The impact of district and school climate on student achievement

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THE IMPACT OF DISTRICT AND SCHOOL CLIMATE ON STUDENT ACHIEVEMENT

A Dissertation

Presented to

The Faculty of the School of Education

The College of William and Mary in Virginia

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

by
Kathleen M. Smith
January 22, 2008
THE IMPACT OF DISTRICT AND SCHOOL CLIMATE 
ON STUDENT ACHIEVEMENT

by

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DEDICATION

Taking eight years to complete, this study encompassed the prolonged illness of my mother and sudden illness of my father. My father, who passed away one year prior to the completion of this study, and my mother, who passed away less than three months ago, were both supportive of me in all of my efforts in completing not only this study, but also all of my work with poor and underserved students. I dedicate this research to both of them. May they rest in peace knowing that their efforts were greatly appreciated and will be sustained over the remainder of my life through my continued work to improve education for poor children. It is because of Mom and Dad that I have developed a sense of purpose and a commitment to action.
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ABSTRACT

The purpose of this study was to examine district climate and explore its relationship to school climate. It also explored the relationships of these factors to student achievement in districts with low- and high-poverty elementary schools. Instruments used included the School Climate Index and the District Climate Index.

This was a quantitative correlational study that examined the possible relationships between district climate, school climate and student achievement on the 2007 Standards of Learning assessments for grades 3, 4, and 5 English (reading, research and literature) and mathematics in 25 low- and 44 high-poverty elementary schools in 36 Virginia districts. A Pearson $r$ was used to determine the relationship between the constructs and was computed with a significance level of $p < .01$. The Independent-Samples $t$ Test procedure compared the means for school climate and district climate in low- and high-poverty schools and the means for mean scale scores on SOL assessments in low- and high-poverty schools.

Significant relationships were found between district climate and school climate and between the constructs of district climate and school climate in all schools and in high-poverty schools. No significant relationships were found between district climate and student achievement; however, relationships were found between school climate and student achievement and the constructs of school climate and student achievement.

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THE IMPACT OF DISTRICT AND SCHOOL CLIMATE
ON STUDENT ACHIEVEMENT
CHAPTER I: INTRODUCTION

Responsibility for providing public education is the constitutional responsibility of individual states. The No Child Left Behind Act of 2001 (NCLB) contradicts this norm and provides more federal control over public education. NCLB also supports the cry for accountability to provide not only access to a high quality education for students identified as disadvantaged, but high achievement as well. For the past 20 years, the achievement gap between those students eligible to receive free or reduced lunch, or students identified as disadvantaged, and middle class students has persisted. As a result, there have been overwhelming negative economic ramifications for disadvantaged students in poor, economically non-affluent communities (Education Trust, 2005a).

Under NCLB, Title I, Part A. (Title I), disadvantaged schools are defined as those schools in which poor children make up at least 40% of enrollment. Title I reaches about 12.5 million students enrolled in both public and private schools. Title I funds are used by local education agencies for children from preschool age to high school, but most of the students served (65%) are in grades 1 through 6; another 12% are in preschool and kindergarten programs (Improving Basic Programs Operated by Local Education Agencies, Title I, Part A).

School districts that have been most influenced by the implementation of NCLB are those that rely on federal funding – that is – those communities that have declining economic growth and high numbers of students identified as disadvantaged. Noguera (2004) indicated that these communities generally serve students with greater needs. In addition, these school districts tend to adopt a narrow focus on raising student achievement because they lack the resources to address the underlying external
conditions, such as socio-economic status (SES), which impact student learning. Often, conflicts over how to allocate scarce resources within these communities make it difficult to place a priority on a quality education.

As the achievement gap widens for students in these districts, disadvantaged students and their families are left with a sense of hopelessness for the future. Deteriorating economic conditions and a failing educational system leave the poor in these communities with a sense of powerlessness. Staton-Salazar (1997) stated that social antagonisms and divisions in the wider society operate to provide less opportunities and resources in these types of communities than in communities that traditionally serve the middle class. These kinds of economic conditions produce limited social capital to serve as the basis for collective action that could improve the situation (Adler & Borys, 1996; Noguera, 2004).

Hopelessness for improvement is only part of the problem. Maintaining the status quo for those few in these communities who are not economically disadvantaged emerges as a catalyst to maintain an elitist, dichotomized system of “haves” and “have nots” (Howley, Pendarvis & Howley, 1993). Resources for the school district are limited by the capacity of the district to bargain for resources from the greater community where the “haves” can afford schooling other than public education. Noguera (1994) stated that when change agents like superintendents and principals are introduced to help improve their schools, they are often sabotaged and removed. At the same time, employees in the district remain secure in their positions regardless of the impact they have on student achievement.
Brady (2003) stated that an underlying belief of NCLB is that when state and local governments were left on their own to provide access and equity to all, they not demonstrate the ability to get the job done. NCLB was enacted as a reaction to economic phenomena that created cyclic poverty and provided limited, poor quality education for the children in these communities. Peske & Haycock (2006) reported that as the economic base in these communities has declined, limited resources to provide quality educational programs also declined. The schools’ performance in these declining communities deteriorated. For this reason, NCLB provides serious ramifications for poor communities who have relied on federal funding and have had little success in providing high student achievement.

The Achievement Gap for Disadvantaged Students

There are staggering statistics that reflect the achievement gap. In economically declining communities, disadvantaged students enter school with less and continue to under-perform when compared with their more advantaged counterparts. On the 2003 fourth grade National Assessment of Educational Progress (NAEP) reading assessment, 56% of disadvantaged students scored below basic, while only 25% of more advantaged students scored below basic. Only seven percent of disadvantaged students earn a bachelor’s degree by age 26, while 60% of more advantaged students do so. Only 44% of disadvantaged students are enrolled in college in the October following graduation from high school, while 97% of more advantaged students are enrolled (Education Trust, 2001). For every 100 African-American students who enter kindergarten, only 16 earn a bachelor’s degree as compared to 30 White kindergarteners. For Latino kindergartners,
the results are even more revealing; only six earn a Bachelor’s degree (Education Trust, 2001).

Almost nine years prior to the implementation of NCLB, Howley et al. (1993) stated that the mission of schools is to ensure that the “elite few are served while the intellect of others is suppressed” (p. 4). Although reports such as a Nation at Risk provided an outcry for federal, state, and local policy that provided for accountability and equity for the nation’s poor, few, if any real outcomes resulted (Gardner et al., 1983). Two years after the implementation of NCLB, the Education Trust (2005b) reported that states have made some progress in closing the achievement gap for elementary students, but the results in the middle grades and high school continue to lag. The persistent practice of under-serving students identified as disadvantaged was reported by Peske and Haycock (2006): in math classes in grades five through eight, 70% of students in high-poverty schools are taught by teachers who do not have a college minor in math or math-related field.

Years of declining economic conditions in many of the nation’s inner cities and poor, rural communities, makes it undeniably clear that economic parity for the disadvantaged is dependent on education (Apple, 1996: Howley et al., 1993) yet the districts in poorer communities face economic challenges that undermine their ability to negotiate effective resources like highly qualified teachers, which are necessary for improved student achievement (Darling-Hammond, 2000; Darling-Hammond & Sykes, 2003; Peske & Haycock, 2006). Education Watch (2004) and Education Trust (2005a) reported that affluent communities are able to provide more funding for schools than poorer communities.
It is important to consider that economic parity for the disadvantaged is a precursor to achieving the goals of NCLB. Noguera (2004) stated that the focus of what the district can do is based on what the district can afford to do, not necessarily on what needs to be done. The district’s inability to increase student achievement is partnered with the community’s inability to provide affordable housing, limited employment, and other necessary community resources. Competition for scarce resources in these communities by various entities results in constant political conflict among the stakeholders, undermining the amount of funding dedicated to educational reform.

The ability to offset the negative consequences of increased competition for scarce resources is increased through the collective actions and efforts of the district to connect the disadvantaged to these resources. Noguera (2004) argued that this effort requires districts to “bridge social capital” (p. 2156) by making the connections that link poor people to institutions and individuals that have access to money and power. These communities must also “bond social capital” (p. 2156) by establishing ties that serve as the basis for solidarity and collective action of members of the community. Howley et al. (1993) stated that if the achievement of all students is not the mission of public education, then economic power in this society serves only the ruling class.

*Educational Accountability in Virginia*

Although the NAEP provides some measure of comparison on the same set of achievement indicators, it is difficult to compare measures of success of NCLB from state to state. NCLB only accounts for each state’s role in closing the achievement gap based on each state’s NCLB approved standards and achievement outcome measures. Comparisons in student achievement outside of the NAEP are limited to districts within
each state where the achievement standards and outcome measures are the same (e.g. in Virginia, pass rates on Standards of Learning assessments across Virginia districts). Outcome measures that are based on different criteria from state to state do not offer the possibility of comparison.

In Virginia, on the fifth grade 2006 Standards of Learning assessments (SOL), the achievement gap between all students and disadvantaged students has increased by 3 points in mathematics and remained unchanged in reading since the 2004 SOL assessment was administered (Education Watch, 2006; Virginia Department of Education, *Virginia School Report Card*, 2007). NCLB was designed to change the traditional low expectations for the disadvantaged and ensure equity and access through mandated accountability practices and optional school choice. The challenges for schools to meet the expectations of NCLB are tremendous and have caused them to reconsider practices, such as more culturally responsive pedagogy, which are for the most part not accepted as traditional public education practices (Brady, 2003).

The overall outlook for the disadvantaged in Virginia is described, not only by the students in the schools serving those youngsters, but also by the districts in which those schools reside. The composite index, a funding formula used to provide the poorest communities in Virginia additional needed funding is not enough; the effective funding gap is $1271 per student between high-poverty and low-poverty schools (Education Watch, 2004). It is important to consider that districts with a greater percentage of high-poverty schools may have less ability to attract and retain highly qualified teachers.

While 1,686 out of 1,843 public schools, or 91% of schools, in Virginia were fully accredited in 2005, 2006 and 2007, only 69 out of 132 school districts in Virginia had
100% of their schools fully accredited in 2007 (Pyle, 2007). More alarmingly, only seven of those 69 districts (10%) with all schools fully accredited were high-poverty districts that had more than 60% of their students receiving free or reduced lunch, the primary indicator proposed in this study for determining disadvantaged status. Of the remaining 63 districts that did not have 100% of their schools fully accredited, 13 districts were high-poverty districts (20%). The context of the organizational structures in school districts in which there are high numbers of low-performing schools needs to be examined. It is only improvement in these schools that will result in diminishing the achievement gap for Virginia’s poorest students (Virginia Department of Education, *Virginia School Report Card, 2007*).

**Conceptual Framework**

As NCLB begins to hold districts and schools that enroll traditionally underserved students accountable, it is imperative for high-poverty and low-performing districts to examine both school-level and district practices and policies that contribute or do not contribute to increased student achievement. The school can no longer be viewed as the only organizational structure in which school improvement takes place (Anderson, 2003; Brady, 2003; Fullan, 2001; Hoy, 2002; Waters and Marzano, 2007). Brady illustrated this point in his examination of interventions in schools under review in New York City, comprehensive school reform in Memphis, Tennessee, and school reconstitution in Prince George’s County, Maryland. These school-focused interventions resulted in only half of the schools moving from under-performing to being successful.

As an organizational structure, the district can make a real difference to a school’s success in raising student achievement for students traditionally underserved. District
administrators and local school boards need to recognize their role in the school improvement process (Leithwood, Aitken, & Jantzi, 2001; Snipes, Doolittle and Herlihy, 2002; Togneri & Anderson, 2003). For example, securing and employing highly qualified and experienced teachers with a proven track record in working with children in poverty must be considered a district priority and district finances must support this effort (Peske & Haycock, 2006; Snipes et al., 2002). Reform efforts that resulted in increased student achievement in low-performing schools required the parameters of the organization to move outward, well beyond the school, and examine actions at the district level that impacted student achievement (Leithwood, et al., 2001; Snipes et al., 2002; Togneri & Anderson, 2003).

Literature regarding improving low-performing schools discusses the importance of specific district actions needed in the reform effort (Fullan, Rolheiser, Mascall & Edge, 2005; Hopkins, 2001; Sashkin & Egermeier, 1993; Snipes et al., 2002; Togneri & Anderson, 2003). Leadership at the district level is important. The school board and superintendent must both articulate a shared vision of improvement to the community and other district leaders. District operations must be restructured to serve and support schools, with priority by school boards given to low-performing schools. In low-performing schools, district leadership and school leadership must have the capacity and knowledge to diagnose problems the school can solve. Leadership must identify new resources to support the reform efforts. Understanding district climate is one way to understand the actions that are needed in the reform effort.
In this conceptual framework, as indicated in Figure 1, the district and the school are considered as one organizational unit that collectively lever resources to meet its mission of increasing student achievement. Open systems are defined as those in which social capital promotes positive climate, which in turn promotes positive outcomes for the organization (Forsyth & Adams, 2004). Open systems are on a continuum from open to closed. In open systems, districts move resources from federal, state and local governments to the school-level. When resources are redistributed in an open system, actions at the district and the school can collectively increase student achievement (Hopkins, 2001; Hoy, 2002; Leithwood, et al., 2001; Sashkin & Egermeier, 1993; Snipes et al., 2002; Togneri & Anderson, 2003).

Figure 1:

*The district and the school as the one organizational unit that levers resources to meet its goal of increasing student achievement*
When issues arise within an open system, such as the district's or school's failure to make adequate yearly progress (AYP), the organization begins to look closely at the factors causing the system's failure to perform. In an open system, the failures in the organization to meet goals remain transparent (Anderson, 2003; Bryson, 1995; Hoy, 2002; Togneri & Anderson, 2003). Hoy stated that this kind of focus on failure is most critical and must be ongoing if the organization is considered to possess enabling structures and processes that foster the ability of the organization to meet its goals. The continuous scanning for problems, especially the smaller problems, creates a mindful organization that adapts practices to meet its mission.

Forsyth and Adams (2004) stated that people in the organization and their respective cognitive dispositions collectively form the basis for social capital within the organization. Social structures in open systems include the relationships and social exchanges between students and teachers, teachers and teachers, teachers and parents, teachers and principals, teachers and district administrators, principals and district administrators, district administrators and parents, and district administrators and students. These relationships form the basis for critical communication that allows the organization to take immediate action when problems are noted (Hoy, 2002). Social structures and the necessary cognitive dispositions of the members of the organization must be in place in an open system.

The district plays a critical role in ensuring that certain forces in the organization attract the energies and commitment of employees, providing for collective actions that represent coherency in pursuing a common goal (Fullan, 2004). Organizational citizenship behavior is a construct that has been used to describe the collective behavior
of teachers in schools. DiPaola and Hoy (2005) described organizational citizenship behavior in schools as a context in which “teachers are rarely absent, make efficient use of their time while at school, work productively with their colleagues, and give high priority to serving the needs of students over personal ones while at school” (p. 37). They found a significant and positive correlation between the organizational citizenship behavior of schools and student achievement.

Hoy (2002) and Hoy and Sweetland (2000) defined enabling organizational structures as those that demonstrate a preoccupation with failure, reluctance to simplify interpretations, sensitivity to operations, commitment to resilience, and deference to expertise (Hoy, 2002; Hoy & Sweetland, 2000). Enabling organizational structures have formalized processes that capture lessons learned from experiences. Adler and Borys (1996) concurred that the formalization of these experiences provides support for the development of best practices that stabilize the organization and provide new procedures to enable the organization to meet its’ mission. In open systems, social capital promotes positive climate, which in turn promotes positive outcomes for the organization (Forsyth & Adams, 2004).

Forsyth and Adams (2004) discussed the importance of the cognitive dispositions of the individuals in the organization that result in the collective action that move the organization forward. Likewise Fullan (2001) described the two critical contexts needed to keep the organization collectively moving forward with a committed effort: moral purpose and knowledge building. Hoy and Hannum (1997) defined school climate as internal and influential characteristics that differentiate one school from another. Further, they stated that school climate is “the relatively stable property of the school environment
that is experienced by participants, affects their behavior, and is based on their collective perceptions of behavior in schools” (Hoy & Hannum, 1997, p. 291). Like school climate, district climate as defined in this research embodies the collective efforts by all individuals within the organization that foster actions to help the organization meet its goals.

School districts that embark on reform efforts that mirror only the actions needed by the school to improve may not be successful without fully capitalizing on the context of district support (Brady, 2003; Fullan et al., 2003). Certainly, district support embodies the collective actions of the individuals within the organization. This study focused on increased student achievement through the constructs of district climate and school climate. This research examined the factors that relate to district climate including integrated superintendent leadership, enabling structures, and teamwork needed for student success in both low- and high-poverty schools. In addition, this research examined the relationship between the factors that related to district climate and those of school climate as found by Tschannen-Moran et al. (2006): collegial leadership; teacher professionalism; academic press; and, community engagement. More importantly, this research examined how those two constructs, district and school climate, were related to student achievement.

Statement of the Problem

When districts establish instruction as a priority, they provide pressure and support for improved teaching and learning in schools, incrementally ratcheting improved student achievement (Fullan et al., 2005). Until districts have an understanding not only of the organizational actions that reciprocate increased student achievement, but also the
context in which those actions are maximized, then failure for the poorest students in the poorest communities will continue.

This study examined district climate and explored its relationship to school climate. It also explored the relationships of these factors to student achievement in districts with low- and/or high-poverty elementary schools. For the purposes of this study, low-poverty elementary schools were defined as schools with a free or reduced lunch rate of 30% or less. High-poverty schools were defined as schools with a free or reduced lunch rate of 60% or more.

Research Questions
1. Is there a significant relationship between school climate and district climate in selected Virginia elementary schools?
   • Is there a significant relationship between school climate and district climate in selected low-poverty elementary schools?
   • Is there a significant relationship between school climate and district climate in selected high-poverty elementary schools?
   • Is there a significant difference between the school climate and district climate of selected high-poverty and low-poverty elementary schools?

2. Is there a significant relationship between district climate and district student achievement in selected Virginia school districts?

3. Is there a significant relationship between school climate and student achievement and district climate and student achievement in participating Virginia elementary schools?
• Is there a significant relationship between school climate and student achievement and district climate and student achievement in selected low-poverty elementary schools?

• Is there a significant relationship between school climate and student achievement and district climate and student achievement in selected high-poverty elementary schools?

• Is there a significant difference in student achievement between the selected high-poverty and low-poverty elementary schools?

Definition of Terms

For the purpose of this study, the following definition of terms apply

• Accredited with warning: Schools that did not reach the pass rates as required by the Regulations Establishing Standards for Accrediting Public Schools in Virginia: 8 VAC 20-131-10 et seq., 2006.

• Disadvantaged schools: Schools where the percentage of students eligible to receive free and/or reduced lunch is 40% or higher.

• Disadvantaged students: Students eligible to receive free or reduced lunch based on SES as determined by the school nutrition program offered by the United States Department of Agriculture.

• District climate: embodies the collective efforts by all individuals within the organization that foster actions to help the organization reach its goals. Factors that relate to district climate include superintendent leadership, enabling structures, and teamwork needed for student success.
• Elementary schools: Elementary schools for this study include those schools with a grade configuration that include grades 3, 4 or 5.

• Enabling structures: Enabling structures are those structures within an organization that capture lessons learned from experiences and use these experiences to develop processes and procedures that enable the organization to meet its mission (Adler & Borys, 1996).

• Fully accredited: Schools that did reach the pass rates as required by the Regulations establishing Standards for Accrediting Public Schools in Virginia: 8 VAC 20-131-10 et seq., 2006.

• High-poverty and low-poverty schools: For the purposes of this study, the criteria required for a school to be considered high-poverty are a free or reduced lunch eligibility rate of 60% or higher. The criteria required for a school to be considered low-poverty are a free or reduced lunch eligibility rate of 30% or less.

• Open systems: Open systems are defined as those in which social capital promotes positive climate, which in turn promotes positive outcomes for the organization (Forsyth & Adams, 2004). Open systems are on a continuum from open to closed.

• School Climate: The internal and influential characteristics that differentiate one school from another. "The relatively stable property of the school environment that is experienced by participants, affects their behavior, and is based on their collective perceptions of behavior in schools" (Hoy & Hannum, 1997, p. 291).

• Schools in improvement: Schools in improvement are those schools that do not make adequate yearly progress (AYP) as required by NCLB for three or more consecutive
years as indicated in the *Virginia's Accountability Workbook* (Virginia Department of Education, 2007).

- Social capital: The social structures and cognitive dispositions that act as a resource for collective action by the people within the organization (Forsyth & Adams, 2004).
- Socio-economic status for schools: Percentage of students eligible to receive free or reduced lunch.
- Student achievement: Mean scale score as measured on Spring 2006 assessments for 3rd, 4th and 5th grade students on Virginia Standards of Learning mathematics and English: Reading, Research, and Literature (English) assessments.

Limitations, Delimitations, and Assumptions

Delimitations refer to the limitations in the research design that have been deliberate by the researcher (Rudestam & Newton, 2001). This study examined district climate in 36 districts and its context to student achievement and school climate of 69 schools in those districts. The districts were carefully selected in order to sample low- and high-poverty schools; however, the districts represent 28% of Virginia’s school districts. Only elementary schools are represented. Student achievement data at the district-level included data for all schools in the district and was not limited to only the schools that participated in this study, but included all schools in the district.

Limitations refer to the restrictions in the study that the researcher had no means of controlling (Rudestam & Newton, 2001). The study did not exclude schools or school districts that changed leadership. High turnover of both administrative staff and teachers is an important characteristic to consider when examining high-poverty schools. It is
important to consider that this factor is a common occurrence, and therefore, this study will examine district support and organizational citizenship behavior within this context.

There was an assumption by the researcher that district climate impacts school climate in high-poverty schools. Research has demonstrated that school climate is related to student achievement (Tschannen-Moran et al., 2006). Without the context of an open system where there is evidence of positive district climate, districts and schools in need of improvement will continue to have much difficulty in making required accountability measures.

Historically, school reform and improved accountability efforts have traditionally focused on schools, not districts (Chatterji, 2002; Tyack, 1990). Research regarding high-poverty, high-performing schools indicated many factors related to improved student achievement including positive school climate (Carter, 2000; Comer, 1997; Johnson & Asera, 1999; Marzano, Pickering, & Pollock, 2001). Since the implementation of NCLB, there has been an increasing focus on the role of the school district in providing resources to support school improvement low-performing schools (Leithwood, et al., 2001; Snipes et al., 2002; Togneri & Anderson, 2003; Fullan et al., 2005).

The next chapter will review literature regarding school reform and accountability from a historical perspective as well review literature related to high-poverty, high-performing schools. In addition, the next chapter will review literature related to school climate and district factors that impact student achievement.
CHAPTER II – REVIEW OF LITERATURE

School Performance: Precursor to Accountability and School Finance Reform

A historical perspective of school reform provides the political context that explains the demands placed on educators to increase the performance of the nation’s poorest students. School performance – school reform – can be defined by a set of actions that schools and districts must accomplish in order to bring about the changes needed to improve the performance of students. Fetler (1994) defined accountability as a system with goals, inputs, and processes that result in change.

Prior to the 1950s, schools remained relatively closed systems outside of the realm of state and federal politics governed by the localities. The first reform efforts focused on district consolidation. These efforts provided public schools with much more political influence. Accountability in education was addressed through policies that provided the educational organization more structure and conformity, but did not focus on educational outcomes. As districts grew in size, schools consolidated, making schools larger as well. As a result, the curriculum became much more diverse in scope and offerings, making education a more appealing resource to not only the elite, but to the common people as well. Unfortunately, prior to the 1950s, there were certain students not entitled to public education. Since this time, in the political context, public concern regarding the state of the economy or society, such as desegregation or high inflation, has resulted in the demand for policy makers to address and resolve these problems through public education (Tyack, 1990).

Challenging the status quo of earlier decades, the 1954 United States Supreme Court decision in Brown et al. v. the Board of Education of Topeka (KS) et al. and the
Civil Rights movement that followed in the 1960s placed public schools at the center of much needed societal reform. The reorganization of public schools that took place in the previous decade was an elitist system that focused on only a few and not the masses. The new power structure in schools after the Brown decision focused on making sure that all students received an equal public education. In the following decades, local school districts challenged the decision and policies placed upon them and attempted to maintain the status quo, forcing the new political power to turn to state and federal legislation to address their concerns (Tyack, 1990).

As the economy in the nation escalated in economic inflation, the report from the National Commission on Excellence in Education, A Nation at Risk (Gardner et al., 1983), provided new information about the real outcomes of public schools. The findings of this report were alarming. Public education for economically disadvantaged students was costly and doing little in terms of academic achievement. As a result of the findings of this report, national policy centered on a new school reform movement, back to basics, with the hope that real outcomes in achievement for the disadvantaged would in turn improve the national economy.

By the end of the 1980s, accountability was clearly measured by scores on standardized achievement tests. Policy makers responded to A Nation at Risk with policies such as increased promotion and graduation requirements in the hope that these "process-oriented" requirements would support the rigor needed to improve student achievement for all students. Moreover, these process-oriented policies supported the centralization of school governance and relied on top-down imposed mandates. This new definition of accountability revealed very limited progress, even when imposed mandates
were in place. Policy makers in the 1990s began looking at efforts to decentralize school reform, giving much more autonomy to school-level administrators in determining what needed to be done in order to affect a change in student achievement (Chatterji, 2002; Tyack, 1990).

Chatterji (2002) defined the components of the reform efforts of the 1990s. First, there was an establishment of challenging standards in the academic disciplines that defined what students should know and be able to do. Second, there was an alignment of curriculum and instruction, assessment and accountability, and teacher certification and professional development with the new standards. Lastly, there was a revamping of school governance structures, allowing schools and teachers more decentralized autonomy in how they organize the instructional program to achieve high standards for all students.

However, even with these efforts, limited progress in student achievement outcomes of the nation’s poorest students continued to alarm policy makers. Education initiatives as part of the wave of the reform were not without cost, and with that, the end of the 1990s brought about a new reform concept to policy makers; one that insisted that a market should be created for better schools. Under the guise of school choice, voucher-based and charter school policies supported the notion that market accountability would improve the outcomes in public schools (McDonald, 1999).

Although school choice initiatives gained some momentum in the mid-1990s, in the same period, the increasing cost of education led to additional school finance reform focused on accountability. School choice policies are embedded in the economic concepts of competition and marketization. However, Apple (1996) argued that it is competition
and accountability to the consumer that drives the market forces. Clearly, accountability is linked to the cost of education and its production function in terms of outcomes.

Apple (1996) argued that the social democratic goal of expanding equality of opportunity in schools lost its political potency in the late 1990s during a period of failing social standards, dropouts, illiteracy, violence, and the destruction of family values. Apple argued that even when students from different economic backgrounds did equally well on standardized academic achievement tests, earnings of lower socioeconomic adults were reduced by one third. Apple asserted that these factors were used by dominant political and economic groups to shift the debate on education from equality to productivity and marketization.

The concept of marketization based on the factors discussed by Apple (1996) is evidence by the U. S. Supreme Court that upheld the constitutionality of the voucher program in Cleveland Public Schools in Zelman v. Simmons-Harris (2002). The Cleveland Schools program allowed vouchers to be given to parents, who in turn used the vouchers to pay for their own choice of private schools for their children. The significance of this decision was not in the voucher program per se, but in the fact that the plaintiffs were poor students whose parents sought solidarity to enable the distribution of educational resources for their children. With this decision, the opportunity to establish a level playing field rested on the parents’ choice of either a public or parochial school education based on what they perceived as the best education for their child. Before the voucher system, this choice was limited to only those parents with economic resources to afford a parochial education. Public schools in Cleveland were left with increased
pressure to improve student achievement for the lowest performing and highest poverty schools.

Although marketization shifted school finance policies from equality to productivity, there were other school finance reform efforts. Hanusheck (1994) discussed three factors that triggered this shift. The outcome of schooling, student achievement, had been flat or declining for over three decades. At the same time, process-oriented mandates had increased the cost of school spending per pupil, requiring, for example, teachers in highly specialized areas such as foreign language. As the economy declined in the 1970s, competition for scarce resources for public education increased. Research pointed to disparities in school outcomes for the disadvantaged.

School finance reform with an emphasis on production function studies linked school characteristics to student outcomes and focused on the impact of economic characteristics of school resources (Wenglinsky, 2002). The Coleman Report (1966), a production function study, found that when student background was taken into account, school resources were not significantly associated with student outcomes. Wenglinsky reported that meta-analyses on production function studies between 1964 and 1994 reached divergent conclusions. While some studies showed no significant relationship between school resources and student achievement, others concluded that the difference was significant.

There continued to be a growing concern that achievement of disadvantaged students was significantly lower than those from the middle class. This fact led to the idea that equitable funding, a concept carried over several decades as part of the Brown decision and exemplified through production function studies, did not always provide
adequate funding (Hanushek, 1994). Hanushek reported that improving student performance was much more than adding more resources. In the mid 1990s, there was little reward provided to schools that did make a difference for students in poverty as compared to schools that did not make a difference. School reform policies produced no need for real change in student outcomes, only the need to comply with process-oriented mandates. The lack of incentives to perform well conflicted with the notion of obtaining real school outcomes for all students (Hanushek, 1994; Noguera, 2004).

Policy changes in school finance shifted from equity, which focused on inputs such as teacher certification requirements, to adequacy, which focused on outcomes, specifically, student achievement. Research focused on teaching found little relationship between costly teacher inputs and student achievement. Production function studies had mixed results. Less than one third of these studies could document a link between student outcomes and teacher experience, less than one-quarter of them linked teacher salaries and achievement, and only one in ten could do so for educational attainment of teachers and achievement (Wenglinsky, 2002).

Studies by Darling-Hammond (1998b) and Sanders and Rivers (1996) found that educational outcomes for children in high-poverty schools are often a function of unequal access to effective teachers and quality curriculum. In a study of high- and low-achieving schools with similar student populations in New York City Darling-Hammond (2000) found that differences in teacher quality accounted for approximately 90% of the total variation in school-level achievement in reading and mathematics (p. 26).

While cognitive psychology advanced the understanding of sound teaching and learning practices for all children, economic research suggested that high-performance
organizations managed resources efficiently around defined goals. This established an underlying school reform practice that school finance and school improvement must be managed together (Clune, 1994).

The shift from equity to adequacy required a new role for the school district. It clearly required the district to participate fully in long-range planning and to fully fund school performance efforts at high levels in order to achieve minimum acceptable outcomes. When school reform policies and school finance policies are coupled, resources are maximized and produce educational outcomes for all children (Clune, 1994; Noguera, 2004). In this model, the state and district supply adequate resources and the school must implement the improvements in order to continue receiving the funding and resources provided. This definition of adequacy (Clune, 1994) was in direct conflict with the decentralization reform efforts of the late 1990s, which placed the responsibility of reform solely on the school.

The concept of adequacy became part of a broader policy, the No Child Left Behind Act of 2001. Ahead of the authorization of NCLB, Clune (1994) had the foresight to state that educational adequacy would eventually be defined as every student (less the 2% or so who are severely disabled) scoring at least at the proficient level on standardized tests designed to measure outcomes based on students knowledge of the curriculum. Clearly, this definition is embedded in NCLB. School performance as defined through the implementation of NCLB was inextricably linked to the failed effort of the reform movement to educate the poorest children and the high costs that were associated with this effort.
It has been difficult to make changes at the district or school-level without using state regulatory policies to influence needed improvements in classroom teaching (Kirst, 1995). The rhetoric of state policies that proclaimed a mission of educating all children certainly has more meaning with the accountability measures enacted as part of the NCLB. Although state policies have supported systemic reform efforts, Kirst cautioned that state education agencies are currently organized along special purpose units that must develop shared understandings and roles. These units must be reorganized in order to implement NCLB effectively. Vega-Matos and Purnell (2000) reiterated the concern that state agencies are often fragmented, limiting funding to schools for improvement for a limited time frame or for specific purposes such as supporting a demonstration of effort, not for programmatic change over the long term. If governance needed in the reform effort requires shared responsibility of the stakeholders, the roles for the state agency must change from that of monitoring and compliance to that of technical assistance.

However, it is clear that national policy that has called for school reform in the past four decades, whether coupled with economic policy or left to stand on its own as education policy, holds educators to one common accountability measure: raising student achievement for all children (Apple, 1994; Clune, 1994; Hanushek; 1994, Tyack, 1990). Education Trust (2005b) reported that while overall achievement improved for all students in elementary schools for both reading and mathematics, for middle schools, gains were limited to only a few states, and for high schools, overall achievement in several states declined (p. 1).

NCLB has made it clear that what impacts student achievement for all students is important and directs policy in education. Student characteristics such as poverty, non-
English language status, and minority status are negatively correlated with student achievement (Darling-Hammond, 2000; Peske & Haycock, 2006; Wenglinsky, 2002). The Coleman Report (1966) reported that SES is a more significant predictor of academic success than other school and classroom variables. Educational research has supported the idea that academic achievement is attributed to the difference in socio-economic background of students (Hoy & Hannum, 1997; Hoy & Miskel, 2001).

School performance is, and has been for almost at least the last three decades, focused on increasing student achievement for all students. Certainly, economic parity for the nation’s poorest students and poorest communities can only be achieved through increased school performance (Darling-Hammond, 1998b; Howley et al., 1994; Norguera, 1994). With the emphasis on the current reform in improving student achievement for all students, it is important to focus on research regarding high-poverty, high-performing schools that have been successful in raising student achievement.

Literature regarding high performing, high-poverty schools provides much information regarding factors that limit the negative impact of SES on student achievement. A focus on student achievement, curriculum alignment, frequent assessment of student progress, professional development, collaborative leadership, and effective teaching have all had positive effects on student achievement (Carter, 2000; Comer, 1997; Johnson & Asera, 1999; Marzano et al., 2001).

Scarce is the literature that explores school district climate as a variable that impacts student achievement. Recent research on district reform efforts to improve student achievement is focused on case studies of successful districts (Snipes et al., 2002; Togneri & Anderson, 2003). There is limited quantitative research regarding how
districts can influence student achievement. The environment in which the school operates is certainly impacted by the broader macro community – the school district. For example, when financial resources in the district are limited by economic disparity, schools in the district are impacted by the district’s ability to provide adequate funding needed in the reform effort to increase student achievement (Snipes et al., 2002; Togneri & Anderson, 2003). Unlike reform efforts in the past, which were centered on individual schools, current reform efforts focus on systemic district reform (Fullan et al., 2005; Snipes et al., 2002; Togneri & Anderson, 2003).

Likewise, literature discusses the impact of positive school climate on student achievement (Goddard, Hoy & Hoy, 2000; Tschannen-Moran et al. 2006). Collegial leadership, teacher professionalism, academic press and community engagement are important variables that have a positive impact on student achievement (Tschannen-Moran et al., 2006). Certainly, trust and supportive group norms are important in building relational networks that impact student achievement (Goddard, 2003; Hoy & Tschannen-Moran, 1999). Aside from examining the research on high-poverty, high-performing schools and student achievement, the remaining literature reviewed in this chapter will focus on the construct of district climate and school climate examined as part of this study.

High-Poverty, High-Performing Schools

Wenglinsky (2002) reported that leadership, environment, and school size have an impact on student outcomes in high-poverty schools. The 90/90/90 schools (90% minority, 90% poverty, 90% high-achieving) had several common characteristics: a focus on academic achievement, clear curriculum choices, frequent assessment of student
progress, and an emphasis on writing (Reeves, 2000). In talent search schools, high-performing, high-poverty middle schools in Baltimore, Maryland, there was an emphasis on the communal organization of schooling, research-based instruction, standards-based curriculum, frequent student assessment, and a wide array of learning supports and extra-help opportunities (Balfanz & MacIver, 2000). Similar common characteristics were found in other studies examining high-poverty, high-performing schools (Carter, 2000; Comer, 1997; Johnson & Asera, 1999; Levine & Lezotte, 1990; Scheerens, 2000).

**Teacher Development**

A common thread for classrooms in high-poverty, high-performing schools is the influence of professional development on raising student achievement. Staff development practices are critical to the overall improvement of low-performing schools (Carter, 2000; Comer, 1997; Johnson & Asera, 1999). Educational outcomes for minority children in high-poverty schools are often a function of unequal access to effective teachers and quality curriculum (Darling-Hammond, 1998b; Sanders & Rivers, 1996). A study of high- and low-achieving schools with similar student populations in New York City found that differences in teacher quality accounted for approximately 90% of the total variation in school-level achievement in reading and mathematics (Darling-Hammond, 2000).

Professional development in high-poverty and low-achieving schools is an imperative strategy for increasing teacher competency, which is linked to increased student outcomes. Balfanz and MacIver (2000) stated that student achievement was impacted when teachers were provided professional development that focused on content knowledge, instructional strategies, classroom management advice and hands-on
experiences. Plecki (2000) stated that professional development that only offered teachers a variety of workshops targeted on special projects did not increase student performance. Later, Wenglinsky (2002) reported that when professional development was provided in support of classroom practices needed to raise student achievement, there was an effect size of .33 in increasing student achievement.

Case studies of high performing, high-poverty schools demonstrate a significant correlation of effective professional development practices to increased student achievement. Staff-development programs in higher performing, high-poverty schools are well-defined and designed to increase teachers' content knowledge and content-specific pedagogical skills (Breidenbach, 2001). It is important to note that the analysis of research indicate that these same effective practices were these same as those identified in successful schools regardless of the school’s economic status (Marzano et al., 2001).

Sullivan (1999) reported that successful professional development strategies are voluntary, peer-led, standards-oriented, open-ended, and have long-term effects. Teachers must have the skill and knowledge to implement strategies if student achievement is to be positively impacted. Findings in high performing, high-poverty schools emphasized collective responsibility in helping students become successful. Although it is important to build teacher capacity, building only teacher capacity will not result in desired change unless it is linked to the mission of improving student achievement (Carter, 2000; Comer, 1997; Johnson & Asera, 1999).

Staff development activities generally can be classified into one of three components. The first component, content, describes what is provided to teachers that will help deepen their understanding of academic disciplines and pedagogical principles.
The second component, process, describes how activities are planned, organized, carried out, and followed up. The third, context, describes the organization, system or culture in which the activities occur (Fullan, 2001; Ganser, 2000). Staff development takes place in the context of the organizational system, not just the context of the school. The context of the district could influence the impact of staff development. The content, delivery and context of staff development activities are relative to the intense school-focus on improving student achievement (Carter, 2000; Comer, 1997; Johnson & Asera, 1999).

In order to make ideas accessible to others, teachers must understand subject matter to help students create cognitive maps, relate ideas to one another and address misconceptions. Teachers need knowledge about learning and must be able to use different kinds of instructional practices for different kinds of purposes. Teachers need to be able to assess and identify the strengths and weaknesses of learners. Teachers must also know how to reflect on their practice to determine the effects of their teaching and plan instructional improvement (Danielson & McGreal, 2000; Darling-Hammond, 1998a; Darling-Hammond, 2000; Massel, 1998). Research from high performing, high-poverty schools indicated that effective staff development provided teachers with increased knowledge about their subject and instruction (Carter, 2000; Comer, 1997; Johnson & Asera, 1999).

Pedagogy is a central focus in reformed schools and is the center of a school’s staff development plan (Carter, 2000; Comer, 1997; Johnson & Asera, 1999). All efforts in reformed schools demonstrate an emphasis on improving instruction. Capacity in classrooms is strengthened by the improved performance of the teachers. The content of staff development activities must be centered on planning lessons, evaluating student

In a pilot school-reform project in North Carolina, teachers reported that observation and evaluation of other teachers made them better teachers (Toch, 1991). More importantly, teachers in reformed schools have learned to work with other adults collaboratively. The work-group or collaborative process strengthens the institutional capacity of the school by encouraging teachers to think of staff development as an integral part of the overall school or district improvement program (Carter, 2000; Comer, 1997; Johnson & Asera, 1999).

High performing, high-poverty schools provide staff with opportunities to collaborate with each other (Carter, 2000; Comer, 1997; Johnson & Asera, 1999). In these schools, the school culture allows for collegiality and collective change. Johnson and Asera (1999) reported that in nine schools studied, professionalism was developed as teachers spent time regularly planning, working and learning with each other. Time was intentionally provided for teachers to work collaboratively. Reflective practice in high performing, high-poverty schools was encouraged and faculty supported each other in these practices. Master teachers led peer evaluations, facilitated teacher teams, devised internal assessment measures, and kept the mission of the school focused on academic achievement. Faculty evaluated how productive teaching was in reaching desired outcomes, and devoted more time together, collaboratively, to activities that were a benefit to increasing student achievement. O’Day et al. (1995) added that these schools restructure governance and give teachers discretion over decisions that can enable them to organize in ways that increase their ability to serve student needs.
Leadership

Schmoker (2006) stated that leadership that promotes professional development, sound pedagogy and collaboration ensures the growth of the organization, improved student achievement, through the maximized use of human resources. Carter (2000), Comer (1997), and, Johnson and Asera, (1999) found that in high performing, high-poverty schools, when student achievement is not apparent, there is limited tolerance in the school and by the instructional leadership in the school for mediocre instruction. When transactional leaders rely on the relationship between themselves and their followers, they buffer the realities that continue to produce mediocre instruction in classrooms (DiPaola & Tchannen-Moran, 2004; Schmoker, 2006). Transformational leadership, on the other hand, sets aside the interests of the followers and brings about enhanced and improved instruction (Cotton, 2003; Schmoker, 2006, Tschannen-Moran, 2003). Schools that connect with the community are more likely to have leaders that bridge relationship and more likely to achieve the goal of fostering student learning (DiPaola & Tschannen-Moran, 2004). Transformational leadership was found to have consistent effects on every form of citizenship behaviors (Podsakoff, MacKenzie, Paine & Bachrach, 2000). Citizenship behaviors were found to have an impact on student achievement (DiPaola & Hoy, 2004; Hoy & Hannum, 1997).

The role of instructional leadership in fostering teaching practices that impact learning is a critical factor to raising student achievement (Cotton, 2003, Levine & Lezotte, 1990; Scheerens, 2000). When teachers are provided with feedback about the instruction provided to students, student achievement is impacted (Fullan, 2001; Hopkins, 2001; Schmoker 2006). Instructional leaders or principals in high performing, high-
poverty schools play an important role within the context of how feedback is delivered. These schools have principals who engage in instructional support efforts on a daily basis; persist through difficulties and setbacks; create opportunities for teachers to work, plan and learn together; and provide teachers with resources and training perceived necessary to teach (Fullan, 2001; Johnson & Asera, 1999; Schmoker, 2006, Scheerens, 2000).

One of the more difficult steps in "changing" an organization is the need to exert a strong pull for growth on all in the organization who have unrealized potential and want to grow (Blase & Blase, 1999; Greenleaf, 1996). While Blase and Blase advocated shared governance in order to promote the goal of the organization - increasing student achievement, Greenleaf asserted that mediocrity in positions of leadership cannot be dealt with by eliminating the influence that leaders exert or by creating a "leaderless society." Leaders must serve the affiliates of the organization so that resources can be maximized and used to benefit all in the organization. An organization without leaders would serve only the self-interests of the members in the organization rather than the interests of the collective group. Spillane, Hallet, and Diamond (2003) defined instructional leadership as an "influential relationship that motivates, enables, and supports teachers' efforts to learn about and change their instructional practices (p. 1)."

Aside from promoting professional growth of teachers, several studies on instructional leadership in high-poverty, high-performing schools have pointed to several key factors related to leadership (Cotton, 2003; Fullan, 2003; Kannapel, Clements, Taylor, & Hibpshman, 2005). Principals of the high-poverty, high-performing schools studied held high expectations for student achievement. The school's vision and goals
focused on high levels of student learning. Principals of high achieving schools applied rules consistently and maintained a safe and orderly environment for learning that supported a positive school climate. Effective principals in high-achieving schools studied were good communicators and shared information with all groups in the school community. Most importantly, in high-poverty, high-performing schools studied, there was a clear focus on student learning; norm of continuous improvement; effective classroom observation and feedback for teachers; opportunities for students to learn; monitoring of student progress and use of student data for instructional improvement.

Hoy and Hoy (2003) stated that although principals may take the lead in developing cooperative energy in the building, teachers determine their own success or failure. Instructional leadership must not only result from the principal’s role, but must also result from teachers themselves (Hoy & Hoy, 2003; Spillane et al., 2003). Principals must ensure that academic excellence is a motivating factor in the school; support a continuous improvement process for teaching and learning; enable teachers to be at the center of the improvement process; provide support and obtain resources needed; keep abreast of the latest research related to improving student achievement; and celebrate excellence (Hoy & Hoy, 2003).

Teacher Quality

If teachers determine the success and failure of the school as a unit, then it follows that teacher quality is important. Teacher quality is a complex concept influenced by the teacher’s experience, preparation program for teaching, certification in the content area assigned, course work and overall ability (Darling-Hammond, 2000). Peske and Haycock (2006) stated that poor and minority children do not underachieve in school because they
enter behind, but because they lack high-quality teachers. The impact of quality classroom practices is comparable to student background as a factor related to student achievement (Wenglinsky, 2002). Darling-Hammond reported that the less advantaged the students, the less likely the teachers are to hold full certification and a degree in their field. Children in high-poverty schools are assigned teachers new to the profession twice as often as children in low-poverty schools. In high-poverty schools, one in three core academic classes is taught by out-of-field teachers as compared to one in five in low-poverty schools (Peske & Haycock, 2006).

Recent research on teacher quality has demonstrated a relationship between teacher inputs, such as the amount of relevant course work in the subject area, and teacher scores on basic skills test and student achievement (Darling-Hammond, 2000; Peske & Haycock, 2006; Wenglinsky, 2002). Teacher preparation, certification status and degree in the field to be taught were significantly and positively correlated to student achievement. These were positively related both before and after controlling for poverty (Darling-Hammond, 2000).

Sanders and Horn (1998) extensively researched the impact of teacher quality as part of the Tennessee Value Added Assessment System (TASS). This system examined the effectiveness of teachers based on individual student growth. Teachers who provided effective instruction were defined as teachers who provided instruction that resulted in academic growth for all students regardless of the students’ prior level of academic attainment. Students assigned to ineffective teachers continued to show effects of those teachers in subsequent years. In comparison, three years of effective teaching equated to an increase in student achievement by 35 to 50 percentile points (Sanders & Rivers,
African American students and white students with the same level of prior achievement made comparable academic progress when assigned to teachers of comparable effectiveness. Lastly, African American students were disproportionately assigned to the least effective teachers (Sanders & Horn, 1998).

Highly effective teaching will result in student achievement, likewise, it follows that ineffective teaching will result in limited student achievement (Covaleskie, 1994; Darling-Hammond, 2000; Peske & Haycock, 2006; Sanders & Horn, 1998; Sanders & Rivers, 1996; Wenglinsky, 2002). Effective teaching requires a dichotomy of contextual attributes and instructional attributes that have been found to raise student achievement (Cotton, 2000). Contextual attributes in high performing, high-poverty schools included the school environment, instructional leadership, focus on learning, monitoring student progress, maximizing learning time, class or school size, supportive classroom climate, and parental involvement. Instructional attributes included orientation to lessons, focused instruction, questioning techniques, feedback and reinforcement, and re-teaching when needed (Carter, 2000; Comer, 1997; Johnson & Asera, 1999. O’Day et al., 1995).

Cotton’s (2000) dichotomy explained only what took place at the school to increase student achievement. In fact, the school environment has a much broader context than the school. Teachers exist in schools and schools exist in districts. The leadership provided to teachers in schools and the political and economic context of the district in supporting the reform effort are important attributes that support student learning. Relationships, like those in professional learning communities, are critical to build coherence of the reform effort (Fullan, 2001; Scheerens, 2000; Schmoker, 2006).
In some schools, organizational development must be emphasized as part of the reform, while in other schools innovations in curriculum and instruction must be emphasized (Brady, 2003; Fullan, 2001; Slavin, 1997). Schools at different stages of school reform require different strategies for improvement based on the culture of the school (Hopkins, 2001; Slavin, 1997). For example, Slavin described the difference between “seed” and “brick” schools. Seed schools have extraordinary capacity to translate a vision into a reality, while brick schools want to reform, but must be convinced it will work (p.1). The school staff’s readiness for change is most important in both identifying and understanding what kind of support the school needs. Slavin stated that based on experience with over 100 schools, about 90% were brick schools, while only 5% were seed schools (p. 7).

Other contextual variables that have been found to be less significant factors related to student achievement. Per pupil spending, a district resource allocated to the school, showed a significant positive relationship with student achievement in fourth grade reading, but demonstrated no significant relationship with regard to mathematics. Pupil-teacher ratios, class size, and the proportion of school staff that are teachers rather than support staff showed a very weak and rarely significant relationship to student achievement. When a relationship was found, in comparison to student background, the effects were modest. (Darling-Hammond, 2000; Wenglinsky, 2002; Wright, Horn & Sanders, 1997).

Although professional development in high performing, high-poverty schools focused on the knowledge and skills of the teaching staff, it is important to consider that changing only the individuals without changing the culture of the school will result in
limited sustainability (Fullan, 2001, Fullan et al., 2005). Individual development combined with organizational development sustains the realization of increased student achievement (Fullan, et al., 2005; Hopkins, 2001; Slavin, 1997). Teachers will not change practice until they have learned to perform the new tasks expected of them (Firestone, Camilli, Yurecko, Monfils, & Mayrowetz, 2000; Fullan, 2001). Increased student achievement results from a committed effort to develop and sustain professional capacity in the instructional environment (Balfanz & MacIver, 2000; Fullan, 2001). The organization must integrate student and staff learning so that the school’s programs are coordinated, focused on clear learning goals, and sustained over a period of time (Fullan, 2001; Fullan et al., 2005).

It is important to consider that in high performing, high-poverty schools there are resources provided to the school by the state and district that allow restructuring efforts to take place. Covaleskie (1994) noted that reform efforts that focus only on school practices are difficult to manage and are systemically ineffective because the context in which the reform takes place is ignored. The school district is the overarching system in which school performance takes place; yet, the school is the overarching system in which classroom learning takes place (Covaleskie, 1994; Darling-Hammond, 1998a). Cognitive studies have provided information about which instructional practices improve student achievement at the classroom level; however, the influence of the district in supporting those schools and students with the resources needed for improvement cannot be underestimated (Anderson, 2003; Covaleskie, 2002; Fullan, 2001; Waters & Marzano, 2007).
District Climate

There are approximately 15,000 schools districts in the United States, all independent from each other in terms of governance. These districts are loosely supervised by state governments; however, standardized tests, which evaluate student performance, and the fact that students are expected to be in grades according to age leads to standardization so that the 15,000 units are not disconnected from each other (Covaleskie, 1994). Public education is different from private education in that public education is mandated to serve all students regardless of race or economic status. Local governance of public schools is a means to ensure that schools are accountable to the communities they serve. With that, there are differences in the community participation in the educational setting in affluent communities as compared to low-income communities (Howley et al., 1994; Noguera, 2004; Tyack, 1990). Fetler (1994) noted that districts vary in their capacity to accomplish outcomes. Some lack money while others are loyal to tradition.

There are certain characteristics of districts that can be explained by organizational theory that pertinent to the discussion of district climate. As stated in Chapter 1, district climate embodies the collective efforts by all individuals within the organization that foster actions to help the organization reach its goals. Factors that relate to district climate include superintendent leadership, enabling structures, and teamwork needed for student success.

Organizational Structure

Enabling structures in an organization include formalization or the extent to which there are written rules, regulations, procedures and instruction. Hoy and Sweetland
(2000) identified two types of formalization: coercive and enabling. Coercive formalization is the focus on compliance from employees who are irresponsible or recalcitrant. Coercive formalization alienates employees rather than gaining commitment to meet the goals of the organization. The power and authority of the leaders in the organization is to force subordinates to comply. Communication is top down. Problems are viewed as constraints; mistakes are punished and distrust is promoted. Employees fear the unexpected. Adler and Borys (1996) added limited employee voice, employee indifference, conflict, and rigidity to the context of coercive formalization.

In contrast, Hoy and Sweetland (2000) identified an enabling formalization as a set of rules that assists employees with solutions to their work. Two-way communication and viewing problems as opportunities encourages trust. In an enabling organization, differences are encouraged, trust is promoted, and mistakes are viewed a learning opportunities. Improvement in the organization is an objective for all stakeholders. Adler and Borys (1996) stated that employee voice insures a good foundation for the improvement effort.

Another organizational characteristic that underscores the concept of district climate is the organization’s centralization of authority or the degree to which employees share and participate in the decision-making process. High centralization tends to be coercive, authority is concentrated at the top and flows down through a hierarchy. Hoy and Sweetland (2000) stated that employees feel alienated and dissatisfied if there is a great degree of hierarchy in an organization. A hindering centralization of authority impedes rather than supports subordinates to solve problems and do their work. All organizations have structures. Since the school and district will always have a hierarchy,
in order to avoid the dysfunctions of centralization, changing the kind of hierarchy of authority within the organization will be useful to build a less hindering structure (Hoy, 2002; Hoy & Sweetland, 2000).

Hoy (2002) stated that an enabling centralization solves problems by letting superiors and subordinates work across recognized authority boundaries while retaining their respected roles. Hoy stated that the accountability movement demands more hierarchy not less. The adverse consequences of a hierarchy can be addressed by the decisions administrators make as they implement authority. Hoy and Sweetland (2000) reiterated that the issue with centralization is the kind, not the amount of centralization within an organization. This research concluded that enabling school structures correlated positively with collegial trust in teachers and correlated negatively with hierarchical dependence, rule dependence, and teacher sense of powerlessness. Research by Hoy and Sweetland (2001) suggested that trust, truthfulness, and limited role conflict were central characteristics of enabling schools, regardless of size, socioeconomic status, and urbanicity. Research concluded that centralization and formalization are constructs of enabling organizations. In enabling bureaucracies studied concluded that the rules, regulations, and procedures lead to problem-solving among members and employees shared in the decision-making process (Hoy, 2002; Hoy & Sweetland, 2000; Hoy & Sweetland, 2001).

Other research by Anderson (2003) drew some of the same conclusions regarding the centralization of authority and increased student achievement. In this study, a meta-analyses focused on the impact of site-based management and the impact of student achievement, Anderson found little evidence that site-based management produced
improvements in student achievement. Studies of high-performing and improving school districts portray district reform efforts that have improved student achievement as those that provide more centralization of authority as a response to fragmentation and lack of coherence in site-based management schools (Snipes et al., 2002; Togneri & Anderson, 2003). In another study regarding the differences between site-based management and more centralized authority, Floden et al. (1988) surveyed district policy influence on the instruction decisions of fourth grade mathematics teachers in 20% of the schools across five states. They compared teacher responses in districts that emphasized central control versus those that emphasized school autonomy in curriculum decision-making. They found influence on teachers in making instructional decisions in the classroom were weak regardless of approach.

There is limited research on districts with regard to enabling structure; however, the school as an organizational unit was researched by Sniden, Hoy and Sweetland (2004) in a qualitative study of six schools that scored high on the enabling bureaucracy scale; their findings support the notion that an enabling structure has different effects than a coercive one. First, in these schools that scored high on the enabling bureaucracy scale, teachers indicated that they expected rules to make sense and be enforceable. Rules were considered common sense and were implemented with flexibility for teachers and students. Mutual respect and faculty cohesiveness were dominant. In addition, teachers indicated open door policies and informal communication in enabling schools. The principal’s use of encouragement and informal communication were viewed as recognition for teachers’ sense of professionalism. Lastly, teachers were regarded as experts and administrators deferred to their expertise in curriculum.
Another concept in the literature related to district climate is organizational mindfulness. As indicated in his research, Hoy (2002) stated that organization mindfulness is a description of the collective mindfulness of the organization, not of the individuals. Five processes promote mindfulness in organizations: preoccupation with failure, reluctance to simplify interpretations, sensitivity to operations, commitment to resilience, and deference to expertise. Hoy discussed the relationship between organizational or collective mindfulness and an enabling structure: An enabling structure was a necessary but insufficient condition for collective mindfulness; an enabling structure aided in the development of organizational mindfulness but did not guarantee it. However, organizational mindfulness was both a necessary condition and sufficient condition for an enabling structure, without an enabling structure, there was no evidence of organizational mindfulness. Another finding from Hoy’s research was that authoritarianism in personality of the leader was negatively associated with mindfulness. Collective mindfulness assures enabling school structures.

Anderson (2003) indicated that his meta-analyses of research regarding the district’s role in school reform found that research in the 1970s and the 1980s focused on the role of the district in implementing innovative educational programs. The school was the unit of change. In the mid-1990s, Anderson stated that the emergence of standards-based reform efforts provided a body of research that found that there was a lack of evidence that schools could accomplish increased student achievement without district influence. What has emerged in research since 2002 is a growing body of case studies of districts that been successful in district wide reform efforts that raised student achievement for poor students (Anderson, 2003; Fullan et al., 2005; Hopkins, 2001;
Snipes et al., 2002; Togneri & Anderson, 2003). These case studies have examined district practices related to improved district achievement.

*Developing District Climate*

In several case studies of successful and unsuccessful districts, Snipes et al. (2002) found three contextual factors that contributed to change for school districts: 1) the uncertainty of funding; 2) a state focus on accountability; and 3) local politics and power relations. The findings of this study clearly point to the influence of district climate in the overall reform effort. In districts where the reform efforts were successful, the school board accepted a new role: there was a shared vision among leaders; the district had the capacity to diagnose problems that the school could solve; the district sold the vision to city and district leaders; district operations were revamped to serve and support schools; and new resources were found to support the division. In unsuccessful districts, the school board micro-managed the school district, often setting policies not related to or contraindicated to raising student achievement. In the districts studied by Togneri and Anderson (2003) moving from a low-performing to a high-performing district was difficult. One challenge faced by the leadership in these districts was the willingness and capacity of many principals appointed under the pre-reform regimes to carry out new expectations for instructional leadership.

Strategic planning in high performing districts was a primary way to improving the capacity of the district to support low performing schools. District administrators and district level policy makers developed a clear understanding of how to strengthen their role in the school improvement process, both at the district- and school-level (Bryson, 1995; Hopkins, 2001; Snipes et al., 2002; Togneri and Anderson, 2003). Hoy (2002) also
discussed the role of strategic planning in for the organization to promote mindful and enabling structures. Hoy stated that an organization’s focus on failure is functional as it leads to the continuous scanning for problems, more so the smaller problems. Smaller problems can be viewed as those that may not impose a threat to most students, that is, the achievement of all students may be acceptable, but pose a threat to specific subgroups of students (e.g. students with disabilities). This focus leads to the strategic implementation of strategies to increase student achievement.

Kaufman, Herman, and Watters (1996) discussed three levels of scanning needed for strategic planning: mega, macro, and micro scanning. From a school improvement perspective, mega-level scanning examines threats and opportunities in the broader environment, outside of the district. Macro-level scanning examines threats and opportunities at the district level. Micro-level scanning examines threats and opportunities at the school-level. Brady (2003) indicated these interventions, focused at the micro level and as mentioned earlier, resulted in success in only half of the schools under review in New York City, comprehensive school reform in Memphis, Tennessee, and school reconstitution in Prince George’s County, Maryland. In successful districts, planning beyond the micro level was the focus of the reform and moved the reform outward, well beyond the school (Hopkins, 2001; Sashkin & Egermeier, 1993; Snipes et al., 2002).

The research by Fullan et al. (2005) on district reform is framed in part by the case study of several successful school districts in the United States, Canada and England. In these districts, foundational skills, including literacy and numeracy, were established as building blocks as students moved vertically through the curriculum. By
establishing expected outcomes at various grades, the district was able to foster capacity building professional development strategies needed to implement the teaching of these foundational skills. There was an investment in the leadership at the school-level and this leadership was not limited to principal leadership, but included literacy and numeracy coordinators who developed the capacity of teacher leaders in the district. Fullan et al. stressed the importance of program coherency across the district in meeting specific literacy and numeracy goals when deliberate strategies were implemented that shared learning across all schools in the district. These strategies recognized the community-building nature of learning within the organization. In these districts, there was a also a focus on assessment to determine or evaluate the district’s progress in meeting outcome indicators. The gap between high and low performing schools was levered by addressing the differences so that low performing schools moved at greater speed. For example, providing more experienced teachers in low performing schools became critical to build coherency. Fullan et al. stated that program coherence was evident in the complex systems studied. Likewise, in other research regarding high-performing districts, the districts intervened in schools that were failing and conducted an inventory of district initiatives so that greater coherence between and among programs was facilitated (Brady, 2003; Hopkins, 2001; Sashkin & Egermeier, 1993; Snipes et al.; 2002, Togneri & Anderson, 2003).

Brady (2003) examined the assumptions of NCLB regarding the role of the district in supporting schools. First, he stated that NCLB believes that districts can educate all students to high standards and that districts have the resources to add the missing elements to failing schools. Further, Brady stated that NCLB assumes that
districts have the skills to integrate these missing elements into schools, regardless of resource constraint. These assumptions clearly point to the role of district in school improvement; however, NCLB provides limited consideration with regard to the impact of the district not having sufficient resources or the capacity to integrate any missing elements into schools that need improvement. Research regarding case studies of high-performing districts and schools indicate that districts are sometimes without resources, not just monetary ones, but people resources, such as the internal capacity of the district to build content knowledge and improve pedagogy of staff in the failing school (Brady, 2003; Hopkins, 2001; O’Day et al., 1995; Sashkin & Egermeier, 1993; Wenglinsky, 2002).

O’Day et al. (1995) focused on the impact of systemic district level reform in which the instructional efforts of the district are more centralized and more support is provided to schools. That is, instruction is directed by the central office through the implementation of a uniform curriculum framework and assessment program in schools. This move toward a more uniform and centralized instructional program required that the capacity of all instructional leaders, principals and teachers, to deliver quality, research-based instructional programs. The school building and central office’s efforts were greatly enhanced through intensive professional staff development efforts. This kind of effort was usually characterized in high performing districts by professional collaboration of instructional staff (Carter, 2000; Comer, 1997; Johnson & Asera, 1999). With district reform, not only must collaboration take place in each school, each school must build a support framework for other schools in the district. Learning communities in high performing districts extend outside of the local building and include all members of the
District Leadership

Reform efforts at the district level are led for the most part by superintendents. Leithwood et al. (2000) stated that although reform efforts can be monitored and managed by examining student outcomes, leadership is needed in order for increased district productivity. Leithwood et al. described certain indicators and measures of transformational leadership that support district and school restructuring: providing vision and inspiration; modeling appropriate behavior; providing individualized support; providing intellectual stimulation; fostering commitment to group goals; encouraging high performance expectations; acknowledging good work; and encouraging individual development. Hopkins (2001) and Stoll and Fink (1996) also indicated that a model of leadership more congruent with the change efforts needed in the reform efforts require a transformational leader rather than a transactional leader.

Waters and Marzano (2007) examined findings from 14 studies conducted since 1970 that used quantitative methods to study the influence of school district leaders on student achievement. The computed correlation between district leadership and student achievement was .24. This finding was significant at the .05 level. These findings suggest that when district leaders are carrying out leadership responsibilities effectively, student achievement is positively affected. This research also identified five district-level leadership responsibilities with a statistically significant ($p < .05$) correlation with average student academic achievement: collaborative goal setting (.29); non-negotiable goals for achievement (.33); board alignments with support of district goals (.29);
monitoring the goals for achievement (.27); use of resources to support goals for achievement (.26). Another finding of this study was related to site-based management. Successful superintendents established a relationship of defined autonomy with their schools: that is, the school was expected to lead within the boundaries defined by the district goals (.28).

Togneri and Anderson (2003) found that it was challenging to determine the degree and quality of implementation of teaching and learning strategies associated with district reform efforts. Fullan et al. (2005) stated that researchers needed to pay attention to developing capacities and interactions at the state, district, and school-levels in order to promote further “large-scale, sustainable reform” (p. 10). Anderson (2003) stated that the empirical links between district policies and student learning outcomes remain vague. Anderson concluded based on his findings empirical linkages between district-level policies and actions and actual changes in teaching and learning practices and outcomes at the classroom level are more logically than empirically demonstrated. Anderson argued that if the test results show gains in student results associated with the initiation of district reform initiatives, and if these trends are generalized across schools, and if the performance gap between high-performing and low-performing schools is diminishing, then, the argument can be made that the reform is working.

School Climate

Slavin (1997) discussed the characteristics of “seed” schools as those that are led by a visionary leader that have a cohesive staff excited about teaching, and are willing to work together in making instructional decisions that impact achievement. Fullan (2005) defined high-value-added school cultures as those that measured and monitored progress;
provided high expectations; improved capacity for teachers to learn; focused on the individual student; promoted excellence; made sacrifices to put pupils first; and one in which teachers worked and learned together. Likewise, there is a body of research that demonstrates that a supportive classroom environment is a contextual attribute that increased student achievement (Cotton, 2000; DiPaola, Tarter, & Hoy, 2005; Forsyth and Adams, 2004; Goddard, 2001; Goddard, 2003; Goddard, Hoy & Hoy, 2000; Tschannen-Moran & Barr, 2004; Tschannen-Moran, Parish, & DiPaola, 2006). These studies have effectively framed the attributes of a successful school culture through the context of collective efficacy, social capital, trust, organizational citizenship behavior and school climate.

Goddard (2001) stated that collective efficacy refers to the perceptions of teachers in a school that the faculty as a group can employ actions to increase student achievement. Significant relationships were found between collective efficacy and student achievement (Goddard, 2001; Goddard et al., 2000; Tschannen-Moran & Barr, 2004). Weick and Roberts (1993) described the concept of collective mind as the pattern of interrelations of actions in a social system; schools exemplify social systems. Goddard et al. stated that collective teacher efficacy is an emergent group level attribute that is a product of the interactions of the group. These interrelations are better described by Tschannen-Moran and Barr (2004) as the “collective perception that teachers in a given school make an educational difference to their students over and above the educational impact of their homes and communities” (p 189). In this research, findings indicated that there was a significant relationship between collective efficacy and student achievement. This significant correlation demonstrated that teachers with high collective efficacy
believed that influenced and impacted student learning. These were not individual beliefs, but were the shared beliefs of the critical mass of teachers in the building. Factors strengthening collective teacher efficacy assisted in improving student achievement. These factors included school climate, principal leadership behaviors, staff development, and student behavior.

Goddard (2001) explored the concept of collective efficacy and its impact of student achievement on two variables: mastery experience or past school-level achievement, and group consensus or belief that there is collective efficacy. Mastery experience strongly related to collective efficacy and student achievement, but group consensus was not found to be an important predictor of student achievement. Goddard found that collective teacher efficacy explained 53.27% and 69.64% of the between-school variance in mathematics and reading achievement respectively. Cybulski, Hoy, and Sweetland (2005) stated that although, SES is not in the control of educators, collective efficacy of teachers is a variable that may be able to change and influence student achievement.

The concept of social capital explored by Goddard (2003), Forsyth and Adams (2004), and Coleman (1988) has produced findings that demonstrate its impact on student achievement. Goddard and Forsyth and Adams maintained that social capital has multi-dimensions with both structural and functional components. Simply knowing that a person in a district is an expert in reading does not necessarily mean that that person interacts with principals and teachers of reading in a meaningful way that impacts student achievement. Likewise, supportive structures in the home and the community act as agents for social capital. If parents are non-readers then the support structure to enable
students to complete homework is limited by the social capital and human capital available to the students while at home. Coleman used this premise to substantiate the need for all-day school, after school programs, and summer programs to meet the needs of economically disadvantaged students. Goddard reported that schools that have high levels of social capital had higher pass rates for their students on high-stakes mathematics and writing tests. Forsyth and Adams found that the structural dimension of social capital, that is the intensity of the social capital, is better measured by the collective action of the primary role groups that form the social networks in schools that in turn impact student achievement.

Goddard (2003) found that trust and supportive group norms are important in building relational networks that foster social capital. If social networks were characterized by low trust and norms that discouraged academic engagement, low student achievement resulted. Although limited to mathematics and writing in the schools studied, Goddard found that social networks characterized by high trust and norms that encouraged academic engagement fostered high student achievement. Hoy and Tschannen-Moran (1999) defined trust as “the individual’s or group’s willingness to be vulnerable to another party based on the confidence that the latter party is benevolent, reliable, competent, honest and open” (p. 189). In their study of elementary schools, faculty trust for students also resulted in trust for parents. In addition, teachers’ sense of powerlessness was negatively related to trust.

Kannapel et al. (2005) examined eight high achieving, high-poverty schools and found positive relationships among adults and students. These relationships resulted in a caring, nurturing environment of high expectations of students. Respectful relationships
were observed among adults, between adults and students, and among students.
Wenglinsky (2002) stated that active teachers are needed to improve instruction. Active teachers are those teachers who press all students to grow regardless of their background. Individual organizational citizenship behaviors are not completed in a vacuum; in the organizational context, collective efficacy serves to encourage or discourage these behaviors (Somech & Drach-Zahavy, 2004).

Definitions regarding the constructs of organizational citizenship behaviors emerged in the literature review. Organ (1988) defined organizational citizenship behavior to denote such behaviors that contribute to the smooth functioning of the organization, but are not required by the organization. Organ defined five categories of discretionary behavior: altruism, conscientiousness, sportsmanship, courtesy, and civic virtue. DiPaola and Hoy (2005) defined organizational citizenship behavior in schools as a context in which teachers are rarely absent, make efficient use of their time, work productively with their colleagues, and give high priority to professional activities over personal activities while at school. Using these constructs, they found that organizational citizenship behavior was positively related to student achievement in secondary schools.

DiPaola and Tschannen-Moran (2001) found that all aspects of organizational citizenship behavior could be explained by a single-factor – a bipolar construct that explained the benefits to the organization and benefits to the individuals in the organization. This study found a strong correlation between the collegial leadership style of principals and organizational citizenship. Tschannen-Moran (2003) defined citizenship behaviors as those behaviors within effective organizations that go beyond formal job responsibilities such as performing nonmnadatory tasks with no expectation of
compensation. In this study, Tschannen-Moran found that the relationship between transformational leadership behaviors of the principal and organizational citizenship behaviors of the teachers was insignificant. However, the relationship between trust in the principal and organizational citizenship behaviors of the teachers was significant.

Finally, Tschannen-Moran et al. (2006) examined the interplay between interpersonal relationships and student achievement. This research provided a framework to describe constructs of school climate used in this study. Tschannen-Moran et al. examined whether there were relationships among four defined dimensions of school climate and student achievement. The constructs of school climate studied were collegial leadership, teacher professionalism, academic press, and community engagement. The findings indicated that there was a relationship between a positive school climate and student achievement. Overall, in English, the correlation was $r = .51$, $p < .01$. For mathematics, the findings were similar, $r = .56$, $p < .01$. In writing, the correlation was somewhat lower, $r = .41$, $p < .01$. Three of the four subscales of climate (teacher professionalism, academic press, and community engagement) were found to be related to student achievement in English and mathematics. Community engagement showed the strongest correlation to English, math and writing, $r = .65$, $p < .01$, $r = .68$, $p < .01$, and, $r = .53$, $p < .01$, respectively. Similar results were found for academic press, while, less significant relationships were found for teacher professionalism and student achievement. There were strong correlations found between academic press and community engagement. Although collegial leadership was not directly related to student achievement, it was directly correlated to the other three dimensions of school climate, demonstrating that the indirect role of the principal in promoting student achievement.
This study also confirmed that SES was related to overall school climate, $r = .43$, $p < .01$. It was most closely related to community engagement, $r = .60$, $p < .01$, followed by academic press, $r = .47$, $p < .01$. The behavior of the principal was unrelated to the SES of the student population. Socio-economic status was found to be strongly correlated to achievement in English, $r = .87$, $p < .01$, mathematics, $r = .82$, $p < .01$, and, writing, $r = .81$, $p < .01$. Finally, the researchers confirmed earlier studies that implied that when the learning environment is orderly and serious, student achievement increases.

As NCLB holds both districts and schools accountable for increased student achievement, it is imperative for districts to understand the importance of developing a climate that promotes school improvement. This study explored district climate and school climate as variables that impact student achievement. This study examined district climate, school climate and student achievement at the school and district level. Further, this study explored the relationships of school climate and district climate to student achievement in both high-poverty and low-poverty schools. Similar to the findings of Tschannen-Moran et al. (2006), it is hoped that the findings of this study will be used by school districts to strengthen their role in improving student achievement at the school and district levels.
CHAPTER III - METHODOLOGY

The purpose of this study was to determine if there was a relationship between district climate, school climate and student achievement in high-poverty schools. Increased attention in recent effective schools literature discusses the role and actions of the district in improving student achievement (Brady, 2003; Snipes et al., 2002; Togneri, & Anderson, 2003). With the mandates of NCLB for all students in all subgroups reach basic proficiency in reading and mathematics by 2014, local education agencies and schools must continue to increase student achievement for all students. With this considered, district climate and school climate are important organizational factors to carefully examine.

The assumption of this research was that without the context of an open system where there is evidence of positive district climate, high-poverty schools in need of improvement will continue to have much difficulty in meeting required accountability measures. This research provided information regarding factors related to district climate that are needed to nurture school climate. As indicated in the review of literature, characteristics such as poverty, non-English language status, and minority status are negatively correlated with student achievement (Darling-Hammond, 2000; Peske & Haycock, 2006; Wenglinsky, 2002). The lack of economic parity for the poorest students in the poorest communities has resulted in a significant achievement gap between certain subgroups, such as the economically disadvantaged and their more affluent peers, a gap that NCLB intends to close. It is well documented that SES is highly correlated to student achievement (Darling-Hammond, 2000; Peske & Haycock, 2006; Wenglinsky, 2002). Likewise, there has been research that demonstrates a significant relationship between
school climate and student achievement (Tschannen-Moran et al., 2006). This study examined the relationship between district climate and school climate, the impact of SES on the relationship between school climate and district climate, the relationship between district climate and district achievement, the relationship between school climate and student achievement and the impact of SES on the relationship between climate and student achievement.

District climate, school climate, and student achievement were examined in 25 low-poverty and 44 high-poverty elementary schools in 36 Virginia districts. The 36 districts studied provided a representative sample of both size and SES (percentage of students eligible to receive free or reduced lunch) of the 132 Virginia school districts. Student achievement was measured by the school and district mean scale scores on the 2007 Virginia Standards of Learning (SOL) assessments for grades 3, 4, and 5 English and mathematics. School climate was measured by the School Climate Index (SCI), Appendix A. District climate was measured by the District Climate Index (DCI), Appendix B.

Research Questions

1. Is there a significant relationship between school climate and district climate in selected Virginia elementary schools?

   - Is there a significant relationship between school climate and district climate in selected low-poverty elementary schools?

   - Is there a significant relationship between school climate and district climate in selected high-poverty elementary schools?
• Is there a significant difference between the school climate and district climate of selected high-poverty and low-poverty elementary schools?
2. Is there a significant relationship between district climate and district student achievement in selected Virginia school districts?
3. Is there a significant relationship between school climate and student achievement and district climate and student achievement in participating Virginia elementary schools?
• Is there a significant relationship between school climate and student achievement and district climate and student achievement in selected low-poverty elementary schools?
• Is there a significant relationship between school climate and student achievement and district climate and student achievement in selected high-poverty elementary schools?
• Is there a significant difference in student achievement between the selected high-poverty and low-poverty elementary schools?

Research Design
This was quantitative correlational study that examined the possible relationships between district climate, school climate and student achievement on the 2007 Virginia Standards of Learning (SOL) assessments for grades 3, 4, and 5 English and mathematics in 25 low-poverty and 44 high-poverty elementary schools in 36 Virginia districts. A Pearson r, a measure of linear association, was used to determine the relationship between the constructs. The bivariate correlations procedure computed Pearson's correlation coefficient with a significance level of \( p < .01 \). Correlations measured how
school and district climate were related. The Independent-Samples *t* Test procedure compared the means for school climate and district climate in low- and high-poverty schools and the means for mean scale scores on SOL assessments in low- and high-poverty schools. A 95% confidence interval, *p* < .05, was used to determine if there was a significant difference in means.

**Participants and Setting**

This study investigated the relationships between the constructs in 25 low- and 44 high-poverty elementary schools in 36 Virginia school districts. Due to the diverse size and economic conditions of districts in Virginia, it not always was possible to select districts with all high-poverty or all low-poverty schools. Nor was it possible to select a low- and high-poverty school from each district. Districts were selected if schools in the district qualified as either low- or high-poverty. Other considerations for district selection were the number of students enrolled and the region in which the district was located.

Although the researcher had established a professional relationship with the districts selected, the researcher was careful to select districts with diverse populations, economic base, and geographic locations. Data regarding the constructs of district and school climate were received from 1,927 participants from the 36 districts. Participants included district administrators building administrators and teachers. Responses were aggregated to the district- and school-levels.

In examining district climate and district achievement, the district was unit of analysis. The 36 districts that participated in this study were diverse in both size and SES (percentage of students eligible to receive free or reduced lunch). Eleven of the districts participating in the study had less than 2,618 students; eight districts had between 2,618
and 4,687 students; 12 districts had between 4,688 and 9,345 students; and five districts had over 9,845 students. Thirteen districts had 60% or more of their students eligible to receive free or reduced lunch; 19 districts had between 31% and 59% of their students eligible to receive free or reduced lunch; and four districts had 30% or less of their students eligible to receive free or reduced lunch.

The percentage of students receiving free or reduced lunch at the school-level was used as the trigger for identification as either a low- or high-poverty school. Forty-four high-poverty schools participated. These schools had 60% or more of the students eligible to receive free or reduced lunch. Likewise, the 25 schools selected as low-poverty schools had 30% or less of the students eligible to receive free or reduced lunch.

Instrumentation

School Climate

School climate was measured by the SCI, Appendix A, developed by Tschannen-Moran et al. (2006). The SCI was adapted by Tschannen-Moran et al. using the earlier research of Hoy, Tarter, and Kottkamp (1991). Hoy et al. developed the revised Organizational Climate Descriptive Questionnaire for elementary schools (OCDQ-RE). This instrument defined three subtests for principal openness: supportive, directive, and restrictive. Likewise, the collegial, intimate, and disengaged subtests defined the degree of openness in teacher behavior. The construct validity of each dimension of openness was supported by correlating each dimension with the original OCDQ index of openness and the elementary sample. The index of teacher openness correlated positively with the original general school openness index \( r = .67, p < .01 \) as did the index of principal openness \( r = .52, p < .01 \).
In the SCI used in this study and developed by Tschannen-Moran et al. (2006), moderately strong and positive relationships were found between overall middle school climate and student achievement in English, $r = .51, p > .01$, mathematics, $r = .56, p > .01$, and writing, $r = .41, p > .01$. The SCI used in this study consisted of a 27 item Likert-type scale with six choices from Strongly Disagree to Strongly Agree along four dimensions: collegial leadership of the principal that is supportive, considerate, and helpful; teacher professionalism that reflects respect to colleagues and commitment to students; academic press that demonstrates that the school has high expectations for achievement; and community engagement reflects that the school is actively engaged with its community and is able to count on community involvement, interest, and support. Reliability subscales along the four dimensions from data in this study ranged from .88 for collegial leadership to .94 for academic press. These finding were similar to the finding in Tschannen-Moran et al., realiability subscales along the four dimensions ranged from .92 to .94. Sample items for this measurement included: Collegial Leadership, *The principal puts suggestions made by the faculty into operation*; Teacher Professionalism, *Teachers provide strong social support for colleagues*; Academic Press, *Students respect others who get good grades*; and, Community Engagement, *Parents and other community members are included on planning committees*.

**District Climate**

District climate is a neglected topic in the systematic research of schools. One of the impediments to such research is the lack of reliable methods to assess school district climate. Thus, this inquiry focused on the development of an instrument to measure the organizational climate of school districts. The development of the instrument used in this
study consisted of a number of phases. First, potential items were generated to measure elements of climate at the district level. Next, a pilot study was performed to reduce and refine the number of items and to explore the basic dimensions of district climate. Then, the refined instrument was tested in a larger sample to establish the basic elements of district climate. Finally, the refined instrument was used to test the relationship between district climate and school climate and to examine the potential moderating effect of socioeconomic status on the district-school climate relationship.

The literature on school district reform and effectiveness was examined to provide a basis for the generation of specific items to measure district climate. These items were developed by the researchers both independently and jointly, but no item was included unless there was consensus on the following criteria: (1) the statement reflected a property of the school district (the unit of analysis is the district); (2) the statement was clear and concise; (3) the statement had content validity; and (4) the statement had discriminatory potential. From an initial bank of more than 100 items and a process of reviewing and eliminating items in terms of the criteria listed above, 57 items were retained and formed the initial district climate index (DCI).

**Pilot Study**

The items in the research instrument were Likert-type statements that identified district practices with five choices ranging from Never to Very Frequently Occurs. Four hundred and fifty surveys were distributed by mail to central office personnel, principals, and teachers who were asked to complete the survey. A return rate of 54% was achieved. Two hundred forty-three district administrators, building administrators, and teachers
from elementary, middle, high schools employed in 42 school districts, completed the pilot district climate instrument.

The pilot study was strictly an exploratory study to determine the extent to which the selected items were useful in distinguishing elements of district climate. To that end, data from the pilot on the district climate index (DCI) were submitted to a principal-component analysis. The results indicated a five-factor solution using an eigenvalue of one or greater for each factor. This first solution was unsatisfactory because many items loaded strongly on two or more factors and others failed to load strongly on other factors. The following criteria were employed for the analyses: simple structure, minimum factor loadings of .50, and eigenvalues greater than one for each factor. The best solution was reached using these criteria with a Varimax with Kaiser Normalization rotation.

After a number of iterations of principal component analysis, the best solution identified 39 items and five factors explaining 69.5% of the variance. All items loaded on a single factor that explained 50.09% of the variance as well as four other factors with a range of eigenvalues from 1.19 to 2.97. Alpha reliability for the five factors ranged from .83 to .95. Five factors were tentatively named: enabling organizational structures, dynamic leadership, district accountability, administrative professionalism, and progress monitoring. It should be stressed that the pilot study was an exploratory device to get a sense of items and factors that define school district climate. One limitation of the pilot study was that individuals were used as the unit of analysis when a more appropriate unit should have been the district. It was virtually impossible to identify the district from the survey responses given the nature of the initial mail survey and anonymity of the respondents. Although the unit of analysis was the individuals completing the survey,
because the survey described actions of the district, it more than likely did not impact the findings of the research. As part of the data analysis for this research, the 39-item instrument was later subjected to a principal component analysis in which the unit of analysis was the district.

Thirty-nine items were selected for the district climate instrument (DCI), Appendix B. The DCI consisted of a 39 item Likert-type scale with six choices from Strongly Disagree to Strongly Agree along five dimensions. Sample items for this scale included: Enabling Organizational Structures, *District leaders respect individual opinions when introducing changes that affect their work*; Dynamic Leadership, *The superintendent puts suggestions made by administrators into operation*; Accountability for the District, *Each district department's operational plan defines how that team will provide service to schools*; Administrative Professionalism, *Administrators help and support each other*; and Progress Monitoring, *Data on district operations are reviewed regularly to determine progress in achieving goals*.

**Student Achievement**

Student achievement was measured by the Virginia Standards of Learning assessments for English and mathematics in grades 3, 4 and 5. This test is administered to every student in grades 3, 4, and 5 in the late spring of each academic year. The mean scale scores in both the English and mathematics assessments were aggregated to the school-level. The mean scale scores in both English and mathematics assessments for all students in the district were aggregated to the district-level. The test questions consisted of criterion-referenced, multiple-choice items based on the Standards of Learning for English and mathematics for grades 3, 4 and 5. Validity for the Standard of Learning
assessments was authenticated through the Content Review Committee process.

Reliability for the Virginia Standards of Learning (SOL) assessments is determined using the Kuder-Richardson Formula 20 (KR-20). The majority of the KR-20 coefficients on the Core I test, the primary test given to the majority of students, ranged from .85 to .92 (Hambleton et al., 2000).

Data Collection

District Climate and School Climate

The researcher collected data from building administrators and teachers from the 69 Virginia elementary schools (25 low- and 44 high-poverty schools) that included all items from the SCI and the DCI instrument for a total of 66 items using a Likert type scale that contained questions or statements with six choices ranging from Strongly Disagree to Strongly Agree. The researcher collected data from district administrators in the 36 Virginia districts using 39 items from the DCI instrument using a Likert type scale that contained questions or statements with six choices ranging from Strongly Disagree to Strongly Agree.

District superintendents participating in this study were contacted in February 2007 by mail to inform them of the purpose of the research and to ask for permission in conducting research in their respective schools (Appendix C). In this mailing, the superintendents were provided a package for the central office and packages for each of the schools that were identified as either low- or high-poverty in their districts by the researcher. Each package, with pre-paid return postage, contained information regarding the purpose of the project, surveys, permission forms, and instructions for completing and returning the surveys (Appendix D). District contacts/administrators and principals were
asked to provide the survey instrument at a regularly scheduled staff meeting at the central office or the school. Participation was voluntary. Surveys required about 20 minutes for each participant to complete. Once permission was provided to complete the research through the district's policy, the superintendent was asked to distribute the packages respectively to a district contact/administrator from the central office and to the principals of the schools identified by the researcher as either low- or high-poverty.

Confidentiality of the schools, districts, and participants was ensured (Appendix E). The researcher coded each package and set of school- or district-level survey with an identifier that was used by the researcher to aggregate the appropriate data from the each district and each district's corresponding schools. Participants were asked to indicate their role (instructional district administrator, non-instructional district administrator, teacher, principal, or other building administrator).

**Student Achievement**

Each school's and each district's mean scale for grades 3, 4 and 5 as measured by the Virginia Standards of Learning (SOL) mathematics and English tests were collected from the Virginia Department of Education. The mean scale scores measured the schools' and districts' academic achievement in the 2006-2007. The calculation of the mean scale score for the school-level is determined by averaging the scale score of each student in the school. The calculation of the mean scale score for the district-level is determined by averaging the scale score of each student in the district. Scale scores represent a non-linear transformation of raw scores. Regardless of what form or administration year of the SOL assessment a student takes, a student would require the same level of ability to obtain a scale score of 400 for proficiency, and a scale score of 500 for advanced. While
the scale scores can be used for comparisons within an SOL assessment, they cannot be compared across different SOL assessment content areas (Virginia Department of Education, 2003-2004 Technical Report, 2007). Reliability for the SOL assessments is determined using the Kuder-Richardson Formula 20 (KR-20). The majority of the KR-20 coefficients on the Core I test, the primary test given to the majority of students, ranged from .85 to .92 (Hambleton et al., 2000).

Socio-Economic Status of the School

The data from the Virginia Department of Education indicating the percentage of students eligible to receive free or reduced lunch in 2006-2007 was used to determine if schools were identified as low- or high-poverty. This percentage remains stable over time as evidenced by the free and reduced lunch eligibility reports by school year (Virginia Department of Education, School Nutrition Program Statistics, 2007).

Data Analysis

District climate was measured using the DCI of 39 items. Following data collection, district mean scores for each of the 39 items on the district climate instrument (DCI) were again submitted to a principal-component analysis. After examining the loadings, nine items were eliminated for conceptual and empirical reasons; that is, the item did not make conceptual sense in terms of the factor it loaded on or the factor loadings were either too low or loaded high on more than one factor. All remaining items loaded on a primary factor with a factor loading of .45 or greater. The result was a 30-item DCI measure with three strong factors or components: integrated superintendent leadership, enabling structures, and, teamwork for student success. These components explained 85.98% of the variance. For the purposes of analyses, only the 30-item DCI
measure (Appendix F) was used to calculate the total mean scores for each district and school as well as the mean scores for each of the three factors for each district and school. The school climate, district climate, and student achievement data from 69 elementary schools and 36 districts were aggregated to the school- and district-level. Descriptive and inferential statistics were used to provide correlational analyses between the three constructs: SCI, DCI, and student achievement. The Statistical Package for the Social Sciences (SPSS) was used for analyses. Mean scores for each SCI item from each school were used to calculate the overall SCI mean for each school as well as the mean score for each of the four SCI factors. Scores for each of the final 30-item DCI selected after final analysis were selected to calculated the overall DCI mean for each school and district as well as the mean score for each of the three DCI factors. The Pearson $r$ scores were computed to determine the relationships between the mean DCI scores, the mean SCI scores, and student achievement for each school and district. The Independent-Samples $t$ Test procedure compared the SCI and DCI overall means and the mean scale scores on Virginia Standards of Learning (SOL) assessments in low- and high-poverty schools in English and mathematics.

**Generalizability**

The research conducted represented a diverse sampling of high- and low poverty elementary schools located in 36 districts in Virginia of various sizes and SES. In the analyses aggregated to the school-level, the study is limited by the small number of low-poverty schools ($n<30$, $n=25$) as compared to the number of high-poverty schools ($n>30$, $n=44$). In the analyses aggregated to the district-level, $n>30$, $n=36$. The results of this study will be a least generalizable at the district level and to high-poverty elementary
schools. Considering the efforts of these schools to meet adequately yearly progress as required by NCLB, the results will be useful.

**Ethical Safeguards**

Permission from the Human Subjects Institution Review Board at the College of William and Mary was obtained to conduct this research in elementary schools in Virginia. District contacts/administrators, principals, and teacher were asked to sign consent forms ensuring anonymity regarding the results. Teachers’ and administrators’ responses were not identifiable. Participants were given the option of not completing the survey or leaving any items blank they did not wish to answer. District administrators and principals were given the opportunity to receive the results of the study once completed. Results are reported only in the aggregate. Therefore, schools or districts are not identifiable.

**Summary**

This study explored the relationship between district climate, school climate, and student achievement in 25 low- and 44 high-poverty elementary schools in 36 Virginia districts. The 36 districts studied provided a representative sample of both size and SES (percentage of students eligible to receive free or reduced lunch) of the 132 Virginia school districts. Low-poverty schools were those schools with 30% or less of their students eligible to receive free and reduced lunch. High-poverty schools were those schools with 60% or more of their students eligible to receive free and reduced lunch. Student achievement was measured by the school and district mean scale scores on the 2007 Virginia Standards of Learning (SOL) assessments for grades 3, 4, and 5 English.
and mathematics. After a rigorous pilot study, district climate was measured by the 30-items on the final DCI instrument. School climate was measured by the SCI.
CHAPTER IV- ANALYSIS OF DATA

This study explored the relationships between district climate, school climate, and student achievement as measured by the Virginia Standards of Learning (SOL) assessments in English and mathematics grades 3, 4 and 5 in 69 elementary schools in 39 Virginia school districts. After an analysis of the findings related to the final district climate measure (DCI), this chapter is organized in terms of the three specific research questions posed in Chapter 1. First, it reports the relationship between district climate and school climate in 25 low- and 44 high-poverty Virginia elementary schools. Next, the relationship between district climate and district achievement in the 36 Virginia districts is reported. Finally, the relationships between school climate and student achievement and district climate and student achievement in the 25 low- and 44 high-poverty elementary schools are reported.

Findings

The Final District Climate Measure (DCI)

Having completed the data reduction and conceptualization of the measure in the pilot study, the 39-item instrument (DCI) was tested with a new sample from 36 school districts with a total of 69 schools. All 39 items are found in Appendix A. A few sample items for this scale were: District leaders respect individual opinions when introducing changes that affect their work. Administrators are committed to helping students. Results of the monitoring process lead me to review my own practices. The superintendent puts suggestions made by administrators into operation.

Sample. The sample to test the final draft of the district climate measure was composed of 36 districts, which represented 28% of the total number of school districts in
the state. The schools and districts were selected based on demographic and socioeconomic diversity. Only districts with elementary schools were included in the sample; that is, all the districts selected were comprehensive K-12 districts. Eleven of the districts participating in the study had less than 2,618 students; eight districts had between 2,618 and 4,687 students; 12 districts had between 4,688 and 9,345 students; and five districts had over 9,845 students. Thirteen districts had 60% or more of their students eligible to receive free or reduced lunch; 19 districts had between 31% and 59% of their students eligible to receive free or reduced lunch; and four districts had 30% or less of their students eligible to receive free or reduced lunch. The districts in this sample were fairly representative of the districts in this state in terms of size, SES, and geographic location.
Table 1

*Description of Sampled Districts and Participating Districts*

<table>
<thead>
<tr>
<th>Descriptors of regions, student population and socio-economic status</th>
<th>Total districts in the state</th>
<th>Districts sampled</th>
<th>Districts participating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regions 1 and 8: Central</td>
<td>27</td>
<td>15</td>
<td>12</td>
</tr>
<tr>
<td>Regions 2 and 3: Eastern Tidewater</td>
<td>32</td>
<td>9</td>
<td>5</td>
</tr>
<tr>
<td>Region 4: Northern</td>
<td>19</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>Regions 5 and 6: Central</td>
<td>35</td>
<td>12</td>
<td>8</td>
</tr>
<tr>
<td>Region 7: Southwest</td>
<td>19</td>
<td>11</td>
<td>8</td>
</tr>
<tr>
<td>Less than 2,618 students:</td>
<td>50</td>
<td>12</td>
<td>11</td>
</tr>
<tr>
<td>Between 2,619 and 4,687 students</td>
<td>28</td>
<td>15</td>
<td>8</td>
</tr>
<tr>
<td>Between 4,688 and 9,345 students</td>
<td>25</td>
<td>13</td>
<td>12</td>
</tr>
<tr>
<td>Greater than 9,346 students</td>
<td>29</td>
<td>15</td>
<td>5</td>
</tr>
<tr>
<td>0 to 30% of students receiving free and reduced lunch</td>
<td>43</td>
<td>15</td>
<td>13</td>
</tr>
<tr>
<td>31% to 59% of students receiving free and reduced lunch</td>
<td>74</td>
<td>21</td>
<td>19</td>
</tr>
<tr>
<td>60% or more of students receiving free and reduced lunch</td>
<td>15</td>
<td>17</td>
<td>4</td>
</tr>
</tbody>
</table>


Data Collection. Fifty-three superintendents were contacted and asked to participate in the study. Thirty-six agreed to have their teachers, building administrators, and district administrators participate. A district contact from the central office and principal contact for each school selected to participate was designated by each superintendent to facilitate the collection of data. Those individuals received packets of survey instrument with directions for administering the anonymous surveys to participants. Packets were coded by district in order to identify and use the district as the unit of analysis. Teachers, school administrators, and district administrators who served in the participating schools and districts completed a DCI. The participants were surveyed in the winter of 2007.

Analysis. District climate was measured using the District Climate Index (DCI) of 39 items. Following data collection, district mean scores for each of the 39 items on the district climate instrument (DCI) were again submitted to a principal-component analysis. After examining the loadings, nine items were eliminated for conceptual and empirical reasons; that is, the item did not make conceptual sense in terms of the factor it loaded on or the factor loadings were either too low or loaded high on more than one factor. All remaining items loaded on a primary factor with a factor loading of .45 or greater.

The result was a 30-item DCI measure with three strong factors or components. These components explained 85.98% of the variance. The results indicated that items loaded on a single factor, integrated superintendent leadership, with an eigenvalue of 22.7, which explained 75.65% of the variance. Two other factors, enabling structure and teamwork for student success, were identified with eigenvalues of 2.1 and 1.0 respectively. The alpha coefficients of all three factors demonstrated the high reliability
of each of the component measures: alpha = .988 for superintendent leadership; .984 for enabling structure; and, .933 for teamwork for student success. Table 2 provides the final rotated component matrix using the principal component analysis using a rotation method of Varimax with Kaiser Normalization for each of the 30 items on the DCI.
Table 2

*Final Rotated Component Matrix for the District Climate Index*

<table>
<thead>
<tr>
<th>Item as numbered on the DCI instrument</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>7 The superintendent is willing to make changes.</td>
<td>.877</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 The superintendent is friendly and approachable.</td>
<td>.872</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17 The superintendent is responsive to the needs and concerns expressed by administrators.</td>
<td>.849</td>
<td></td>
<td></td>
</tr>
<tr>
<td>33 The superintendent is responsive to the needs and concerns expressed by community members.</td>
<td>.845</td>
<td></td>
<td></td>
</tr>
<tr>
<td>28 The superintendent explores all sides of topics and admits that other opinions exist.</td>
<td>.841</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 The superintendent treats all administrators as his or her equal.</td>
<td>.837</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 The superintendent maintains definite standards of performance.</td>
<td>.815</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23 The superintendent puts suggestions made by administrators into operation.</td>
<td>.812</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13 The superintendent lets administrators know what is expected of them.</td>
<td>.800</td>
<td></td>
<td></td>
</tr>
<tr>
<td>39 Our district has implemented an effective process for monitoring progress and achieving goals.</td>
<td>.840</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18 Our district incorporates student assessment data into all appropriate decisions.</td>
<td>.828</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item as numbered on the DCI instrument</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>----------------------------------------</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>37 Our district systematically monitors the progress of school improvement.</td>
<td>.821</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 Data on district operations are reviewed regularly to determine progress in achieving goals.</td>
<td>.767</td>
<td></td>
<td></td>
</tr>
<tr>
<td>29 District supervision/evaluation criteria include a measure of staff accountability.</td>
<td>.755</td>
<td></td>
<td></td>
</tr>
<tr>
<td>38 District policies and procedures recognize that student learning supersedes administrative convenience.</td>
<td>.743</td>
<td></td>
<td></td>
</tr>
<tr>
<td>26 The monitoring process results stimulate significant improvements in the district.</td>
<td>.740</td>
<td></td>
<td></td>
</tr>
<tr>
<td>31 Results of the monitoring process lead me to review my own practices.</td>
<td>.697</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24 Members of district departments have a detailed understanding of how their work relates to that of other departments.</td>
<td>.696</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22 The organizational structures of the district facilitate the day-to-day work of all staff groups.</td>
<td>.692</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Staff members are aware of our district mission and goals.</td>
<td>.671</td>
<td></td>
<td></td>
</tr>
<tr>
<td>32 District leaders assist staff members in finding resources to accomplish their goals.</td>
<td>.646</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21 District support to my school reflects the school's unique needs.</td>
<td>.635</td>
<td></td>
<td></td>
</tr>
<tr>
<td>36 I can communicate with most other members of the district.</td>
<td>.631</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Item as numbered on the DCI instrument</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>---------------------------------------</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
</tr>
<tr>
<td>35 Administrators provide strong social support for colleagues.</td>
<td></td>
<td></td>
<td>.747</td>
</tr>
<tr>
<td>19 Principal create learning environments that are orderly and serious.</td>
<td></td>
<td></td>
<td>.690</td>
</tr>
<tr>
<td>25 Administrators respect the professional competence of their colleagues.</td>
<td></td>
<td></td>
<td>.637</td>
</tr>
<tr>
<td>9 Administrators help and support each other.</td>
<td></td>
<td></td>
<td>.603</td>
</tr>
<tr>
<td>14 Administrators are committed to helping students.</td>
<td></td>
<td></td>
<td>.593</td>
</tr>
<tr>
<td>4 The interactions between and among administrators are cooperative.</td>
<td></td>
<td></td>
<td>.583</td>
</tr>
<tr>
<td>15 I have confidence in the integrity of my colleagues.</td>
<td></td>
<td></td>
<td>.546</td>
</tr>
</tbody>
</table>

Rotation converged in 9 iterations.
Measures of District Climate, School Climate and Student Achievement

Data were collected using two instruments. The SCI (Appendix A) was used to measure school climate and the DCI (Appendix B) was used to measure district climate. Two survey forms were used. One survey form for principals, building administrators and elementary school teachers in each participating school districts contained a total of 66 items and used a Likert type scale with six choices ranging from Strongly Disagree (number 1) to Strongly Agree (number 6). The second survey form for the district administrators only contained the 39 items from the DCI instrument, since district level administrators were not used to assess the climate of individual schools. Again, this survey used a Likert type scale with six choices ranging from Strongly Disagree (number 1) to Strongly Agree (number 6).

Sample. Districts in Virginia are assigned to one of eight regions. Regions 1 and 8 are considered south central, regions 2 and 3 are considered east and tidewater, region 4 is considered as the northern most region, regions 5 and 6 are considered central, and region 7 is considered southwest. Fifteen districts selected to participate were from regions 1 and 8, nine districts were from regions 2 and 3, six districts were from region 4, 12 districts were from regions 5 and 6, and eleven districts were from region 7. Districts were also selected based on the number of students enrolled. Twelve districts had less than 2,618 students, 13 districts had between 2,619 and 4,687 students, 15 districts had between 4,688 and 9,345 students and 13 districts had over 9,346 students. Finally, districts were selected based on the number of students in the district receiving free and reduced lunch. Fifteen districts had 60% or more of students in the district receiving free and reduced lunch, twenty-one districts had between 31% and 59% of students in the
district receiving free and reduced lunch, and seventeen had 30% or less of students in the district receiving free and reduced lunch. The previous section provides the description of the 53 districts sampled and the 36 districts that actually participated in the study.

*Data Collection.* The surveys were administered from February 2007 through May 2007. Data for student achievement based on mean scale scores on Virginia Standards of Learning (SOL) assessments in English and mathematics for schools and divisions were collected from the Virginia Department of Education for the 2006-2007 year. Data regarding the percentage of students receiving free or reduced lunch for the division and the schools participating in the study were collected from the Virginia Department of Education. A total of 1,927 participants (288 district administrators and 1,639 teachers and building administrators) employed in 36 Virginia districts (68% return rate), from 69 elementary schools from those districts (43% return rate), returned the survey.

*Methodology.* The school climate and district climate data from 69 elementary schools were aggregated to the school-level. Descriptive and inferential statistics were used to provide correlational analyses between the SCI and DCI. The SPSS was used for analyses. Mean scores for each SCI item from each school were used to calculate the overall SCI mean for each school as well as the mean score for each of the four SCI factors. Scores for each of the final 30-item DCI selected after final analysis were selected to calculated the overall DCI mean for each school as well as the mean score for each of the three DCI factors. The Pearson $r$ scores were computed to determine the relationships between the mean DCI scores and the mean SCI scores for each district. The Pearson $r$ scores were computed to determine the relationships between the three
components of district climate, four components of school climate, and student achievement. The Independent-Samples t Test procedure compared the SCI and DCI overall means in low- and high-poverty schools.

District climate data from 69 schools and 36 districts and district-level student achievement data from all schools in the districts were aggregated to the district-level. Scores for each of the final 30-item DCI selected after final analysis were selected to calculate the overall DCI mean for each district as well as for mean score of the three DCI factors. Descriptive and inferential statistics were used to provide correlational analyses. The SPSS was used for analyses. The Pearson r scores were computed to determine the relationships between the mean DCI score and the mean scale score for all schools in the district in English and mathematics.

School climate and district climate data using the final 30-item DCI and school-level student achievement data from the 69 schools were aggregated to the school-level. Descriptive and inferential statistics were used to provide correlational analyses. The SPSS was used for analyses. Mean scores for each SCI item were used to calculate the overall mean SCI mean for each school as well as for each of the four SCI factors. An item analysis for SCI data for the 69 elementary schools revealed a revealed reliability a coefficient for each of the four dimensions on the SCI ranging from .88 to .94. This finding was similar to the findings reported in Tschannen-Moran et al. (2006) where the range was from .92 to .94. Mean scores for each DCI item were used to calculate the overall DCI mean for each school as well as for each of the three DCI factors. Pearson r scores were computed to determine the relationships between the SCI means and the DCI means and the mean scale score for each school in English and mathematics. The
Independent-Samples $t$ Test procedure compared the mean scale scores on Virginia Standards of Learning (SOL) assessments in low- and high-poverty schools in English and mathematics.

*First Research Question*

*Is there a significant relationship between school climate and district climate in selected Virginia elementary schools?*

- *Is there a significant relationship between school climate and district climate in selected low-poverty elementary schools?*
- *Is there a significant relationship between school climate and district climate in selected high-poverty elementary schools?*
- *Is there a significant difference between the school climate and district climate of selected high-poverty and low-poverty elementary schools?*

Descriptive statistics regarding student achievement using the Standards of Learning assessments for English and mathematics in grades 3, 4 and 5, the mean at the school-level for the DCI, and the mean at the school-level for SCI are provided in Table 3.
Table 3

**School-Level Descriptives - Student Achievement, District Climate Index and School Climate Index**

School-level descriptives

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>English mean scale</td>
<td>69</td>
<td>426</td>
<td>521</td>
<td>469</td>
<td>21.84</td>
</tr>
<tr>
<td>score all schools</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mathematics mean scale</td>
<td>69</td>
<td>406</td>
<td>547</td>
<td>479</td>
<td>25.26</td>
</tr>
<tr>
<td>score all schools</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>District climate</td>
<td>69</td>
<td>2.79</td>
<td>5.24</td>
<td>4.36</td>
<td>.52</td>
</tr>
<tr>
<td>mean all items</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School climate</td>
<td>69</td>
<td>3.85</td>
<td>5.72</td>
<td>4.68</td>
<td>.41</td>
</tr>
<tr>
<td>mean all items</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Data analyses revealed a significant relationship between district climate and school climate at the school-level, $r = .366$, $p < .01$. There was no significant relationship found between district climate and school climate in low-poverty schools, $r = .120$. There was a significant relationship found between district climate and school climate in high-poverty schools, $r = .446$, $p < .01$. A summary of the correlational analyses is presented in Table 4.

Table 4

*Pearson Correlation for School-Level Analyses: District Climate Index and School Climate Index*

<table>
<thead>
<tr>
<th>Analyses</th>
<th>N</th>
<th>Pearson correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>District climate and school climate all schools</td>
<td>69</td>
<td>.366**</td>
</tr>
<tr>
<td>District climate and school climate for low-poverty schools</td>
<td>25</td>
<td>.120</td>
</tr>
<tr>
<td>District climate and school climate for high-poverty schools</td>
<td>44</td>
<td>.446**</td>
</tr>
</tbody>
</table>

** Correlation is significant at the 0.01 level (2-tailed).
Data analyses of all elementary schools regarding the correlations between the three factors used to operationalize district climate and the four factors used to operationalize school climate revealed significant relationships (Table 5). The district climate dimension of teamwork for student success indicated a low to moderately high significant correlation on all four dimensions of the SCI, $r$ ranged from .367 to .684, $p < .01$, with collegial leadership being the strongest correlation. The district climate dimension of enabling structure also indicated a low to moderate significant correlation on all four dimensions of the SCI, $r$ ranged from .257, $p < .05$ to .319, $p < .01$. The district climate dimension of superintendent leadership indicated a low significant relationship on the dimension of community engagement, $r = .294$, $p < .05$. 
Table 5

*Pearson Correlation for School-Level Analyses: Dimensions of District Climate and School Climate for All Schools*

<table>
<thead>
<tr>
<th>Dimensions of school climate</th>
<th>Integrated superintendent leadership</th>
<th>Enabling structure</th>
<th>Teamwork for student success</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collegial leadership</td>
<td>69</td>
<td>.153</td>
<td>.316**</td>
</tr>
<tr>
<td>Teacher professionalism</td>
<td>69</td>
<td>.121</td>
<td>.257*</td>
</tr>
<tr>
<td>Academic press engagement</td>
<td>69</td>
<td>.115</td>
<td>.291*</td>
</tr>
<tr>
<td>Community engagement</td>
<td>69</td>
<td>.294*</td>
<td>.319**</td>
</tr>
</tbody>
</table>

* Correlation is significant at the .05 level (2-tailed).

** Correlation is significant at the .01 level (2-tailed).
Data analyses of high-poverty schools regarding the correlations between the three factors used to operationalize district climate and the four factors used to operationalize school climate revealed significant relationships similar to those relationships found in all schools (Table 6). The district climate dimension of teamwork for student success indicated a low to high significant correlation on all four dimensions of the SCI, $r$ ranged from .497 to .704, $p < .01$, with collegial leadership being the strongest correlation. The district climate dimension of enabling structure also indicated a low to moderate significant correlation on all four dimensions of the SCI, $r$ ranged from .391 to .475, $p < .05$. The district climate dimension of superintendent leadership indicated a low significant relationship on the dimension of community engagement, $r = .369, p < .05$. 
Table 6

*Pearson Correlation for School-Level Analyses: Dimensions of District Climate and School Climate for High-Poverty Schools*

<table>
<thead>
<tr>
<th>Dimensions of school climate</th>
<th>Dimensions of district climate</th>
<th>Integrated superintendent leadership</th>
<th>Enabling structure</th>
<th>Teamwork for student success</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collegial leadership</td>
<td></td>
<td>.229</td>
<td>.391**</td>
<td>.704**</td>
</tr>
<tr>
<td>Teacher professionalism</td>
<td></td>
<td>.172</td>
<td>.357*</td>
<td>.497**</td>
</tr>
<tr>
<td>Academic press engagement</td>
<td></td>
<td>.114</td>
<td>.341*</td>
<td>.525**</td>
</tr>
<tr>
<td>Community engagement</td>
<td></td>
<td>.369*</td>
<td>.475**</td>
<td>.532**</td>
</tr>
</tbody>
</table>

* Correlation is significant at the .05 level (2-tailed).

** Correlation is significant at the .01 level (2-tailed).
Data analyses of low-poverty schools regarding the significant correlations between the three factors used to operationalize district climate and the four factors used to operationalize school climate did not show similarity to those found in high-poverty schools and all schools (Table 7). Fewer relationships were revealed. In low-poverty schools, the district climate dimension of teamwork for student success indicated two significant correlations. The first, collegial leadership, $r = .567$, $p < .01$, the second, community engagement, $r = .415$, $p < .05$. In low poverty schools, the district climate dimensions of enabling structure and superintendent leadership indicated no significant correlations with any of the four dimensions of school climate. Two negative correlations were indicted between the SCI dimension of collegial and the DCI dimension of integrated superintendent leadership, $r = -.104$, $p < .05$, and between academic press and integrated superintendent leadership, $r = -.033$, $p > .05$. 
Table 7

Pearson Correlation for School-Level Analyses: Dimensions of District Climate and School Climate for Low-Poverty Schools

<table>
<thead>
<tr>
<th>Dimensions of school climate</th>
<th>Integrated leadership</th>
<th>Enabling structure</th>
<th>Teamwork for student success</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collegial leadership</td>
<td>25</td>
<td>-.104</td>
<td>.085</td>
</tr>
<tr>
<td>Teacher professionalism</td>
<td>25</td>
<td>.001</td>
<td>.123</td>
</tr>
<tr>
<td>Academic press engagement</td>
<td>25</td>
<td>-.033</td>
<td>.109</td>
</tr>
<tr>
<td>Community engagement</td>
<td>25</td>
<td>.104</td>
<td>.019</td>
</tr>
</tbody>
</table>

* Correlation is significant at the .05 level (2-tailed).

** Correlation is significant at the .01 level (2-tailed).
An Independent Samples $t$ Test (Table 8 and Table 9) revealed no significant difference between the DCI means for high- and low-poverty schools, $t(67)$, $p > .001$. There was a significant difference found between the SCI means for high- and low-poverty schools, $t(67)$, $p < .001$.

Table 8

*Independent Sample $t$ Test for District and School Climate for Low- and High-Poverty Schools: Group Statistics*

<table>
<thead>
<tr>
<th>Type of analysis</th>
<th>High-poverty or low-poverty</th>
<th>N</th>
<th>Mean</th>
<th>Std. deviation</th>
<th>Std. error</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>District climate</td>
<td>Low-poverty</td>
<td>25</td>
<td>4.45</td>
<td>.461</td>
<td>.092</td>
<td></td>
</tr>
<tr>
<td></td>
<td>High-poverty</td>
<td>44</td>
<td>4.31</td>
<td>.556</td>
<td>.084</td>
<td></td>
</tr>
<tr>
<td>School climate</td>
<td>Low-poverty</td>
<td>25</td>
<td>4.90</td>
<td>.365</td>
<td>.073</td>
<td></td>
</tr>
<tr>
<td></td>
<td>High-poverty</td>
<td>44</td>
<td>4.55</td>
<td>.381</td>
<td>.058</td>
<td></td>
</tr>
</tbody>
</table>
Table 9

Independent Sample t Test for District and School Climate for Low- and High-Poverty Schools

<table>
<thead>
<tr>
<th></th>
<th>t Test for equality of means</th>
<th>95% confidence interval of the difference of means</th>
<th>Levene's test for equality of variances</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>Sig.</td>
<td>t</td>
</tr>
<tr>
<td>District</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equal</td>
<td>1.27</td>
<td>.26</td>
<td>1.08</td>
</tr>
<tr>
<td>climate variances average assumed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>District</td>
<td>1.14</td>
<td>57.92</td>
<td>.258</td>
</tr>
<tr>
<td>Equal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>climate variances average not assumed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School</td>
<td>.06</td>
<td>.80</td>
<td>3.75</td>
</tr>
<tr>
<td>Equal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>climate variances average assumed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School</td>
<td>3.79</td>
<td>51.86</td>
<td>.000</td>
</tr>
<tr>
<td>Equal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>climate variances average not assumed</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Second Research Question

Is there a significant relationship between district climate and district student achievement in selected Virginia school districts?

Descriptive statistics regarding student achievement using the Standards of Learning assessments for English and mathematics at grades 3, 4 and 5, the mean at the district-level for the DCI, and the mean at the district-level for SCI are provided in Table 10.

Table 10

District-Level Descriptives - Student Achievement, District Climate Index and School Climate Index

<table>
<thead>
<tr>
<th>District-level descriptive</th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>English mean scale score</td>
<td>36</td>
<td>421</td>
<td>499</td>
<td>466</td>
<td>16.31</td>
</tr>
<tr>
<td>Mathematics mean scale score</td>
<td>36</td>
<td>437</td>
<td>515</td>
<td>475</td>
<td>17.56</td>
</tr>
<tr>
<td>School climate mean all districts</td>
<td>36</td>
<td>3.93</td>
<td>5.32</td>
<td>4.64</td>
<td>.33</td>
</tr>
<tr>
<td>District climate mean all districts</td>
<td>36</td>
<td>3.31</td>
<td>5.15</td>
<td>4.44</td>
<td>.46</td>
</tr>
</tbody>
</table>
Analyses of the dimensions of DCI and the student achievement are indicated in Table 11. Data analyses revealed only one low to moderate correlation between the DCI dimension of teamwork for student success and English achievement, \( r = .381, p > .05 \).

Table 11

*Pearson Correlation for District-Level Analyses: Dimensions of District Climate and Student Achievement*

<table>
<thead>
<tr>
<th>Dimension</th>
<th>N</th>
<th>English mean scale</th>
<th>Mathematics mean scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>District climate index</td>
<td>36</td>
<td>.307</td>
<td>.197</td>
</tr>
<tr>
<td>Integrated superintendent leadership</td>
<td>36</td>
<td>.238</td>
<td>.097</td>
</tr>
<tr>
<td>Enabling structure</td>
<td>36</td>
<td>.311</td>
<td>.255</td>
</tr>
<tr>
<td>Teamwork for student success</td>
<td>36</td>
<td>.381*</td>
<td>.259</td>
</tr>
</tbody>
</table>

* Correlation is significant at the .05 level (2-tailed).
Third Research Question

Is there a significant relationship between school climate and student achievement and district climate and student achievement in participating Virginia elementary schools?

- Is there a significant relationship between school climate and student achievement and district climate and student achievement in selected low-poverty elementary schools?

- Is there a significant relationship between school climate and student achievement and district climate and student achievement in selected high-poverty elementary schools?

- Is there a significant difference in student achievement between selected high-poverty and low-poverty elementary schools?

Data analysis revealed a significant correlation at the school-level between school climate and English achievement and mathematics achievement, $r = .505$, $p < .01$, and, $r = .462$, $p < .01$, respectively. There was no significant relationship at the school-level found between district climate and English achievement, $r = .095$ nor was there a significant relationship at the school-level found between district climate and mathematics achievement, $r = .112$. Table 12 summarizes the data analyses at the school-level for school climate and student achievement and district climate and student achievement.
Table 12

*Pearson Correlation for School-Level Analyses of School Climate, District Climate, and Student Achievement*

<table>
<thead>
<tr>
<th>Student achievement indicator</th>
<th>School climate analyses</th>
<th>District climate analyses</th>
</tr>
</thead>
<tbody>
<tr>
<td>English mean scale score</td>
<td>69</td>
<td>.505**</td>
</tr>
<tr>
<td>Mathematics mean scale score</td>
<td>69</td>
<td>.462**</td>
</tr>
</tbody>
</table>

**Correlation is significant at the 0.01 level (2-tailed).**
There was no significant correlation found in school climate and student achievement in English in low-poverty schools, \( r = .243 \), nor was there a significant correlation found in school climate and student achievement in mathematics in low-poverty schools, \( r = .228 \). There was, however, a significant correlation found in school climate in student achievement in English in high-poverty schools, \( r = .428, p < .01 \), and a significant correlation was found in school climate in student achievement in mathematics in high-poverty schools, \( r = .364, p > .05 \). Table 13 summarizes the correlational analyses at the school-level for school climate and student achievement for low- and high-poverty schools. Figure 2 is the scatter plot for English mean scale scores and school climate means for low- and high-poverty schools. Figure 3 is the scatter plot for mathematics mean scale scores and school climate means for low- and high-poverty schools.

Table 13

Pearson Correlation for School-Level Analyses: School Climate and Student Achievement for Low- and High-Poverty Schools

<table>
<thead>
<tr>
<th>School type</th>
<th>N</th>
<th>Student achievement indicator</th>
<th>School climate analyses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low- poverty schools</td>
<td>25</td>
<td>English mean scale score</td>
<td>.243</td>
</tr>
<tr>
<td>Low-poverty schools</td>
<td>25</td>
<td>Mathematics mean scale score</td>
<td>.228</td>
</tr>
<tr>
<td>High- poverty schools</td>
<td>44</td>
<td>English mean scale score</td>
<td>.428**</td>
</tr>
<tr>
<td>High-poverty schools</td>
<td>44</td>
<td>Mathematics mean scale score</td>
<td>.364*</td>
</tr>
</tbody>
</table>

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

** Correlation is significant at the 0.01 level (2-tailed).
Figure 2. Scatter plot with fit line for English mean scale scores and school climate means for high- and low-poverty schools.
Figure 3. Scatter plot with fit line for mathematics mean scale scores and school climate means for low- and high-poverty schools.
There was no significant correlation found in district climate and English student achievement in low-poverty schools, $r = -.301$, and, no significant correlation was found in district climate and mathematics student achievement in low-poverty schools, $r = -.295$. There was no significant correlation found in district climate in English student achievement in high-poverty schools, $r = .196$, and, there was no significant correlation found in district climate in mathematics student achievement in high-poverty schools, $r = .241$. Table 14 summarizes the correlational analysis at the school-level for district climate and student achievement for low- and high-poverty schools. Figure 4 is the scatter plot for English mean scale scores and district climate means for low- and high-poverty schools. Figure 5 is the scatter plot for mathematics mean scale scores and district climate means for low- and high-poverty schools.

Table 14

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

**Correlation is significant at the 0.01 level (2-tailed).
Figure 4. Scatter plot with fit line for English mean scale scores and district climate means for high- and low-poverty schools.
Figure 5. Scatter plot with fit line for mathematics mean scale scores and district climate means for high- and low-poverty schools.
Data analyses of schools regarding the correlations between the three dimensions of district climate and student achievement (Table 15) indicated no significant relationships; however, the four dimensions of school climate and student achievement revealed low to moderate significant relationships in both English and mathematics. In English, $r$ ranged from .281 to .549, $p < .01$. In mathematics, $r$ ranged from .260 to .508, $p < .01$.

Table 15

*Pearson Correlation for School-Level Analyses of Dimensions of District Climate, School Climate and Student Achievement*

<table>
<thead>
<tr>
<th>Analysis type</th>
<th>Dimension</th>
<th>N</th>
<th>English mean scale</th>
<th>Mathematics mean scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>School climate</td>
<td>Collegial leadership</td>
<td>69</td>
<td>.370**</td>
<td>.311**</td>
</tr>
<tr>
<td>School climate</td>
<td>Teacher professionalism</td>
<td>69</td>
<td>.281**</td>
<td>.260**</td>
</tr>
<tr>
<td>School climate</td>
<td>Academic press</td>
<td>69</td>
<td>.549**</td>
<td>.508**</td>
</tr>
<tr>
<td>School climate</td>
<td>Community engagement</td>
<td>69</td>
<td>.513**</td>
<td>.489**</td>
</tr>
<tr>
<td>District climate</td>
<td>Integrated superintendent leadership</td>
<td>69</td>
<td>.069</td>
<td>.075</td>
</tr>
<tr>
<td>District climate</td>
<td>Enabling structure</td>
<td>69</td>
<td>.044</td>
<td>.090</td>
</tr>
<tr>
<td>District climate</td>
<td>Teamwork for student success</td>
<td>69</td>
<td>.234</td>
<td>.215</td>
</tr>
</tbody>
</table>

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

** Correlation is significant at the 0.01 level (2-tailed).
Data analyses of low-poverty schools regarding the significant correlations between the three dimensions of district climate and student achievement (Table 16) found no significant relationships except for a negative relationship between English and enabling structure, $r = -.422$, $p < .05$. Only two dimensions of school climate, academic press and community engagement, revealed low to moderate significant relationships in both English and mathematics. There were significant correlations found in English and mathematics for academic press, $r = .439$, $p < .05$, $r = .432$, $p < .05$, respectively. There were also significant correlations found in English and mathematics for community engagement, $r = .406$, $p < .05$, $r = .407$, $p < .05$, respectively.
Table 16

Pearson Correlation for School-Level Analyses of the Dimensions of District Climate, School Climate and Student Achievement for Low-Poverty Schools

<table>
<thead>
<tr>
<th>Analysis type</th>
<th>Dimension</th>
<th>N</th>
<th>English mean scale</th>
<th>Mathematics mean scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>School climate</td>
<td>Collegial leadership</td>
<td>25</td>
<td>.050</td>
<td>.022</td>
</tr>
<tr>
<td>School climate</td>
<td>Teacher professionalism</td>
<td>25</td>
<td>.018</td>
<td>.006</td>
</tr>
<tr>
<td>School climate</td>
<td>Academic press</td>
<td>25</td>
<td>.439*</td>
<td>.432*</td>
</tr>
<tr>
<td>School climate</td>
<td>Community engagement</td>
<td>25</td>
<td>.406*</td>
<td>.407*</td>
</tr>
<tr>
<td>District climate</td>
<td>Integrated superintendent leadership</td>
<td>25</td>
<td>-.208</td>
<td>-.223</td>
</tr>
<tr>
<td>District climate</td>
<td>Enabling structure</td>
<td>25</td>
<td>-.422*</td>
<td>-.391</td>
</tr>
<tr>
<td>District climate</td>
<td>Teamwork for student</td>
<td>25</td>
<td>-.131</td>
<td>-.129</td>
</tr>
</tbody>
</table>

* Correlation is significant at the 0.05 level (2-tailed).
Data analyses of high-poverty schools regarding the correlations between the three dimensions of district climate and student achievement (Table 17) found no significant relationships except for a low significant relationship between mathematics and enabling structure, $r = .298, p < .05$. Only two dimensions of school climate, collegial leadership and academic press, revealed low to moderate significant relationships in both English and mathematics. In English and mathematics for collegial leadership, $r = .447, p < .01$, $r = .356, p < .01$, respectively. In English and mathematics for academic engagement, $r = .422, p < .01$, $r = .359, p < .01$, respectively.
Table 17

*Pearson Correlation for School-Level Analyses of the Dimensions of District Climate, School Climate and Student Achievement for High-Poverty Schools*

<table>
<thead>
<tr>
<th>Analysis type</th>
<th>Dimension</th>
<th>N</th>
<th>English mean scale</th>
<th>Mathematics mean scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>School climate</td>
<td>Collegial leadership</td>
<td>44</td>
<td>.447**</td>
<td>.356**</td>
</tr>
<tr>
<td>School climate</td>
<td>Teacher professionalism</td>
<td>44</td>
<td>.291</td>
<td>.271</td>
</tr>
<tr>
<td>School climate</td>
<td>Academic press</td>
<td>44</td>
<td>.422**</td>
<td>.359*</td>
</tr>
<tr>
<td>School climate</td>
<td>Community engagement</td>
<td>44</td>
<td>.275</td>
<td>.241</td>
</tr>
<tr>
<td>District climate</td>
<td>Integrated superintendent</td>
<td>44</td>
<td>.123</td>
<td>.158</td>
</tr>
<tr>
<td></td>
<td>leadership</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>District climate</td>
<td>Enabling structure</td>
<td>44</td>
<td>.216</td>
<td>.298*</td>
</tr>
<tr>
<td>District climate</td>
<td>Teamwork for student</td>
<td>44</td>
<td>.266</td>
<td>.243</td>
</tr>
</tbody>
</table>

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

** Correlation is significant at the 0.01 level (2-tailed).
An Independent Samples $t$ Test (Table 18 and Table 19) revealed a significant difference in student achievement in low- and high-poverty schools using the school-level scale score means for English and mathematics, $t(67)$, $p < .001$.

Table 18

**Independent Sample $t$ Test for Student Achievement for Low- and High-Poverty Schools:**

<table>
<thead>
<tr>
<th>SOL assessments</th>
<th>High-poverty or low-poverty</th>
<th>N</th>
<th>Mean</th>
<th>Std. deviation</th>
<th>Std. error mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>English mean</td>
<td>Low-poverty</td>
<td>25</td>
<td>485.84</td>
<td>19.55</td>
<td>3.91</td>
</tr>
<tr>
<td>English mean</td>
<td>High-poverty</td>
<td>44</td>
<td>459.82</td>
<td>17.03</td>
<td>2.57</td>
</tr>
<tr>
<td>Mathematics</td>
<td>Low-poverty</td>
<td>25</td>
<td>496.96</td>
<td>23.70</td>
<td>4.74</td>
</tr>
<tr>
<td>Mathematics</td>
<td>High-poverty</td>
<td>44</td>
<td>468.77</td>
<td>20.02</td>
<td>3.02</td>
</tr>
</tbody>
</table>
### Table 19

**Independent Sample t Test for Student Achievement for Low- and High-Poverty Schools**

<table>
<thead>
<tr>
<th></th>
<th>t Test for equality of means</th>
<th>95% confidence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>Sig.</td>
</tr>
<tr>
<td>Levene's test for variances</td>
<td>(2-tailed) difference</td>
<td>difference</td>
</tr>
<tr>
<td>District</td>
<td>Equal</td>
<td>1.36</td>
</tr>
<tr>
<td></td>
<td>climate variances assumed</td>
<td></td>
</tr>
<tr>
<td>District</td>
<td>Equal</td>
<td>5.56</td>
</tr>
<tr>
<td></td>
<td>climate variances not assumed</td>
<td></td>
</tr>
<tr>
<td>School</td>
<td>Equal</td>
<td>1.55</td>
</tr>
<tr>
<td></td>
<td>climate variances assumed</td>
<td></td>
</tr>
<tr>
<td>School</td>
<td>Equal</td>
<td>5.01</td>
</tr>
<tr>
<td></td>
<td>climate variances not assumed</td>
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Summary

A total of 1,927 participants, 288 district administrators and 1,639 teachers and building administrators, employed in 36 Virginia districts (68% return rate), from 69 elementary schools from those districts (43% return rate), returned the survey instrument that contained 66 items from the DCI and SCI. The SPSS was used to complete data analyses.

All items on the district climate instrument (DCI) were submitted to a principal-component analysis. As extracted sums of squared loadings, three factors, as extracted sums of squared loadings explained 85.98% of the variance. As extracted sums of squared loadings, the results indicated that items loaded on a single factor, superintendent leadership, with an eigenvalue of 22.69 that explained 75.65% of the variance. Two other factors, enabling structure and teamwork for student success, were identified with a range of eigenvalues from 2.11 - 0.98. The three factors explained 85.98% of the variance. The alpha coefficients of all three factors demonstrated that the instrument used in this study to operationalize district climate as reliable: .988 for superintendent leadership; .984 for enabling structure; and, .933 for teamwork for student success.

Data analyses also revealed a significant relationship between district climate and school climate at the school-level, $r = .366$, $p < .01$. A significant relationship was also found between district climate and school climate in high-poverty schools, $r = .446$, $p < .01$. An Independent Samples $t$ Test revealed no significant difference between the DCI means for high- and low-poverty schools, $t(67)$, $p > .001$; however, there was a significant difference found between the SCI means for high- and low-poverty schools, $t(67)$, $p < .001$. 
Data analyses of all elementary schools and high-poverty schools revealed a significant relationship between the three factors used to operationalize district climate and the four factors used to operationalize school climate. The district climate dimension of teamwork for student success in all elementary schools indicated a low to moderately high significant correlation on all four dimensions of the SCI, $r$ ranged from .367 to .684, $p < .01$, with collegial leadership being the strongest correlation. For high-poverty schools, teamwork for student success, $r$ ranged from .497 to .704, $p < .01$, again with collegial leadership being the strongest correlation. For all schools and high-poverty schools, the district climate dimension of enabling structure also indicated a low to moderate significant correlation on all four dimensions of the SCI. For all schools, $r$ ranged from .257 to .319, $p < .05$. For high-poverty schools, enabling structure, $r$ ranged from .357 to .475, $p < .05$. The district climate dimension of superintendent leadership indicated only a low significant relationship on the dimension of community engagement. For all schools, $r = .294, p < .05$, while for high-poverty schools, $r = .369, p < .05$.

Next, in the 36 districts, data analyses revealed no significant relationship between district climate and student achievement at the school or district level. There was a low significant relationship between teamwork for student success and English, $r = .381, p < .05$. Data analysis revealed a significant correlation at the school-level between school climate and English, $r = .505, p < .01$ and between school climate and mathematics, $r = .462, p < .01$. Likewise, there was a significant correlation found in school climate and student achievement in English in high-poverty schools, $r = .428, p < .01$, and a significant relationship was found in school climate and student achievement in mathematics in high-poverty schools, $r = .364, p > .05$. 
Data analyses of all (69) schools regarding the correlations between the three dimensions of district climate and student achievement afforded no significant relationships; however, the four dimensions of school climate and student achievement revealed low to moderate significant relationships. In English, $r$ ranged from .281 to .549, $p < .01$, and, in mathematics, $r$ ranged from .260 to .508, $p < .01$.

Data analyses of low-poverty schools regarding the correlations between the three dimensions of district climate and student achievement found no significant relationships except for a negative relationship between English and enabling structure, $r = -.422, p < .05$. Only two dimensions of school climate, academic press and community engagement, revealed low to moderate significant relationships. In English and mathematics for academic press, $r = .439, p < .05$, $r = .432, p < .05$, respectively, and, in English and mathematics for community engagement, $r = .406, p < .05$, $r = .407, p < .05$, respectively.

Data analyses of high-poverty schools regarding the correlations between the three dimensions of district climate and student achievement found no significant relationships except for a low significant relationship between mathematics and enabling structure, $r = .298, p < .05$. Only two dimensions of school climate, collegial leadership and academic press, revealed low to moderate significant relationships. In English and mathematics for collegial leadership, $r = .447, p < .01$, $r = .356, p < .01$, respectively, and, in English and mathematics for academic engagement, $r = .422, p < .01$, $r = .359, p < .01$, respectively.

Finally, an Independent Samples t Test revealed a significant difference in student achievement in low- and high-poverty schools using the school-level scale score means for English and mathematics, $t(67), p < .001$. 
CHAPTER V: SUMMARY, DISCUSSION, AND RECOMMENDATIONS

This final chapter interprets the relationships between school climate, district climate, and student achievement. First, this chapter summarizes the results as presented in the previous chapter and reviews the methodology used for this study. Next, this chapter more closely discusses the findings related to the relationships among the factors studied: district climate, school climate, and student achievement. In addition, the section discusses the findings related to the development of the DCI instrument. Lastly, this chapter discusses the implications of the findings and provides recommendations for further research.

Summary of Results

As stated in Chapter 1, the purpose of this study was to determine if there was a relationship between district climate, school climate and student achievement in high-poverty schools. Increased attention in recent effective schools literature discusses the role and actions of the district in improving student achievement (Brady, 2003; Snipes et al., 2002; Togneri, & Anderson, 2003). With the mandates of NCLB for all students in all subgroups to reach basic proficiency in reading and mathematics by 2014, local education agencies and schools must continue to increase student achievement for all students. With this considered, district climate and school climate are important organizational factors to carefully examine.

The assumption of this research was that without the context of an open system where there is evidence of positive district climate, high-poverty schools in need of improvement will continue to have much difficulty in meeting required accountability measures. Although this research did show a significant relationship between district
climate and school climate, this research did not show a significant correlation between district climate and student achievement. In fact, for low-poverty schools, there was a negative correlation between district climate and student achievement for both English and mathematics. The data in this study revealed a significant correlation between school climate and student achievement in both English and mathematics in high-poverty schools and all schools, but did not show a significant correlation between school climate and student achievement in low-poverty schools.

The lack of a significant correlation in low-poverty schools between student achievement and school climate is an anomaly that can be attributed to the small sample size (N=25). Prior studies of larger samples of elementary schools have consistently found a positive correlation between school climate and student achievement. As indicated in the review of literature, characteristics such as poverty, non-English language status, and minority status are negatively correlated with student achievement (Darling-Hammond, 2000; Peske & Haycock, 2006; Tschannen-Moran et al. 2006; Wenglinsky, 2002). The lack of economic parity for the poorest students in the poorest communities has resulted in a significant achievement gap between certain subgroups, such as the economically disadvantaged and their more affluent peers, a gap that NCLB intends to close. It is well documented that SES is highly correlated to student achievement (Darling-Hammond, 2000; Peske & Haycock, 2006; Tschannen-Moran et al. 2006; Wenglinsky, 2002). Likewise, there has been research that demonstrates a significant relationship between school climate and student achievement (Tschannen-Moran et al., 2006).
Review of Methodology and Instrumentation

This was quantitative correlational study that examined the possible relationships between district climate, school climate and student achievement on the 2007 Virginia Standards of Learning (SOL) assessments for grades 3, 4, and 5 English and mathematics in 25 low-poverty and 44 high-poverty elementary schools in 36 Virginia districts. The SPSS program was used for statistical analyses. A Pearson $r$, a measure of linear association, was used to determine the relationship between the constructs. The bivariate correlations procedure computed Pearson's correlation coefficient with a significance level of $p < .01$. Correlations measured how school and district climate were related. The Independent-Samples $t$ Test procedure compared the means for school climate and district climate in low- and high-poverty schools and the means for mean scale scores on SOL assessments in low- and high-poverty schools. A 95% confidence interval, $p < .05$, was used to determine if there was a significant difference in means.

This study investigated the relationships between the constructs in 25 low- and 44 high-poverty elementary schools in 36 Virginia school districts. Due to the diverse size and economic conditions of districts in Virginia, it was not possible to select districts to participate in this study that had only high- or low-poverty schools. Nor was it possible to select a low- and high-poverty school from each district. Districts were selected if schools in the district qualified as either low- or high-poverty. Other considerations for district selection were the number of students enrolled and the region in which the district was located. Data regarding the constructs of district and school climate were received from 1,927 participants. Participants included district administrators, building administrators and teachers. Responses were aggregated to the district- and the school-levels.
Student achievement was measured by the school and district mean scale scores on the 2007 Virginia Standards of Learning (SOL) assessments for grades 3, 4, and 5 English and mathematics. School climate was measured by the School Climate Index (SCI). An item analysis for SCI data for the 69 elementary schools revealed a reliability coefficient for each of the four dimensions on the SCI ranging from .88 to .94. This finding was similar to the findings reported in Tschannen-Moran et al. (2006) where the range was from .92 to .94. District climate was measured by the District Climate Index (DCI) piloted as part of this study.

The District Climate Index (DCI) contained 39 items. Following data collection, district mean scores for each of the 39 items on the district climate instrument (DCI) were again submitted to a principal-component analysis. After examining the loadings, nine items were eliminated for conceptual and empirical reasons; that is, the item did not make conceptual sense in terms of the factor it loaded on or the factor loadings were either too low or loaded high on more than one factor. All remaining items loaded on a primary factor with a factor loading of .45 or greater.

The result was a 30-item DCI measure with three strong factors or components. These components explained 85.98% of the variance. The results indicated that items loaded on a single factor, integrated superintendent leadership, with an eigenvalue of 22.7, which explained 75.65% of the variance. Two other factors, enabling structure and teamwork for student success, were identified with eigenvalues of 2.1 and 1.0 respectively. The alpha coefficients of all three factors demonstrated the high reliability of each of the component measures: alpha = .988 for superintendent leadership; .984 for enabling structure; and, .933 for teamwork for student success. For the purposes of this
study only the 30-items related to these three factors were used in data analyses. These items are indicated in Appendix F.

Discussion of Results

An Independent Samples $t$ Test revealed no significant difference between the DCI means for high- and low-poverty schools, $t(67), p > .001$; however, there was a significant difference found between the SCI means for high- and low-poverty schools, $t(67), p < .001$. Likewise, it was expected that there would be a difference in student achievement between high- and low-poverty schools and an Independent Samples $t$ Test confirmed this finding in both English and mathematics, $t(67), p < .001$. In the study completed by Tschannen-Moran et al. (2006), similar findings were indicated for both school climate and student achievement. The lack of difference found between the district climate means of low- and high-poverty schools could be explained by two factors. First, 75.65% of the variance in the district climate index was explained by integrated superintendent leadership. Second, many of the high- and low-poverty schools were from the same district and based their ratings on the actions of the same superintendent.

The district climate dimension of teamwork for student success in all schools and 44 high-poverty schools indicated a low to moderately high significant correlation on all four dimensions of the SCI. Collegial leadership at the school-level demonstrated a significant correlation to teamwork for student success in all schools as well as high- and low-poverty schools. For all schools, the Pearson $r$ ranged from .367 to .684, $p < .01$, with collegial leadership being the strongest correlation. For high-poverty schools, the Pearson $r$ ranged from .497 to .704, $p < .01$, again with collegial leadership being the strongest correlation. In low-poverty schools, significant relationships were found
between teamwork for student success and collegial leadership, $r = .567$, $p < .01$ and teamwork for student success and community engagement, $r = .415$, $p < .05$. Given the framework of an open system for both the district and the school, the dimensions of collegial leadership at the school-level and teamwork for student success at the district-level are indicative of the not only the deployment of social capital by the organization needed to meet its mission as described by Forsythe and Adams (2004), but the social exchanges between and among the members of the organization.

For all schools and high-poverty schools, the district climate dimension of enabling structure indicated a low to moderate significant correlation on all four dimensions of the SCI. For all schools, the Pearson $r$ ranged from $.257$, $p < .05$ to $.319$, $p < .01$ with community engagement being the strongest. For high-poverty schools, the Pearson $r$ ranged from $.357$, $p < .05$ to $.475$, $p < .01$, also with community engagement being the strongest. In high-poverty schools, when there is an enabling structure provided by the district in place, positive school climate is evident; however, in low-poverty schools, the data from this research indicates that there was no significant relationship between the enabling structure provided by the district and school climate.

The district climate dimension of integrated superintendent leadership was found to be significantly correlated only to community engagement in all schools, $r = .294$, $p < .05$ and in high-poverty schools, $r = .369$, $p < .05$. In low-poverty schools, two negative relationships were found between integrated superintendent leadership and academic press, $r = -.033$, $p > .05$ and collegial leadership, $r = -.104$, $p > .05$. Given that the district climate index loaded on one single factor that explained 75.65% of the variance, integrated superintendent leadership, and that items in the subscale for integrated
superintendent leadership on the DCI relate mostly to items on the subscale of community engagement on the SCI, this finding is not surprising. The negative relationship in low-poverty schools between this dimension and academic press and collegial leadership could possibly indicate that in low-poverty schools, integrated superintendent leadership could impact the teacher’s ability to promote academic press and the principal’s ability to promote collegial leadership.

Data analyses revealed no significant relationship between district climate and student achievement at the school- or district-level except a low significant relationship at the district-level between teamwork for student success and English, $r = .381$, $p < .05$. Even when there is an open system as evidenced by the correlation between district climate and school climate along the dimensions of collegial leadership at the school-level and teamwork for student success at the district-level, there is no evidence that district climate impacts student achievement.

Data analyses of all schools regarding the correlations between the three dimensions of district climate and student achievement in English or mathematics afforded no significant relationships. In addition, data analyses of high-poverty schools regarding the correlations between the three dimensions of district climate and student achievement found no significant relationships except for a low significant relationship between mathematics and enabling structure, $r = .298$, $p < .05$. Data analyses of low-poverty schools regarding the correlations between the three dimensions of district climate and student achievement found no significant relationships except for a negative significant relationship between English and enabling structure, $r = -.422$, $p < .05$. 
Except for this one significant finding, negative relationships were also found in low-poverty schools between integrated superintendent leadership and teamwork for student success and student achievement for both English and mathematics with the Pearson $r$ ranging from -.129 to -.391, $p > .05$. District climate not only demonstrated little to no impact in high-poverty schools on student achievement, in low-poverty schools, the relationship between district climate and student achievement was adversely impacted. This also was not an expected finding of this study. Again, even when an open system between the district and school is evident, there is no relationship between student achievement and the deployment of social capital by the organization needed to meet its mission as described by Forsythe and Adams (2004).

Data analysis revealed a significant correlation at the school-level for all schools between school climate and English, $r = .505$, $p < .01$ and between school climate and mathematics, $r = .462$, $p < .01$. Likewise, there was a significant correlation found in school climate and student achievement in English in high-poverty schools, $r = .428$, $p < .01$, and a significant relationship was found in school climate and student achievement in mathematics in high-poverty schools, $r = .364$, $p > .05$. Again, indicated as an anomaly from other research, for low-poverty schools, no significant relationship was found between school climate and student achievement in either English or mathematics. Given that there was a significant difference found between the mean scale scores for both English and mathematics and school climate means between low- and high-poverty schools, this finding was not expected.

The four dimensions of school climate were significantly correlated to both English and mathematics in all schools with the Pearson $r$ ranging from .281 to .549,
p < .01. This finding was similar to findings in other studies (Hoy et al., 1991; Tschannen-Moran, et al., 2006). In high-poverty schools, only two dimensions of school climate, collegial leadership and academic press, revealed low to moderate significant relationships. In English and mathematics for collegial leadership, correlations coefficients indicated $r = .447$, $p < .01$, $r = .356$, $p < .01$, respectively, and, in English and mathematics for academic press, the Pearson coefficient indicated $r = .422$, $p < .01$, $r = .359$, $p < .05$, respectively. In low-poverty schools, two dimensions of school climate, academic press and community engagement, revealed low to moderate significant relationships. In English and mathematics for academic press, the Pearson coefficient indicated $r = .439$, $p < .05$, $r = .432$, $p < .05$, respectively, and, in English and mathematics for community engagement, the Pearson coefficient indicated $r = .406$, $p < .05$, $r = .407$, $p < .05$, respectively. The lack of significant relationships for high-poverty schools in the school climate dimensions of teacher professionalism and community engagement and for low-poverty schools in the school climate dimensions of teacher professionalism and collegial leadership as well as the lack of correlation between student achievement and school climate in low-poverty schools may be better analyzed using a multiple regression analysis and controlling for SES.

District Climate Index

Final data analyses of the 30-item instrument revealed that three components explained 85.98% of the variance, with one component, integrated superintendent leadership, loading 75.65% of the total variance. Two other factors, enabling structure and teamwork for student success, also emerged as components of district climate. The new instrument is related to the actions of the district that impact policy and personnel on the success of individual schools in
their respective districts. The stability of the factor structures in two separate samples provided
evidence of the construct validity of each subtest. Finally, the unit of analysis in all phases of
the investigation was the district, not the school. From the analyses, it appears that the three
aspects of district climate are organizational properties of the district, not the school.

When quality classroom instruction is a school district’s priority, both pressure
and support to improve teaching and learning in schools result in incrementally
increasing student achievement (Fullan et al., 2005). Unless district leaders have an
understanding not only of the organizational actions that reciprocate increased student
achievement, but also the district and school contexts in which those actions are
maximized, failure for many students, especially those who are disadvantaged, is likely to
continue. Limited in the sample size to only 26% of the districts in one state, the instru­
ment should be subject to further analysis to ensure that its factor structure is stable over
a wide range of populations and samples. However, the development of this index, at a
minimum, identifies three dimensions related to actions of the district: integrated
superintendent leadership, enabling structures, and teamwork for student success.

One of the three factors identified in the findings used to operationalize district
climate was integrated superintendent leadership. Waters and Marzano (2007) performed
a meta-analysis of 14 empirical studies completed since 1970 on district leadership and
student achievement and found a significant relationship between the two variables.
These findings suggest that when district leaders carry out leadership responsibilities
effectively, student achievement is positively affected. The meta-analysis identified five
district-level leadership responsibilities with statistically significant correlations with
average student academic achievement: collaborative goal setting (r = .29); non-
negotiable goals for achievement (.33); board alignments with support of district goals (r = .29); monitoring the goals for achievement (r = .27); and use of resources to support goals for achievement (r = .26). Although reform efforts can be monitored and managed by examining student outcomes, leadership is needed in order for increased district productivity (Leithwood et al., 2000).

Leithwood et al., (2000) described certain indicators and measures of transformational leadership that support district and school restructuring: providing vision and inspiration; modeling appropriate behavior; providing individualized support; providing intellectual stimulation; fostering commitment to group goals; encouraging high performance expectations; acknowledging good work; and encouraging individual development. The integrated superintendent leadership component of the DCI reflects virtually all of the indicators identified in these two studies.

A second factor used to operationalize district climate was enabling district structure. Fullan et al. (2005), Snipes et al. (2002), and Togneri and Anderson (2003) demonstrated through case studies of high and low performing districts that the environment in which schools operate is impacted by the broader macro community – the school district. Unlike reform efforts of the past that were centered on individual schools, some districts have focused on systemic district-level reform in which the instructional efforts of the district are more centralized and more support is provided to schools. This is characterized in high performing districts by professional collaboration of instructional staff.

The final factor used to operationalize district climate was teamwork for student success. Social capital is comprised of the social structures and cognitive dispositions that
act as a resource for collective action by the people within the organization (Forsyth & Adams, 2004). In open systems, social structures and the necessary cognitive dispositions of the members of the organization must be in place. The concept of “teamwork for student success” is connected to the support for the development of best practices that stabilize the organization and provide for the implementation new procedures that address system failure (Hoy, 2002; Hoy & Sweetland, 2000). Adler and Borys (1996) stated that these new procedures enable the organization to meet its’ mission, and in the case of school districts; that mission is increased student achievement.

Demonstrated in the literature regarding high-performing, high-poverty schools, district leadership and environment have an impact on student outcomes (Wenglinsky, 2002). In this study, in high-poverty schools, integrated superintendent leadership was not found to be significantly correlated to achievement. Integrated superintendent leadership explained 75.65% of the variance in the district climate index. In the high-poverty schools described in the 90/90/90 schools (90% minority, 90% poverty, 90% high-achieving), several common characteristics were noted: a focus on academic achievement, clear curriculum choices, frequent assessment of student progress, and an emphasis on writing (Reeves, 2000). Similar findings were indicated in other high-poverty schools (Balfanz & MacIver, 2000; Carter, 2000; Comer, 1997; Johnson & Asera, 1999; Levine & Lezotte, 1990; Scheerens, 2000). Coupled with literature regarding case studies of districts that have been successful in raising student achievement in the poorest schools (Anderson, 2003; Brady, 2003; Fullan et al., 2005; Hopkins, 2001; Snipes et al., 2002; Togneri & Anderson, 2003), the impact of the district in building an enabling structure in which social capital is not only maximized, but one in
which leadership from the district supports learning is critical if reform is to be made in low-performing, high-poverty schools. In this study, the one significant negative relationship was found for low-poverty schools between the district climate dimension of enabling structure and mathematics. Again, the lack of relationships between district climate and student achievement was not an expected finding of this study.

In summary, although this study did not find a relationship between district climate and student achievement; the factors and items that explained 85.98% of the variance in the district climate index were correlated to school climate at the school-level for all schools and for high-poverty schools. The reliability of the DCI as measured by the alpha coefficients of all three factors demonstrated that the instrument used to operationalize district climate was reliable: .988 for integrated superintendent leadership; .984 for enabling structure; and .933 for teamwork for student success. In addition, although there was no significant correlation found between district climate and school climate or student achievement and school climate in low-poverty schools, there was a significant correlation between school climate and student achievement in both English and mathematics for all schools and high-poverty schools.

Implications and Recommendations

Practical Implications

The findings of this study provide an operational measure for studying school districts and their impact on school climate and student achievement in high-poverty schools. The three dimensions of district climate identified in this study give context to what is known about superintendent leadership (Anderson, 2003; Leithwood et al., 2000; Waters & Marzano, 2007), district reform practices (Fullan et al., 2005; Snipes et al.,
2002; Togneri & Anderson, 2003), and school climate (Balfanz & MacIver, 2000; Levine & Lezotte, 1990; Scheerens, 2000; Tschannen-Moran et al., 2006) as related to increasing student achievement in high-poverty schools.

For high-poverty schools, the results of this study indicate that district climate is correlated to school climate, but not to student achievement. However, for high-poverty schools, this research demonstrated a correlation between school climate and student achievement for both English and mathematics. It is important to understand that having a positive district climate may be a precursor to having a positive school climate. The findings indicate that for districts with high-poverty schools, there was a correlation between a positive district climate and a positive school climate. Given what is known about the importance of leadership at the school-level, in schools in which the leadership in the building is coercive and not enabling, regardless of the district’s positive climate and role in supporting the school, more than likely positive school climate would not result. It is more than conceivable that a negative school climate would result from more factors other than those indicated in the district climate dimensions of integrated superintendent leadership, enabling structure, and teamwork for student success. The findings of this research indicate that in high-poverty schools when there is positive school climate, there is a more likely correlation to positive district climate. Likewise, in high-poverty schools, when there is evidence of high student achievement there is a more likely correlation to a positive school climate. As stated in the conceptual framework earlier in Chapter 1 of this study, the district and school are both open systems that support the organization’s mission of raising student achievement. The relationship between district climate, school climate and student achievement in high-poverty schools
reflects that the relationship between the constructs of district climate and school climate and school climate and student achievement is two-way. This is illustrated in Figure 6.

Figure 6

*Relationship between district climate, school climate and student achievement in high-poverty schools*
Research demonstrates that in high-performing, high-poverty schools, there is a clear focus on student learning; norm of continuous improvement; effective classroom observation and feedback for teachers; opportunities for students to learn; monitoring of student progress and use of student data for instructional improvement (Carter, 2000; Comer, 1997; Cotton, 2003; Fullan, 2003; Johnson & Asera, 1999; Kannapel et al., 2005). Further, Hoy and Hoy (2003) stated that although principals may take the lead in developing cooperative energy in the building, teachers often determine their own success or failure. Instructional leadership must not only result from the principal role, but must also result from teachers themselves (Hoy & Hoy, 2003; Spillane et al., 2003). Principals must ensure that academic excellence is a motivating factor in the school; support a continuous improvement process for teaching and learning; enable teachers to be at the center of the improvement process; provide support and obtain resources needed; keep abreast of the latest research related to improving student achievement; and celebrate excellence (Hoy & Hoy, 2003). Clearly, the significant correlation found between school climate and student achievement for high-poverty schools is indicative of these factors.

A second implication of this research is the critical role that leadership plays in maximizing the social capital and human capital in high-poverty schools. The principal does not operate in a vacuum. The principal’s role in his or her endeavor to improve or reform low-performing schools rests in part with his or her interactions with the school processes, some of which are defined by the dimensions of school climate, and in part with his or her interactions with district processes, some of which are defined by district climate.
Recommendations

The results of this study provide both a constitutive and operational definition of district climate supported by research (Anderson, 2003; Leithwood et al., 2000; Waters & Marzano, 2007). Finding not only a relationship between district climate and school climate in high-poverty schools, this study also demonstrated a relationship between school climate and student achievement in these schools. More research is needed to explore the relationships between the constructs of district climate and school climate in high-poverty schools. One question that needs to be answered is: How does social capital (i.e. human capital, district resources, community resources) impact each of the four dimensions of school climate and three dimensions of district climate? More importantly, this question must also be answered: How can a district support high-poverty schools in their effort to sustain positive school climate that impacts student achievement?

The DCI developed in this study should undergo further testing with different samples in different contexts. This study only included elementary schools – studies using the DCI at both the middle and high school-levels should be undertaken. Relationships between student achievement and district climate should be explored at different levels as well. The research around integrated superintendent leadership and impact on student achievement is important to address. The studies in the meta-analysis completed by Waters and Marzano (2007) were dated as early as 1970. In this era of high-stakes testing, it is important to have more recent data regarding the role of the superintendent in impacting student achievement. The relationship between superintendent leadership and student achievement is important as districts struggle with
the mandates of NCLB. As districts hire new superintendents and central office administrators, knowing what skills are needed by these leaders to make improvement in high-poverty, low-performing schools within the district needs to be explored.

Conclusion

The DCI is a reliable research tool that exemplifies a contemporary set of measures that maps the domain of district climate with elementary schools. Districts that reflect a climate in which there is strong, integrated superintendent leadership, in which enabling structures are inherent in the district’s overall day to day operations, and in which district and school leaders work together to promote student success foster an open, healthy school climate; schools with collegial principal leaders, highly professional teachers, and strong academic emphasis.

Although there has been much research on the four components of school climate, the relationship found in this study between district climate and school climate in high-poverty schools is important. This study provided empirical evidence that validated other research that maintained that certain school climate contexts contribute to increased student achievement (DiPaola, et al., 2005; Tschannen-Moran et al., 2006).

If a district can impact school climate in high-poverty schools through integrated superintendent leadership, enabling structures, and teamwork for student success, and school climate demonstrates a positive correlation to student achievement, then, there is hope for the nation’s poor. Howley et al. (1993) and Apple (1996) stated that declining economic conditions in many of the nation’s inner cities and poor, rural communities, make it undeniably clear that economic parity for the disadvantaged is dependent on education. Like district climate is a precursor to school climate, it is important to consider
that economic parity for the disadvantaged is a precursor to achieving the goals of NCLB. Noguera (2004) stated that the focus of what the district can do is based on what the district can afford to do, not necessarily on what needs to be done. Although districts will have to continue to negotiate resources in order to hire highly qualified teachers, which are necessary for improved student achievement (Darling-Hammond, 2000; Darling-Hammond & Sykes, 2003; Peske & Haycock, 2006), the knowledge of what it will take by the district to keep the momentum of improvement moving forward in a positive direction is imperative.


*Improving basic programs operated by local education agencies (Title I, Part A).* (n.d.). retrieved October 6, 2007, from


Appendix A

School Climate Index (SCI)
School Climate Index (SCI)

6 point scale (1-Strongly Disagree to 6- Strongly Agree)

Collegial Leadership

1. The principal explores all sides of topics and admits that other opinions exist.
2. The principal treats all faculty members as his or her equal.
3. The principal is friendly and approachable.
4. The principal puts suggestions made by the faculty into operation.
5. The principal is willing to make changes.
6. The principal lets faculty know what is expected of them.

Teacher Professionalism

1. The interactions between faculty members are cooperative.
2. Teachers help and support each other.
3. Teachers respect the professional competence of their colleagues.
4. Teachers in this school exercise professional judgment.
5. Teachers accomplish their jobs with enthusiasm.
6. Teachers “go the extra mile” with their students.
7. Teachers provide strong social support for colleagues.

Academic Press

1. Students respect others who get good grades.
2. Students try hard to improve on previous work.
3. The school sets high standards for academic performance.
4. Students seek extra work so they can get good grades.

5. Academic achievement is recognized and acknowledged by the school.

6. The learning environment is orderly and serious.

Community Engagement

1. Community members attend meetings to stay informed about our school.

2. Parents and other community members are included on planning committees.

3. Organized community groups (e.g. PTA, PTO) met regularly to discuss school issues.

4. Community members are responsive to requests for participation.

5. School people are responsive to the needs and concerns expressed by community members.

6. Our school is able to marshal community support when needed.

7. Our school makes an effort to inform the community about our goals and achievements.

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Appendix B

District Climate Index (DCI)
39 Item
District Climate Index

39 Factors

- EO  Enabling Organization
- DL  Dynamic Leadership
- AD  Accountability of the District
- AP  Administrative Professionalism
- PM  Progress Monitoring

30 Factors:

- ISL  Integrated Superintendent Leadership
- ES  Enabling Structure
- TS  Teamwork for student success
- OUT  Item was not a final factor

*6 point scale (1-Strongly Disagree to 6- Strongly Agree)*

<table>
<thead>
<tr>
<th>Factors</th>
<th>Item #</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISL DL</td>
<td>(30) (39) in Survey</td>
<td>The superintendent is willing to make changes.</td>
</tr>
<tr>
<td>ISL DL</td>
<td>7</td>
<td>The superintendent is friendly and approachable.</td>
</tr>
<tr>
<td>ISL DL</td>
<td>12</td>
<td>The superintendent is responsive to the needs and concerns expressed by administrators.</td>
</tr>
<tr>
<td>ISL DL</td>
<td>17</td>
<td>The superintendent is responsive to the needs and concerns expressed by community members.</td>
</tr>
<tr>
<td>ISL DL</td>
<td>33</td>
<td>Item was not a final factor</td>
</tr>
<tr>
<td>Factors</td>
<td>Item #</td>
<td>Description</td>
</tr>
<tr>
<td>---------</td>
<td>--------</td>
<td>-------------</td>
</tr>
<tr>
<td>ISL DL</td>
<td>28</td>
<td>The superintendent explores all sides of topics and admits that other opinions exist.</td>
</tr>
<tr>
<td>ISL DL</td>
<td>2</td>
<td>The superintendent treats all administrators as his or her equal.</td>
</tr>
<tr>
<td>ISL AD</td>
<td>8</td>
<td>The superintendent maintains definite standards of performance.</td>
</tr>
<tr>
<td>ISL DL</td>
<td>23</td>
<td>The superintendent puts suggestions made by administrators into operation.</td>
</tr>
<tr>
<td>ISL AD</td>
<td>13</td>
<td>The superintendent lets administrators know what is expected of them.</td>
</tr>
<tr>
<td>ES AD</td>
<td>39</td>
<td>Our district has implemented an effective process for monitoring progress and achieving goals.</td>
</tr>
<tr>
<td>ES AD</td>
<td>18</td>
<td>Our district incorporates student assessment data into all appropriate decisions.</td>
</tr>
<tr>
<td>ES AD</td>
<td>37</td>
<td>Our district systematically monitors the progress of school improvement.</td>
</tr>
<tr>
<td>ES PM</td>
<td>5</td>
<td>Data on district operations are reviewed regularly to determine progress in achieving goals.</td>
</tr>
<tr>
<td>Factors</td>
<td>Item #</td>
<td>Description</td>
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<tr>
<td>---------</td>
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</tr>
<tr>
<td>ES AD</td>
<td>29</td>
<td>District supervision/evaluation criteria include a measure of staff accountability.</td>
</tr>
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<td>ES EO</td>
<td>38</td>
<td>District policies and procedures recognize that student learning supersedes administrative convenience.</td>
</tr>
<tr>
<td>ES PM</td>
<td>26</td>
<td>The monitoring process results stimulate significant improvements in the district.</td>
</tr>
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<td>ES PM</td>
<td>31</td>
<td>Results of the monitoring process lead me to review my own practices.</td>
</tr>
<tr>
<td>ES AD</td>
<td>24</td>
<td>Members of district departments have a detailed understanding of how their work relates to that of other departments.</td>
</tr>
<tr>
<td>ES EO</td>
<td>22</td>
<td>The organizational structures of the district facilitate the day-to-day work of all staff groups.</td>
</tr>
<tr>
<td>ES AD</td>
<td>3</td>
<td>Staff members are aware of our district mission and goals.</td>
</tr>
<tr>
<td>ES EO</td>
<td>32</td>
<td>District leaders assist staff members in finding resources to accomplish their goals.</td>
</tr>
<tr>
<td>ES EO</td>
<td>21</td>
<td>District support to my school reflects the school's unique needs.</td>
</tr>
<tr>
<td>ES EO</td>
<td>36</td>
<td>I can communicate with most other members of the district.</td>
</tr>
<tr>
<td>Factors</td>
<td>Item #</td>
<td></td>
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<tr>
<td>(30)</td>
<td>(39)</td>
<td>in</td>
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</table>

<table>
<thead>
<tr>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrators provide strong social support for colleagues.</td>
</tr>
<tr>
<td>Principal create learning environments that are orderly and serious.</td>
</tr>
<tr>
<td>Administrators respect the professional competence of their colleagues.</td>
</tr>
<tr>
<td>Administrators help and support each other.</td>
</tr>
<tr>
<td>Administrators are committed to helping students.</td>
</tr>
<tr>
<td>The interactions between and among administrators are cooperative.</td>
</tr>
<tr>
<td>I have confidence in the integrity of my colleagues.</td>
</tr>
<tr>
<td>District leaders visit schools on a regular basis.</td>
</tr>
<tr>
<td>Our district established informal committees that consider alternative educational practices.</td>
</tr>
<tr>
<td>Change and improvement are necessary in my job.</td>
</tr>
<tr>
<td>District leaders respect individual opinions when introducing changes that affect their work.</td>
</tr>
<tr>
<td>The structure of the district departments is helpful with day-to-day work.</td>
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<tr>
<td>Factors</td>
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<td>---------</td>
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<td>(30) (39)</td>
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<td>OUT EO</td>
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<td>OUT AP</td>
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<td>OUT AD</td>
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Appendix C

Letter to Superintendent Requesting Permission to Study
Letter to Superintendent Requesting Permission to Study

I am completing my dissertation at the College of William and Mary with a focus on finding the relationships that may or may not exist between district climate and student achievement. When districts establish instruction as a priority, they provide pressure and support for improved teaching and learning for schools, ratcheting improved student achievement (Fullan, Rolheiser, Mascall and Edge, 2005). Until districts have an understanding not only of the actions that reciprocate increased student achievement, but the context in which those actions are maximized, then failure for the poorest students in the poorest communities will continue.

This study will examine district and school climate and student achievement in 40 low-poverty (schools with less than 30% free and reduced lunch) and 40 high-poverty (schools with more than 60% free and reduced lunch) schools in 40 Virginia school districts. This study will compare student achievement and the impact of climate at the school- and district-levels in 40 low- and high-poverty schools. As required by good research practices, I am over sampling and have identified 160 schools and 65 districts as part of this research.

I would like to include your district in this study. My research requires that professional central office personnel and professional school staff (teachers and administrators) from schools and districts identified in the enclosed packet(s) (meet the criteria of high- or low-poverty) complete a voluntary survey. This is a statewide study to attempt to identify factors related to well-functioning schools and districts. During the
months of August and/or September, each participating school and district will be provided with a report detailing the data collected. Responses will be confidential and the school or district name will not be associated with any results of this study. The report will enable the schools and districts that participate in the study to identify the relationships among district administrators, building administrators and teachers that are contributory to positive district climate and school climate. The data should assist the district administrators and schools in their effort to improve.

Attached, please find my approved prospectus, the three survey instruments used to gather pertinent data needed for the study, participant consent forms, instructions to principals and central office administrators and individual packets for each of the schools identified in your district as well as a packet with surveys to be distributed to professional central office personnel.

I am asking that at a regularly scheduled meeting with central office staff or at a principal’s regularly scheduled faculty meeting you ask a member of your central office staff (you could identify yourself) or principals in the identified schools to dedicate 10-20 minutes to ask staff to voluntarily complete the enclosed surveys. At the school-level, the principal would be asked to provide ½ of his/her staff with Survey A and the other ½ of his/her staff Survey B. Survey C is to be provided to central office personnel. I have included return postage on each envelope. If you should need additional forms completed for this research as required by your division, please email me at Kathleen.Smith@doe.virginia.gov.
I am very thankful for your effort to participate in my research and appreciate all of your support. If for some reason your division cannot participate, I understand completely.

Sincerely,

Kathleen M. Smith
Appendix D

Instructions to Central Office and Building Administrators
Instructions to Central Office Administrators

Lead Central Office Administrator

You have been assigned the lead central office administrator for collecting data on the enclosed surveys. The envelope you have been provided contains the following:

15 Type C surveys

15 Consent forms – Keep all consent forms, except for your consent form, on file. Return only your consent form in the envelope.

I am asking that at a regularly scheduled meeting with central office staff, you dedicate 10-20 minutes to voluntarily completing the enclosed survey. The number of staff at the meeting will determine the number of surveys needed. I have included postage for up to 40 surveys, recognizing that in most cases the number may be much less than the 15 surveys provided.

After consent forms and surveys have been distributed to each person attending the meeting, please read the following:

This voluntary survey is part of the data needed for a statewide study to attempt to identify factors related to well-functioning schools and districts. During the months of August and/or September, each participating school and district will be provided with a report detailing the data collected. Responses will be confidential and the school or district name will not be associated with any results.
of this study. The report will enable the school and district to identify the
relationships among district administrators, building administrators and teachers
that are contributory to positive district climate and school climate. The data
should assist the district administrators and schools in their effort to improve. You
may refuse to answer any question asked and you may discontinue participation at
any time. You will be asked to sign a consent form, if you would like a copy of
the consent form, one will be provided.

Once surveys are completed, please place in the envelope. Postage has been
provided for return mail. Dispose of any unused surveys or statements of confidentiality.
For purposes of confidentiality, keep all consent forms, except for your consent form, on
file. Return only your consent form in the envelope.
Instructions to Building Administrators

Principal Administrator

Your school has been asked to complete the enclosed surveys. The envelope you have been provided contains the following:

20 Type A surveys (white)

20 Type B surveys (ivory)

40 Consent forms (white) -- Keep all consent forms, except for your consent form, on file. Return only your consent form in the envelope.

I am asking that at a regularly scheduled meeting with staff, you dedicate 10-20 minutes to voluntarily completing the enclosed survey. The number of staff at the meeting will determine the number of surveys needed. I have included return postage for up to 40 surveys.

Please distribute ½ of the staff Type A surveys, and ½ of the staff Type B surveys. After consent forms and surveys have been distributed to each person attending the meeting, please read the following:

This voluntary survey is part of the data needed for a statewide study to attempt to identify factors related to well-functioning schools and districts. During the months of August and/or September, each participating school and district will be provided with a report detailing the data collected. Responses will be confidential and the school or district name will not be associated with any results.
of this study. The report will enable the school and district to identify the relationships among district administrators, building administrators and teachers that are contributory to positive district climate and school climate. The data should assist the district administrators and schools in their effort to improve. You may refuse to answer any question asked and you may discontinue participation at any time. You will be asked to sign a consent form, if you would like a copy of the consent form, one will be provided.

Once surveys are completed, please place in the envelope. Postage has been provided for return mail. Dispose of any unused surveys or statements of confidentiality. For purposes of confidentiality, keep all consent forms, except for your consent form, on file. Return only your consent form in the envelope.
Appendix E

Informed Consent Form
Informed Consent Form
The College of William & Mary

The general nature of this study entitled "Improving Student Achievement in High-Poverty Schools: The Impact of District Climate and School Climate" conducted by Kathleen M. Smith has been explained to me. I understand that I will be asked to dedicate 20 minutes of a faculty meeting or central office meeting to voluntarily filling out the survey provided to me. I further understand that all responses will be confidential and that the school name or district name will not be associated with any results of this study. I know that I may refuse to answer any question asked and that I may discontinue participation at any time. I am aware that I may report dissatisfactions with any aspect of this experiment to the Chair of the Protection of Human Subjects Committee, Cynthia Corbett, 757-221-3966. My signature below signifies my voluntary participation in the project.

If I am the principal or district administrator administering this survey to my faculty or co-administrators, I validate that each person completing the survey has completed the consent form, received a copy of the consent form (if requested), and understands that that confidentiality will be maintained.

________________________  __________________________
Date                   Signature

THIS PROJECT WAS FOUND TO COMPLY WITH APPROPRIATE ETHICAL STANDARDS AND WAS EXEMPTED FROM THE NEED FOR FORMAL REVIEW BY THE COLLEGE OF WILLIAM AND MARY PROTECTION OF HUMAN SUBJECTS COMMITTEE (PHONE: 757-221-3966) ON 2/22/07 AND EXPIRES ON 2/22/08.
Appendix F

Final 30-Item District Climate Index
Final 30-Item District Climate Index

6 point scale (1-Strongly Disagree to 6- Strongly Agree)

<table>
<thead>
<tr>
<th>Item #</th>
<th>Superintendent Leadership – 9 items</th>
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<tbody>
<tr>
<td>7</td>
<td>The superintendent is willing to make changes.</td>
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<table>
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<tr>
<th>Item #</th>
<th>Enabling Structures – 14 Items</th>
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</thead>
<tbody>
<tr>
<td>39</td>
<td>Our district has implemented an effective process for monitoring progress and achieving goals.</td>
</tr>
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<td>Item #</td>
<td>Teamwork for Student Success – 7 Items</td>
</tr>
<tr>
<td>--------</td>
<td>----------------------------------------</td>
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</tr>
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<td>4</td>
<td>The interactions between and among administrators are cooperative.</td>
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<td>15</td>
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