12)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
62. The school's strategic planning process is clearly focused on continuous improvement (both short- and long-term goals) for student outcomes. (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
63. The school's strategic plan aligns primary components (e.g., vision, mission, beliefs, objectives, action strategies, timelines, and resources) around goals for student learning. (14)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
64. The school's strategic plan reflects a comprehensive long- term cycle of continuing program implementation and program evaluation, with revisions consistent with each new round of evaluation results. (15)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
65. The strategic planning process utilizes a state-of-the- art data management system that integrates on-going data analysis, collected from multiple	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

sources. (16)										
66. Strategic planning engages leadership, faculty, staff, and parents/community as collaborative partners. (17)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
67. The strategic planning process identifies a limited number of goals (focused on school improvement) that the entire school faculty agree upon (avoiding counterproductive efforts spread across too many and/or conflicting goals). (18)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
68. The strategic planning process identifies a limited number of goals (focused on school improvement) that the entire school faculty are committed to (avoiding counterproductive efforts spread across too many and/or conflicting goals). (19)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

T4 You’ve finished Part 1! Now on to the much shorter Part 2!

Q12 Directions for the SISR (Part 2)

In this section, you are prioritizing your school’s utilization of each of the nine standards. This part requires each faculty member (including all full-time certified staff in the school) to mark his/her responses on the dimension that measures the relative emphasis from one standard to the next: Action Priorities. Each standard is rated for both short and long term priorities.

As you fill out the survey, you will take an Informant perspective, i.e., for each item, what is your sense of the overall school norms for Action Priorities (the actual attention/emphasis given to each standard throughout your school).

The 5-point response scale for Part 2 is listed below. When you mark the items on the Qualtrics online survey, you will fill in the circle that corresponds to the five levels of response for Action Priorities.

Q5 School Improvement Scholastic Review: Prioritizing the Standards The Nine Standards

Please rate each standard as an informant: your sense of the overall building Action Priorities throughout your school.

Action Priorities = Attention/emphasis given throughout the school for Action Priorities: Very Low = 1; Low = 2; Medium = 3; High = 4; Very High = 5

Standard 1 (Curriculum): The school develops and implements a curriculum that is rigorous, intentional, and aligned to local, state, and national standards.

	Action Priorities				
	Very Low 1	Low 2	Medium 3	High 4	Very High 5
1.a. Short term: The school is focused on implementing this standard correctly right now – in the daily and weekly rhythms of practice. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1.b. Long term: The school is focused on doing what needs to be done to ensure continuous improvement in this standard for the long term. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q6 Standard 2 (Classroom Evaluation/Student Assessment): The school/teachers utilize high quality classroom evaluation/student assessment strategies to monitor and modify instruction on an ongoing basis to meet student needs and maximize student growth.

	Action Priorities				
	Very Low 1	Low 2	Medium 3	High 4	Very High 5
2.a. Short term: The school is focused on implementing this standard correctly right now – in the daily and weekly rhythms of practice. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2.b. Long term: The school is focused on doing what needs to be done to ensure continuous improvement in this standard for the long term. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q7 Standard 3 (Instruction): The school’s instructional program actively engages all students by using effective, varied, and research-based practices to improve student academic performance.

	Action Priorities				
	Very Low 1	Low 2	Medium 3	High 4	Very High 5
3.a. Short term: The school is focused on implementing this standard correctly right now – in the daily and weekly rhythms of practice. (1)	○	○	○	○	○
3.b. Long term: The school is focused on doing what needs to be done to ensure continuous improvement in this standard for the long term. (2)	○	○	○	○	○

Q8 Standard 4 (School Learning Climate/Culture): The school functions as an effective learning community, reflecting high standards and high expectations for achievement and other outcomes across all student groups.

	Action Priorities				
	Very Low 1	Low 2	Medium 3	High 4	Very High 5
4.a. Short term: The school is focused on implementing this standard correctly right now – in the daily and weekly rhythms of practice. (1)	○	○	○	○	○
4.b. Long term: The school is focused on doing what needs to be done to ensure continuous improvement in this standard for the long term. (2)	○	○	○	○	○

T5 Only one more page to go!

Q9 Standard 5 (Student, Family, and Community Support): The school/district works with families and community groups to involve them in the life of the school and remove barriers to learning in an effort to meet the intellectual, social, career, and developmental needs of students.

	Action Priorities				
	Very Low 1	Low 2	Medium 3	High 4	Very High 5
5.a. Short term: The school is focused on implementing this standard correctly right now – in the daily and weekly rhythms of practice. (1)	○	○	○	○	○
5.b. Long term: The school is focused on doing what needs to be done to ensure continuous improvement in this standard for the long term. (2)	○	○	○	○	○

Q10 Standard 6 (Teacher Improvement): The school identifies teacher growth needs based on an analysis of student achievement patterns, provides high-quality professional development opportunities for staff, and implements a performance evaluation system that improves teaching and learning. Standard 6.1 (Professional Development): The school/district provides research-based, collaboratively-developed, results-driven professional development opportunities for teachers/staff in order to improve teaching and learning.

	Action Priorities				
	Very Low 1	Low 2	Medium 3	High 4	Very High 5
6.1.a. Short term: The school is focused on implementing this standard correctly right now – in the daily and weekly rhythms of practice. (1)	○	○	○	○	○
6.1.b. Long term: The school is focused on doing what needs to be done to ensure continuous improvement in this standard for the long term. (2)	○	○	○	○	○

Q11 Standard 6.2 (Professional Growth and Evaluation): The principal/leadership team provides an effective performance evaluation system that is focused on helping teachers improve the quality of their instruction in order to improve teaching and learning.

	Action Priorities				
	Very Low 1	Low 2	Medium 3	High 4	Very High 5
6.2.a. Short term: The school is focused on implementing this standard correctly right now – in the daily and weekly rhythms of practice. (1)	○	○	○	○	○
6.2.b. Long term: The school is focused on doing what needs to be done to ensure continuous improvement in this standard for the long term. (2)	○	○	○	○	○

Q12 Standard 7 (Leadership): The principal/leadership team provides constructive, effective guidance that is collaboratively developed and respectful of all stakeholders while holding all individuals and groups accountable for their part in the collective focus on teaching, learning, and school improvement.

	Action Priorities				
	Very Low 1	Low 2	Medium 3	High 4	Very High 5
7.a. Short term: The school is focused on implementing this standard correctly right now – in the daily and weekly rhythms of practice. (1)	○	○	○	○	○
7.b. Long term: The school is focused on doing what needs to be done to ensure continuous improvement in this standard for the long term. (2)	○	○	○	○	○

Q13 Standard 8 (Organizational Structure and Resource Allocation): The school is organized to maximize the effective use of all available resources so that students and staff can achieve at high levels.

	Action Priorities				
	Very Low 1	Low 2	Medium 3	High 4	Very High 5
8.a. Short term: The school is focused on implementing this standard correctly right now – in the daily and weekly rhythms of practice. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8.b. Long term: The school is focused on doing what needs to be done to ensure continuous improvement in this standard for the long term. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q14 Standard 9 (Planning for School Improvement): The school/district develops, implements, and evaluates a comprehensive school improvement plan that communicates a clear purpose, direction, and action plan focused on teaching and learning.

	Action Priorities				
	Very Low 1	Low 2	Medium 3	High 4	Very High 5
9.a. Short term: The school is focused on implementing this standard correctly right now – in the daily and weekly rhythms of practice. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9.b. Long term: The school is focused on doing what needs to be done to ensure continuous improvement in this standard for the long term. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

T6 THANK YOU! Please click next to submit.