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URBAN ELEMENTARY AND MIDDLE SCHOOL TEACHERS' PERCEPTIONS OF
INSTRUCTIONAL TIME, RESOURCES AND FACILITIES AND THEIR
RELATIONSHIP TO STUDENT ACADEMIC ACHIEVEMENT: READING AND
MATHEMATICS

by

Rosalind Renee Martin

A Dissertation

Submitted in Partial Fulfillment of the

Requirements for the Degree of

Doctor of Education

Major: Leadership and Policy Studies

The University of Memphis

December, 2012

DEDICATION

This dissertation is dedicated to my devoted husband Ron Martin and my wonderful children: Tekeya, Charisse, Deshanta, and Alex.

Ron your love, support, and prayers encouraged me when I was discouraged.

Thank you for believing in me when I did not believe in myself.

You are truly my soul mate!

In memory of my dear mother, Etherine Hines

Acknowledgements

Jesus you are the center of my joy. Thank you for being my company keeper in the early morning hours when my friends and family were sleeping. When I was weak and felt like I couldn't go on. You restored my energy and I pressed on. Thank you, Jesus for being my "rock."

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is not given to swift or the strong; but to he/she that endures to the end. Thank you for loving me, marrying me, and taking excellent care of me! I love you

ABSTRACT

Martin, Rosalind R. Ed.D. The University of Memphis, December, 2012. Elementary and Middle School Teachers' Perceptions of Instructional Time, Resources and Facilities and Their Relationship to Student Academic Achievement: Reading and Mathematics. Major Professor: Larry McNeal

Federal and state laws rely on multiple indicators to measure and improve student performance. However, inadequate attention has been directed at school climate as a means to improve student academic achievement even though there is a diverse body of research linking school climate to student achievement and academic performance (Kober, 2001; Loukas & Robinson, 2005; Shindler, 2004). The specific purpose of this study is to examine elementary and middle school teachers' perceptions of school climate dimensions such as: use of instructional time, access to resources, and adequate facilities, in relationship to student academic achievement in an urban school district. The researcher used secondary data to analyze teachers' perceptions related to time, resources, and facilities and their relationship to student academic achievement.

According to the data results, overall, elementary and middle school teachers believe there is: good use of their time during the school day, time to collaborate, time to meet the needs of students, and adequate non-instructional time. As with the second aspect regarding the level of access teachers have to instructional resources, teachers feel they have access to the resources needed. The third aspect addressed in the results is related to teachers' perceptions about the overall quality of the facilities in which they work. According to the data collected, teachers believe that the school facilities are clean and

well maintained, and that their work space is sufficient and supportive for the teaching and learning process. The last set of data analyzed the relationship between the mean results from elementary and middle school teachers' perceptions about the related items concerning time, resources, and facilities and that of schools whose achievement results were proficient in reading and math on the 2010 Tennessee Comprehensive Achievement Program (TCAP) assessment. Teachers from schools that had proficient scores in reading and math, believed that there were too many interruptions during instructional time, class size matters when student achievement is considered, and there is a need to protect teachers from duties that interfere with their responsibility to educate students.

Conclusions from this study indicated that there were no significant differences between elementary and middle school teachers' perceptions about use of instructional time, access to resources or facilities. However, there was a difference in teachers' perceptions that worked in schools with proficient reading and math scores on standardized test.

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Chapter 1

Introduction

With the enactment of the No Child Left Behind Act (NCLB) in 2001, school districts are under pressure to find effective means to continue to improve student performance. Urban school leaders face unique challenges, because schools in urban areas are often overcrowded, under-funded, and thereby often underperform in academic areas. Leadership is second only to teaching among school influences on student success, and its impact is greatest in schools with the greatest needs. One of the biggest challenges facing urban schools is that they continue to be underfunded. Problems also stem from the condition of the buildings in which they learn the condition of the city, and the condition of their home environment (Carnegie Foundation, 1988).

Although students in urban schools are more likely to be students of color, English language learners, and eligible for a free or reduced price lunch, the schools they attend continue to lack adequate financial resources. However, many urban schools are making strides towards improvement. No Child Left Behind is important in the efforts to continue this progress, and urban districts must continue effective practices that have brought about promising results: high standards, strong and stable leadership, better teaching, more instructional time, regular assessments, stronger accountability, extra resources, and efficient operations (Council of Great City Schools, 2003).

Federal and state laws rely on multiple indicators to measure and improve performance such as teacher accountability, annual student assessments, and progress reports. However, inadequate attention is directed at school climate as a means to

improve student academic achievement even though there is a diverse body of research linking school climate to student achievement and academic performance (Kober, 2001; Loukas & Robinson, 2004; Shindler, Jones, Taylor, & Cadenas 2004). Although there is not a singular definition for school climate, most researchers agree that a positive school climate exists when all students feel comfortable, wanted, valued, accepted, and secure in an environment where they can interact with caring people they trust (Loukas & Robinson 2004). Collectively and individually, a positive school climate can have a major impact on the success of all students in the school (Loukas & Roalson, 2006). Moreover, a positive school climate can have a major impact on teachers and their job satisfaction and efficacy (Taylor & Tashakkori, 1995).

The elements that comprise a school's climate are extensive and complex (Cohen, 2009). There is a preponderance of evidence in the literature that suggest a strong relationship between school climate and academic achievement at the school level. Additionally, specific research on school climate in high-risk urban environments indicates that a positive, supportive, and culturally conscious school climate can significantly shape the degree of academic success experienced by urban students (Haynes & Comer, 1993). One of the mechanisms that may explain how school climate affects individual outcomes is school connectedness (Loukas, 2007). School connectedness is defined as student perceptions of belonging and closeness with others at the school. Some researchers consider school connectedness as a component of school climate that is richly impacted by relationships within the school building (Loukas, 2007).

Climate is also a major part of teacher working conditions (Cohen, 2009). The importance of teacher working conditions is magnified by the teacher attrition problems plaguing schools—especially in the United States' chronically hard-to-staff urban and rural schools (Darling-Hammond, 2003). According to Learning First Alliance (LFA), basic working conditions in high-poverty, low-performing schools are often far worse than any professional should be asked to tolerate, and it is hardly surprising that such conditions are a major cause of high teacher turnover in many urban schools (Emerick, Hirsch, & Barry, 2005). The report predicts that even excellent teachers struggle when faced with poor facilities, a lack of resources, and intrusions on instructional time including inadequate preparation time (Emerick et al., 2005).

Various researchers have studied the relationship between school climate and academic achievement over the past 30 years, but elements such as school instructional time, access to instructional resources, the overall facilities, and their relationship to academic achievement have not received adequate attention. This researcher believes that these three elements are critical to student performance in urban, low-income, high-risk elementary and middle schools and therefore proposes this quantitative study on the relationship between these variables and student achievement as teachers in these schools perceive it.

Background of the Study

According to the National Center for Education Statistics (2010), many Americans believe that urban schools are failing to educate the students they serve. The perception is that urban students are floundering in an environment of disruption,

violence, decaying buildings, poor quality teaching, and scant resources. According to these reports, students in these high-risk schools have lower levels of achievement, low high school completion rate, low higher education completion rate, and low employability rate (Carnegie Foundation, 1988; Louis & Miles, 1990).

Researchers and educators, alike, often link the performance of urban youth to home and school environments that fail to foster educational and economic success (Black, 2003; Dibbon, 2004; Green, 2009; Shang, 2004). Moreover, urban educators report the growing challenges of educating inner-city youth who are increasingly presented with problems such as poverty, limited English proficiency, family instability, and poor health (Carnegie Foundation, 1988). Admittedly, inequalities in education exist, especially in urban schools, from the textbooks provided to the teacher qualifications, which in turn, ultimately affect the quality of education that inner-city children are receiving (Freiberg, 1998; GAO, 1995; Lewis & Sugai, 1999). Socio-economic class segregates neighborhoods and the indigent population often lacks the same educational opportunities as the suburban population. The majority of U.S. urban schools are in poor physical condition, and nearly one-quarter are overcrowded, pressuring school systems to invest in both improving existing facilities and adding new facilities to accommodate growing student enrollments (GAO, 1995; Lewis & Sugai, 1999). The disproportion in construction spending across the nation is consistent with national studies showing that during the 1990s, schools serving high proportions of low-income and minority students are more likely to have inadequate facilities (GAO, 1995).

In addition to the many challenges plaguing urban, low-income, high-risk schools and students, several factors can have a positive impact on urban education and level the field for improving student achievement. One of the most critical is time. Teachers need time to meet the needs of all students (Emerick et al, 2005; Finn, Fish, & Scott, 2008). They need time to adequately plan, collaborate with colleagues, attend professional development workshops, and time to physically rest. Another factor is resources. Instructional resources should be readily available to all teachers. Textbooks, technology, instructional supplies, and required office equipment should be easily accessible to teachers. Lastly, facilities and the classroom-learning environment should be such that teachers feel safe and have adequate space for teaching. With a firm understanding of instructional time, resources, and facilities, student achievement can soar above federal, state, and local expectations (Cohen, 2006).

In conclusion, the crisis in urban schools and the achievement gap between upper-income and lower-income students is a monumental problem facing school districts all across the country (Education Report, 2011). Too few students are graduating from public schools adequately prepared for college or a career. The nation's commitment to provide a free and public education in order to prepare children to participate in social equality is not living up to the promise (National Center for Education Statistics, 2010).

Statement of the Problem

Multiple elements help to define school climate and its dimensions. The focus of an effective school climate is often on relationships/quality interactions, parental/community involvement, order and discipline, trust and feelings of safety, and

classroom overcrowding (U.S. Department of Education, 2000). However, there is insufficient research on the elements of instructional time, resources and facilities and their relationship to student academic achievement. There are even fewer studies on teachers' perceptions of these elements and their affect student achievement. School climate not only affects the students it also affects the teachers sense of satisfaction and contributes to higher retention (Taylor & Tashakkori, 1995). Lezotte (1989) noted that teacher perceptions of school climate and culture could affect their ability to connect with the student thus affecting their ability to be effective teachers. Since teachers are primarily responsible for educating students, it is imperative that their perspective be added to the research in this field. This study examines teachers' perceptions of the school climate elements of instructional time, resources, facilities and the relationship to student academic achievement in elementary and middle schools in an urban school district.

Significance of the Study

The study adds to the research on school climate as it pertains to the understudied school academic achievement as it relates to instructional time, resources, and facilities and academic achievement of elementary and middle school students. School leaders may benefit from the study by ensuring that all school climate elements are provided and nurtured to improve the academic achievement of students. In addition, college leadership departments that have principal preparation programs can use the study findings to improve student's knowledge of the role of school climate in improving student academic achievement.

Purpose of the Study

The purpose of this study is to examine elementary and middle school teachers' perceptions of the school climate dimensions of instructional time, resources, and facilities and their relationship to student academic achievement in an urban school district.

Research Questions

The study is guided by the following research questions:

1. How do urban elementary and middle school teachers perceive the use of instructional time at their schools and do these perceptions differ by school type?
2. How do urban elementary and middle school teachers perceive the level of access to instructional resources at their schools and do these perceptions differ by school type?
3. How do urban elementary and middle school teachers perceive the general quality of facilities at their schools and do these perceptions differ by school type?
4. What relationships are observed between urban elementary and middle teachers' perceptions of the use of instructional time, their access to resources, and the quality of facilities and student achievement in reading and math?

Limitations of the Study

The study is limited to the following:

1. The study is limited to data from a preexisting database.
2. The study is limited to the responses of the participants of elementary and middle school teachers in an urban district.

3. The study is limited to the accuracy of the responses of elementary and middle school teachers in an urban district.
4. The study is limited to the school climate instrument used to collect data.
5. The study is limited to the questions asked in the survey instrument.

Delimitations of the Study

The delimitations of the study are as follows:

1. The study is delimited to elementary and middle school teachers in an urban district.
2. The study is delimited to instructional time as perceived by teachers in an urban district.
3. The study is delimited to resources as perceived by teachers in an urban district.
4. The study is delimited to facilities as perceived by teachers in an urban district.

Definition of Terms

The following terms are used throughout this study to establish a general understanding of the major concepts driving this research.

1. **Academic Achievement:** The extent to which students improve from one year to the next. The Tennessee Department of Education (2004) defined adequate yearly progress (AYP), as the level of proficiency students must achieve in mathematics, reading, and writing. The Tennessee Comprehensive Academic Program (TCAP)

is the assessment instrument used to measure student achievement. In this study math and reading achievement are examined.

2. Facilities: The physical condition of the school, clean air, good light, safe, and comfortable learning environment (Cohen, 2009).
3. Instructional Time: Opportunities for teachers to understand new concepts, learn new skills, develop new attitudes, research, discuss, reflect, assess, try new approaches and integrate them into their practice; and opportunities to plan their own professional development (Ingersoll, 2002).
4. Perceptions: The way we judge or evaluate others; the process by which people attach meaning to experiences (Eggen & Kauchak, 2001).
5. Resources: classroom supplies, technology equipment, adequate textbooks, community stakeholders, central office support, and additional personnel to meet the needs of all students (Schneider, 2002).
6. School Climate: School climate reflects the physical and psychological aspects of the school that are more susceptible to change and that provide the preconditions necessary for teaching and learning to take place. School climate is evident in the feelings and attitudes about a school expressed by students, teachers, staff and parents—the way students and staff “feel” about being at school each day (Cohen, 2009).

Theoretical Framework

The theoretical foundation for this study draws on theories from psychological research on motivation, more specifically, Frederick Herzberg's, (1959) Two-Factor

Theory of Motivation and Bernard Weiner's (1974) Attribution Theory Framework. The theories of motivation explain the behaviors and attitudes of employees, and aid this researcher in developing the foundation for this study (Rowley, 1996; Weaver, 1998). Herzberg's (1959) theory serve as the primary theory for this study and provide context for the various factors that lead to teacher's job satisfaction and dissatisfaction. Weiner's theory provides the foundation for initial discussions on how to approach behavior modifications to offset the impact of teachers' adverse perceptions of school climate on student achievement. The theoretical framework explained in detail below clarifies and guides the research; unify the data on the specific dimensions of school climate, teacher's perceptions, and its effect on the student achievement.

Frederick Herzberg (1959) performed studies to understand employees' attitudes and motivational factors within the work environment that caused job satisfaction or dissatisfaction. Herzberg interviewed employees and asked them to share what caused pleasure and displeasure on their jobs. He found that the factors causing satisfaction were different from the factors that caused dissatisfaction. He developed the motivation-hygiene theory to explain his findings. Those things that satisfied employees were called motivators and those things that dissatisfied employees were called hygiene factors. Herzberg used the term hygiene in the sense that they are considered maintenance factors that are necessary to avoid dissatisfaction, but do not provide satisfaction by themselves. Overall, his research included six motivators ranked according to importance to job satisfaction: achievements, recognition, work itself, responsibility, advancement, and growth. Herzberg adopted many ideas of David McClelland to describe achievement

(Herzberg, 1959), in that, McClelland (1985) and Herzberg described achievement as being more important than material or financial reward, and recognition as the acknowledgment by others for a job well done or personal accomplishment. According to Herzberg (1959), the third motivator, *the work itself*, is the actual content of the job and its effect on the employee as determined by whether the job is characterized as interesting or boring, varied or routine, creative or stultifying, excessively easy or excessively difficult, challenging or non-demanding. *Responsibility*, the fourth highest motivator leading to job satisfaction refers to the employee's control over his or her own job or being given the responsibility for the work of others. Herzberg describes *advancement* as the actual change in upward status in the company. For example, a promotion within the school district as a leader or manager can be considered a motivator. According to Herzberg (1966), least motivator for job satisfaction is *growth*. *Growth* is described as the actual learning of new skills, with greater possibility of advancement within the current occupational specialty as well as personal growth.

In contrast to the motivators that lead to job satisfaction, Herzberg describes hygiene factors as those things that cause dissatisfaction on a job. Hygiene factors are influenced by the culture of the organization. The core hygiene factors (dissatisfiers) ranked in order of importance include: company policy, supervision, interpersonal relationships, working conditions, and salary. Herzberg describes company policy, the highest ranked factor leading to dissatisfaction, as one's feelings about the adequacy or inadequacy of the company's organization and management. This includes poor communications, lack of delegated authority, policies, procedures, and rules, etc.

Supervision relates to the competency or technical ability of the supervisor and his/her willingness to teach or delegate authority, fairness, and job knowledge. The interpersonal relationship between the worker and his or her superiors, subordinates, and peers is a key hygiene factor that determines the level of job dissatisfaction. This includes both job related interactions and social interactions within the work environment. Herzberg (1959) reported that working conditions are the factors that involve the physical environment of the job such as: amount of work, facilities for performing work, light, tools, temperature, space, ventilation, and general appearance of the work place. It is this factor that is particularly critical to this research. Finally, the remaining factor leading to dissatisfaction is salary in all of its forms including compensation, wage or salary increases, and/or unfulfilled expectation of increases.

The key to understanding Herzberg's Motivation-Hygiene Theory (Herzberg, 1966) is that the factors that involve job content (motivational factors) can lead to job satisfaction; in as much, satisfied workers are willing to work harder and go beyond the standard when needed which can result in increased productivity. In the education field, this translates to a satisfied teacher being willing to work extra hours and dedicate more time and energy to pursue common outcomes with school administrators and students. On the other hand, factors that involve job context (hygiene factors) can lead to job dissatisfaction, where dissatisfied workers continue to work, but their willingness to put forth extra effort is limited or non-existent. Such dissatisfaction may not reduce productivity, but it does not contribute to increased productivity. Again, in the education

field, this translates to a dissatisfied teacher arriving to school every day and effectively teaching academic standards, but not contributing to extra-curricular activities.

The second theory that guides the researcher in the review of the data and its implications is Weiner's theory of attribution (1980). This is one of the most influential theories of academic motivation. The main principle of the attribution theory as it applies to motivation is that a person's own perceptions or attributions for success or failure determine the amount of effort the person expends on an activity in the future. The researcher examines the data to see if this theory's assumption that people will interpret their environment in such a way to maintain a positive self-image is true. Will teachers attribute their success or failure to factors that enable them to feel as good as possible about themselves? Although this topic is not the focus of this study, knowledge and understanding of this theory support the implications and future recommendations.

Organization of the Study

This dissertation consists of five chapters and is organized in the following manner: Chapter 1 presents the introduction and background to the study, problem statement, statement of purpose, questions guiding the research, limitations of the research, definition of terms, statement of significance, and the theoretical foundational support for this study. Chapter 2 contains the literature review pertinent to the history of school climate, leadership theories that influence school climate, and aspects of school climate. Chapter 3 outlines the methodology for analyzing the data and describes the instrument used to collect the data. Chapter 4 presents and analyzes the data collected

and answers the research questions. Chapter 5 includes the summary of results, conclusions and associated recommendations related to the study.

CHAPTER 2

Literature Review

This chapter examines three dimensions of school climate found in the literature. The literature also explores the information about teacher working conditions in urban settings and the relationship between these variables and teachers' motivation and overall job satisfaction. As part of this study, a close review of elementary and middle school teachers' perceptions of instructional time, resources available in the educational environment, and facilities as a place for effective teaching and learning as they relate to student academic achievement are discussed. These components provide the reader with a broad understanding of school climate, teacher work environments, and student learning environments and lay the foundation for answering the following research questions:

1. How do urban elementary and middle school teachers perceive the use of instructional time at their schools and do these perceptions differ by school type?
2. How do urban elementary and middle school teachers perceive the level of access to instructional resources at their schools and do these perceptions differ by school type?
3. How do urban elementary and middle school teachers perceive the general quality of facilities at their schools and do these perceptions differ by school type?
4. What relationships are observed between urban elementary and middle teachers' perceptions of the use of instructional time, their access to resources, and the quality of facilities and student achievement in reading and math?

Urban School Climate

The context for this study is centered on the climate of schools in urban, low-income settings. Durket (2009) describes urban education as poorly funded, low achieving school, whose population is of low economic status. More and more students arrive at their urban schools with problems such as poverty, limited English proficiency, family instability, discrimination, disability, malnutrition, and poor health. According to Cohen (2006), students in urban schools have poorer levels of achievement, low high school and higher education completion rates which results in decreased employability. Considering Weiner's (1980) theory of attribution premise, the poor levels of achievement and low high school completion rates may result from how teachers feel about instructional time, resources availability, and the facilities in which they work that attributes to the aforementioned deficiencies.

Unfortunately, children, especially from poor families are more likely to attend schools with high rates of student turnover during the school year, and there is clear evidence that students learn less under such circumstances (Cohen, 2010). For example, some of Chicago's public schools have a 10% teacher turnover rate per year and some classrooms can have at least 5% new students arrive during the year. Such prevailing implications as previously mentioned about the conditions in urban school settings ignited various reports and testimonies about the dilapidating conditions in urban schools (VanHoose, 2000). As stated in Herzberg Motivation-Hygiene Theory (1959), a core hygiene factor (dissatisfier) is working conditions. With that in mind, it is understandable that teachers are less likely to remain employed in such working conditions. Not to

mention that, Weiner's belief about perceptions could also attribute to the low employability of such school, in that such working conditions may not provide teachers with the resources that precipitates the gratification that can lead to a positive self image about self and the work place. These conditions within a school's climate present challenges to educators responsible for teaching students and increase the awareness for a national paradigm shift of school reform (Council of the Great City Schools, 1992, p. 8).

Carnegie Foundation (1988) reported that students who attend urban schools tend to have low student achievement, high dropout rates, and high unemployment. The report also stated that students who live in poverty are likely to attend schools with a high student mobility rate and high teacher turnover. There is clear evidence that the students do not perform well under these conditions.

A report conducted by Durket (2009) indicated that students in urban schools struggle in decaying, violent environments with poor resources, where teachers are not qualified and there are gaps in the curriculum, which provide limited opportunities for students to be successful. Many people share this vision of the urban schools; however, there are some urban schools that have succeeded in spite of the aforementioned characteristics.

There are multiple examples of schools that achieve outstanding academic results in urban areas. In such examples, there may be motivators as described by Herzberg (1959) and /or perceptions of success as explained by Weiner (1980) that drive the efforts of the educators within the urban schools that have performed against the odds.

One example is Forest Hills High School, in Jackson, Mississippi. Forest Hills High School serves a school population that is 90% African-American, of which 60% are eligible for free and reduced lunch. Forest Hills High School has no significant disparity in achievement scores between white and minority students nor does it have any large disparity between low-income and high-income student populations; both of which are driving factors in national educational reform movements (Durket, 2009). The school is committed to high student expectations because “students will do as much as you expect, so set high expectations” (Great Expectations, 2005). High expectations, which includes a rigorous and strict professional development plans, are also set for teachers. Professional development plans include reflective teaching, continuous analysis of student progress, and peer review. In this school, professional development has led to teachers accepting the responsibility for student achievement and learning (Great Expectations, 2005). Forest Hills High School has created a push to make the school more personal for the students and it placed special emphasis on parental involvement.

Forest Hills High Schools is not the only urban school that’s making difference. Miami-Dade School District attacked the problem of poor test scores among urban students with a focused program in 39 schools in their district. Schools in the Zone (underachieving schools) were identified by three years of poor academic achievement, lower performance with feeder elementary, middle and secondary schools, and schools identified with leadership issues (McFadden, 2009). The Zone Schools implemented extended reading and math periods, small-group instruction and intervention, and an extended school day by an hour and school year extended by two weeks. These initiatives

included mandated reading, writing, mathematics, and science programs, bi-weekly and monthly assessments, intensive professional development for leadership, and increased staffing of support staff such as co-principals, and more curriculum specialists. The program was intensive and dramatically increased elementary performance on the third grade tests. The exemplar report of Miami-Dade's effort to overcome negative overshadowing views of urban education gives educators and stakeholders promise of educating youth in low-income environments (McFadden, 2009).

In these examples, strategic and drastic changes to the schools' climate such as: the implementation of new district-wide initiatives, adjusted instructional time, and enhanced professional development for teachers, improved achievement for all students. Additionally, these examples support the Attribution Theory and the Motivation/Hygiene Theory, in that, teachers in low-income schools can improve student achievement when perceptions are changed and job dissatisfiers are addressed. The next sections describe elements of school climate found in schools that serve under-privileged students such as: time, resources, and facilities and their impact on an effective school climate.

Researchers contend that a positive school climate exists when all students feel comfortable, wanted, valued, accepted, and secure in an environment where they can interact with caring people they trust (Haynes & Comer, 1993). In most references, the elements found in a positive school climate refer to the following: consistent expectations by teachers, a safe school environment, parental involvement, teacher and student relationships, accountability, collaboration, leadership, professional development, school

organization, and support for teachers and students (Green, 2009) as well as effective use of instructional time, access to resources, and adequate facilities (Earthman & Lemasters, 1997). Instructional time, resources, and the overall facility are closely explored independently to provide a conceptual understanding of how the school climate can influence teachers' perceptions about their working conditions which impacts student achievement.

Instructional Time

In this study, instructional time is a critical factor that affects school climate. This section discusses the explanations found in the literature about the concept of instructional time as it relates to the school setting. The Department of Education for individual states sets requirements for instructional time for core content areas. In as much, United States Department of Education Secretary Arne Duncan made "extended learning time" a national term in education. This learning time is one of the main strategies that are being used across the nation to improve student achievement (Wolfe, 2009).

Most districts and schools in the United States operate on a school-year calendar ranging from 170 to 180 days, 5 days a week, 6 and a half hours a day; which has remained the standard since the 1960s (Silva, 2007). One of the problems with instructional time and its affect on student achievement is that education systems lack a comprehensive national profile of the range and prevalence of the policies and practices that describe in-school learning time (Kolbe, Partridge, & O'Reilly, 2011).

According to Kolbe et al. (2011) and colleagues, the Schools and Staffing Survey (SASS) is the only nationally representative data source available for identifying variations in time across schools. For their study, the researchers used data primarily from the 2007–08 administration, but also used 1999–2000 and 2003–04 administrations to look at trends over time. Education is still chiefly a state and local responsibility, and in most states, requirements for the public school calendar are articulated in state law and regulation (Kolbe et al., 2011). Although school years range from 160 days in Colorado to 186 days in Kansas, Kolbe et al. (2011) contends there is considerably more variation in state policies for how the instructional time is used.

Prater (1992) defines instructional time as time in which students participate in an approved course, curriculum, or education-related activity under the direction of a teacher. In order to be effective, teachers must have ample instructional time to meet the needs of all students. Hollowood, Salisbury, Rainforth, and Palombaro (1995) studied time and reported that a limited portion of allocated time should be used for instruction and reported that 50% to 60% of allocated time is used. Berliner best examines the concept of instructional time. Berliner (1990) reported that time has many different classifications. However, it is this idea of instructional time that captures its description. According to Berliner (1990), time is classified as allocated time, academic learning time, engaged time, and non-instructional time. First, allocated time is the time block set aside for that instruction. For example, a school may require that reading and language arts be taught 90 minutes every day in an elementary setting, 7.5 hours a week, or 300 hours a school year.

A second classification of time is academic learning time, usually defined as that part of allocated time in a subject-matter area (physical education, science, or mathematics, for example) in which a student is engaged in the activities or with the materials related to educational outcomes.

The last classification of time is engaged time. This type of time is usually defined as the time that students appear to be paying attention to materials or presentations that have instructional goals. Engaged time is a subset of allocated time. According to the Berliner (1990), the term, engaged time, is an effective use of time, as it relates to engagement in particular kinds of tasks. Instructional time should be filled with activities that are desirable, hence engaged time (Berliner, 1990). In other words, instructional time should be consumed with meaningful activities that engage and challenge students' thinking. In studying school improvements efforts, Ben Lummis of the National Center on Time and Learning said, "It generally takes an additional 5 hours of learning to see a major difference in student achievement". Moreover, among the 40 schools the center has studied, those most effective in expanding learning time found improvements to be school wide not just among core academics, enrichment activities (Sparks, 2011).

Mosteller (1995) indicated a major complaint of teachers was the lack of time teachers spent trying to meet the needs of all students at various ability levels. He also reported that the teachers felt that students with disabilities needed extra attention to meet the goal identified in the students' Individualized Education Plans (IEP). Many of the students' individualized plans require extra time to complete assignments or read aloud

accommodations that cannot properly be met when classes exceed expected numbers. In such cases, students may benefit from small group instruction; but teachers have a difficult time providing small group instruction.

Academic Learning Time. As previously stated, academic learning time refers to time allocated to a subject matter in which students are engaged in related activities and where there is some form of assessment attached (Berliner, 1990). A major concern extrapolated from the literature is not allocating time, but making good use of the academic learning time. For example, Leonard (1999) conducted a study to determine the extent and nature of environmental or external intrusions into the classroom. Using direct observation research methodology in 12 schools in three school districts in Western Canada, Leonard determined that the typical class was interrupted by outside sources approximately 12 times per day or 2,000 times per school year. The interruptions to the academic time were found to be significantly higher than even teachers themselves imagined, such as: the intercom, visitors to the classroom, fire drills, and student altercations. Particular sources and frequencies of the interruptions tended to vary by school size and type with middle/high schools and those with larger enrollments being inclined to experience greater numbers of interferences emanating from outside the classroom. Overall, other students, teachers, and the intercom were found to be the greatest interlopers, (Berliner, 1990).

Partin (2009), who studied classroom interruptions, reported that an interruption is created when someone or some event causes you to stop an activity; at least temporarily. When considering interruptions, most teachers think of external intrusions

such as visitors, messengers, intercom announcements, or fire drills, but some interruptions are self-imposed. According to the Association of Middle Level Education (AMLE, 2011), a middle school in a large urban district in the midwestern region of the United States analyzed the amount of instructional time and found that teachers were only teaching about 20 minutes of the 50-minute block.

Engaged Time. In 2011, teachers in the state of Tennessee participated in the Teaching, Empowering Leading and Learning survey (TELL). The TELL survey captured the perceptions of all school-based licensed educators about learning conditions. The results revealed that 62% of the teachers feel that teachers have sufficient instructional time to meet the needs of all students. Sixty-eight percent of the teachers agree that teachers have time available to collaborate with colleagues. Only 63% of educators reported that professional development is differentiated to meet the needs of individual teachers (TELL Tennessee, 2012). A key factor to engaged-time is class size. As early as 1989, states recognized the importance of class size and enacted policies to address it in their educational programs. According to Mosteller (1995), class size has been a major concern for over a decade and was a major contributor to the instructional time element based on teachers' perception. Mosteller (1995) indicated that the federal education policy concerning class size reduction has shifted twice over the past few years.

Achilles (1996) studied class size and shared that support for the federal Class Size Reduction (CSR) program was based on research that found that small classes could have a positive influence on student achievement. The goal of the CSR program was to

improve educational achievement by reducing class size with fully qualified teachers. Special attention was focused on class size reduction in the early elementary grades to 18 or fewer students. CSR represented a promise to help schools hire qualified teachers as well as reduce class size. To accomplish the class size reduction goal, the program hired 100,000 fully qualified teachers for grades kindergarten through third grade within seven years. In its first two years, 37,000 teachers were hired (Darling-Hammond, 2000).

Although some students may benefit from small group instruction, teachers have a difficult time providing it when there are over 30 students in a class. Gamoram (2008) compared the achievement scores of students using results of the Stanford Achievement Test, the Comprehensive Tests of Basic Skills, and the Tennessee Basic Skills First Tests. The findings indicated statistically significant differences among the classroom types on all achievement measures. Recently, Gamoram reported that students complain that their needs are not met when classes are large.

Other programs and studies further substantiated the importance of class size. Tennessee's Project STAR (Student-Teacher Achievement Ratio) found that students who had been randomly assigned to small classes (13 to 17 students) in grades K-3 outperformed their peers in regular classes (22 to 25 students) and in regular-plus-aide classes on standardized and curriculum-based tests. In essence, whether it is the misuse of instructional time, or class size, the outcome is the same; loss of instructional time which impacts student achievement (Achilles & Finn, 1999).

Loss of instructional time. A variety of events typically occur in classrooms that reduce the number of scheduled minutes that are converted to instructional time. Based

on direct observations conducted in eight elementary classrooms, Hollowood et al. (1995) identified six categories of sources of lost instructional time: (a) student interruptions (e.g., disruptive behavior, leaving the room, changing seats, peer conflicts); (b) teacher interruptions (e.g., disciplinary actions, collecting or distributing materials, calling the office); (c) visitors to the class; (d) loudspeaker announcements; (e) transitions (e.g., passing classes); and (f) other sources (e.g., late starts, early dismissals, fire drills). When considering instructional time, considerations should be given to practices that minimize interruptions within the class day. According to Harris (1983), classroom distractions interferes with school activities; the interruptions and their effects are measured by the amount of times the interruptions occur and the amount of time it takes to get back on task. Using a sample of 65 teachers and 62 students from 8 public elementary schools in New York City, from Harris' (1983) study, a survey determined and compared teachers' and students' perceptions about three major types of classroom distractions: pullout programs, visitors, and school intercom systems.

Results indicate that teachers and students both feel that the distraction did affect the morale of the classroom or lesson; they did state that visitors did affect the concentration of the students, and that approximately 30 minutes a day was devoted to trying to eradicate distractions. Teachers and students differed, though, in that the behaviors of students were significantly affected by the interruptions and that all three forms of interruptions interfered with students' work but not necessarily with teachers' work. Even more, teachers can create their own interruptions by poor scheduling of activities, organizational skills, and poor classroom management. The interruptions result

in loss of instructional time and invites student misbehavior. By minimizing unnecessary interruptions you can accumulate more time to serve your students. It will pay dividends in more learning time and higher student achievement (Partin, 2009).

Non-instructional time. Hollowood et al. (1995) studied time and reported that a limited portion of allocated time should be used for instruction. They reported that 50% to 60% of allocated time is used for instruction, while 20% to 40% should be used for non-instructional duties, which are those professional responsibilities that are outside of the teaching curriculum but duties that must take place and supports the total curriculum. These non-instructional duties are related to district objectives but are not openly allied to curriculum and instruction. Some of the duties are: monitoring students between classes, restrooms or the cafeteria duty, traffic duty, bus duty, or afterschool supervision.

During non-instructional time, the teachers meet with the curriculum coordinator or administrative staffs during non-instructional time to plan events, discuss district initiatives, or revisit school-wide discipline plans (Oxley, 2007). The teacher and curriculum coordinator will plan the student activities for the year as well as implement and analyze data of district-wide initiatives. School-wide discipline plans are constantly being reviewed during these professional learning community meetings. Students and parents are also a part of the planning, implementation, and evaluation process (Oxley, 2007).

Following this further, the non-instructional time for teachers is not sufficient because teachers spend a lot of their planning time providing support to other teachers and staff (Raywid, 1993). Although, some teacher-contracts require teachers to attend 4

hours per month for staff meetings, there are other supervisory duties (non-instructional time) include coaching sports, sponsoring clubs, incentive field trips, and etc that consume non-instructional time. For example, teachers spend non-instructional time covering classes, coaching sports, sponsoring field trips, or meeting with parents. Moreover, this non-instructional time is becoming instructional time because of the amount of time teachers spend tutoring students, counseling students, and testing students who have missed school.

Herman et al. (2008) researched non-instructional time and found that middle school teachers at one urban school in the south stated that teachers spend non-instructional time attending team meetings, professional learning communities, observing peers, and sometimes assisting in the main office with customer service. In many cases, this is a good use of the non-instructional time, especially weekly team meetings that allow teachers to collaborate and discuss the pertinent information pertaining to improving student achievement. For example, the teacher may discuss the behavior change of a student. Teachers also share teaching strategies that were successful while teaching a lesson. Novice teachers are given the opportunity to visit the classrooms' of colleagues to assist with challenges he or she may have in their classroom.

Blase (1986) examined teachers' perceptions of workplace stress. Participants identified three important sources of work stressors, explained why these sources contributed to work stress, and identified feelings associated with sources of stress. The dominant category was organizational stressors (e.g., lack of time, lack of resources, excessive paper work, role overload, etc.), with time appearing as a factor. Blase

reported that paperwork could cause stress and affect instructional time. The study also found a link between greater work stress and negative feelings in teachers.

The following findings by Ingvarson et al. (2005) give reason for concern about the extent to which both middle school teachers perceive their workload, and the extent to which workload detrimentally effects, the quality of their teaching, the support they can give to colleagues, and their health. Forty-eight percent of teachers felt their workload was unmanageable; 57% did not have good balance between home and work; 71% felt their workload was affecting the quality of their teaching; 75% percent felt their workload was heavy; 73% felt they could not do what they needed to do in a reasonable time; 21% were thinking of leaving their school because of the workload; 31% felt they have little time to get to know their students well; 66% felt they have little time to provide professional support to colleagues; 28% were thinking of leaving teaching because of the workload; and 43% felt their workload was adversely affecting their health as well as student achievement.

Additionally, instructional time is essential to the effectiveness of the teaching and learning process (Prater, 1992). Although there are multiple variables that can impact the instructional time within a school day, teachers tend to use the lack thereof as a factor for not meeting the needs of students. Overall, instructional time remains a key aspect addressed in the literature that impacts a school's climate as it relates to the teacher's perceptions of their working conditions.

Resources Accessibility

Teachers' perceptions of their working conditions are affected by the amount and quality of the resources that are available to them (Marvel, Lyter, Peltola, Strizek, & Morton, 2007). According to Edmonds (1979), the allocation and distribution of school resources are essential in improving student achievement. Primarily, there are two types of resources that influence teachers' perceptions about the school climate and its impact on student achievement: physical and human resources.

When considering physical resources, one must examine the teachers' perceptions about resources as a mean for effective teaching. Teachers consider resources such as instructional materials, technology, and supplies, as a means to improve academic achievement. For example, Freeman and Porter (1989) examined teacher access to instructional materials and reported that textbooks and instructional materials are the primary tools that teachers use to organize their lessons, build content knowledge, and improve critical thinking skills of students. These textbooks and workbook materials contain the content that students are expected to learn, and most teachers focus their instruction on the material included in the books they use. In 2002, the Harris Research Group conducted a survey and reported that schools in California have issues with providing all students with textbooks. Textbook shortages impact large numbers of teachers and students negatively. Twelve percent of the teachers that were surveyed indicated that they did not have enough copies of textbooks and workbooks for every student in their class. If the 12% of teachers who report that they do not have enough textbooks and workbooks to use in class are teaching 12% of California's students, these

teachers' responses mean that approximately 720,000 of California's 6 million students are in classrooms where teachers do not have enough books and resources for all of the students to use (Harris, 2002).

Educators often consider computers and computer software as the most essential form of instructional resources, but instructional technologies are not limited to computers in the classroom. Seels and Richey (1994) defines instructional technology as the theory and practice of design, development, utilization, management and evaluation of processes and resources for learning. Seels and Richey (1994) stress that cameras, CD players, PDA's, GPS devices, computer-based probes, calculators and electronic tools are all instructional technologies. However, the instructional technologies that are used regularly for teaching and learning in middle schools are: Internet access, computers, printers, and software (Pitler, 2007). These technological resources have unique functions in the classroom to support student learning, assign school assignments, and to assist students in gaining a better understanding of information and teachers also believe this resource is best used to enrich instructional programs for high achieving students as well as remediate and practice for all students (Pitler, 2007).

A survey conducted by the National Center of Education Statistics (2001) reported that the vast majority of teachers have access to computers somewhere in their schools and they are more likely to use them in instruction if the computers are located in their classrooms. Nearly 100% all public school teachers reported having computers available somewhere in their schools in 1999; 84% of teachers had computers available in their classrooms and 99% had computers available elsewhere in the school.

Disappointedly, 36% of teachers had only one computer in their classrooms, 38% reported having 2 to 5 computers in their classrooms, and 10% reported having more than 5 computers in their classrooms.

Kleiner and Lewis (2003) reported the percentage of public schools with access to the Internet increased from 35% in 1997 to 99% in 2002. The researchers also reported that the United States public school teachers have seen the level of education technology in their schools and classrooms increase substantially.

A study by the National Center for Education Statistics (2001), reported on the types of technology considered essential for teaching. At the top of the list were types of technology that reached outside the classroom. Sixty-eight percent of teachers reported that a teacher's computer station with access to electronic mail was most frequently reported as "essential". Following e-mail, classroom access to the World Wide Web was considered an essential in middle and high school classrooms, a telephone in the classroom, encyclopedias and other reference materials on CD-ROM, and the presence of at least one computer for every four students were the items most frequently reported as vital. Teachers also feel like essential supplies (paper, pencil, markers, and etc should be provided by the schools in order to ensure the curriculum is effectively taught (Johnson & National Education Association, 2006).

Sufficient access to office equipment and supplies. According to the 2011 Kentucky Teaching Empowering Leading and Learning (TELL) Survey, 100% of teachers in Cairo Elementary School reported that they have sufficient access to office equipment and supplies. The items included paper, pens, copy machines, and etc.

However, this is not the case in every state. According to an article in the Time U.S magazine students were welcomed back to school in a budget-strapped California, where pencils, paper and textbooks are indeed prized goods — and their availability in classrooms is increasingly dependent upon the resourcefulness of teachers (Kloberdanz, 2010). As a matter of financial survival, teachers asked for donations via websites, clipped coupons and learned how to make use of second-hand items. The article reported that teachers even used recycled worksheet paper because such needed resources were not readily available in the school to meet the needs of the students. When circumstances require educators to respond to deficits of supplies in such a manner, behaviors of the sort can shape one's perception of the working conditions and reduce productivity, or student outcomes.

Professional support personnel. In most schools in this nation, school districts, specifically, low-income schools have access to human support resources that tend to make a difference in student outcomes. York and Vandercrook (1990) define Educational Support Personnel (ESP's) as the support staff members that work with teachers and students inside and outside the classroom. In addition to instructional support, teachers need educational personnel support. Some of the ESP's in large school districts are school psychologist, school social workers, therapists, special education supervisors, literacy coaches, and school nurses (York & Vandercrook, 1990). The ESP's are professionally trained individuals that assist teachers, students, and parents with everything from medical conditions to counseling. The type and intensity of professional personnel support varies. The following types of support systems are necessary and

available and serve as key resources to the educational process: resource support, moral support, technical support, and evaluation support:

1. Resource support consists of providing a school with tangible material (e.g., lab equipment, adapted computer keyboard), financial resources (e.g., funds for community experiences), informational resources (e.g., professional literature), or human resources (e.g., instructional assistant, peer tutor).
2. Moral support refers to person-to-person interactions that validate the worth of people as individuals and as knowledgeable colleagues. It includes active listening characterized by nonjudgmental acceptance of ideas and feelings. The person providing moral support does not always agree with the speaker, but adequate trust exists so that perspectives can be shared without fear of putdowns, criticism, or breaches in confidentiality. This is usually performed by relationships within the school (principal/teacher, teacher/student, teacher/parent, etc).
3. Technical support refers to offering concrete strategies, methods, approaches, or ideas. Providing a teacher with a journal article on instructional methods is a form of resource support (informational), as part of a professional learning community. Technical support can be provided through in-service training, staff development activities, on-site collaborative consultation, peer coaching, or other methods. It provides the recipient with skills that can then be implemented, adjusted, and re-implemented in a cyclical fashion to meet

student needs. Technical assistance is a dynamic process that is individualized and requires interpersonal interactions.

4. Evaluation support refers to assistance in collecting information that allows support to be monitored and adjusted. It also refers to assistance in determining the impact of support on students, families, and professionals. The scope of evaluation should extend beyond acquisition of specific targeted skills by students to include outcomes of educational experiences on the lifestyle or quality of life of the students and their families (Homer, 1991; Meyer & Janney, 1989; Schalock, 1990).

The aforementioned support systems provided is another example of the resources needed in schools to create comfortable working conditions, which could motivate teachers and aid in developing a positive image of urban schools.

Quality of School Facilities

The final aspect of the school climate that impacts job satisfaction and student achievement is the school building itself. The facility's condition could easily attribute to the level of student success according to Weiner's Attribution Theory (1980). It could also influence how teachers feel about their job as theorized by Herzberg (1966). According to the Mid-Continent Research for Education and Learning (1990), the environment of a school refers to school-level variables that relate directly to the school climate and its impact on teachers' perceptions'. A school's physical environment includes the school building and the surrounding grounds, such as noise, temperature, and lighting as well as physical, biological, or chemical agents (Marx, 2006). Routinely found in many urban

school settings, conditions of the facilities may include, peeling paint, broken windows, non-compliance with American Disability Act requirements, poor lighting, and inadequate instructional space (Marx, 2006). Often such circumstances can influence how employees feel about their working conditions and how students feel about their learning environment. This section explains two important components that influence teachers' perceptions about their working environment. The components are adequate space and physical environment of the classroom.

Adequate space to work productively. While there is a consistent correlation between the quality of a building and children's academic performance, research shows an even stronger link between teacher work space and teacher motivation, effective teaching takes place when teachers have enough space for children to learn (Atkinson, 2000). According to the Schneider (2002), Classroom-based workspaces in the average middle school should be designed for use by an individual teacher, as a shared space for several teachers, or as a temporary place for teachers who carry their materials with them. In general, a classroom-based teacher workspace should include wiring for an intercom/telephone and a computer. Adequate storage should be provided in the forms of file cabinets, closets, and cupboards. Because middle school teachers engage in a wide variety of activities that demand some level of privacy, storage spaces for teachers and students should be designated and clearly marked.

In 2009, the Children's Investment Fund conducted a study and the report stated that teachers working in good spaces feel better about their work and are more engaged and positive with children. The physical environment on children's social, emotional, and

cognitive development is essential. Based on this study, the attitudes, behaviors, and relationships among students and staff were more conducive to learning in schools and teachers working in good spaces feel better about their work which created more positive engagement with students (Holt, 1995).

On the contrary, often observed, middle schools in some urban districts are lacking the proper resources needed to properly prepare students, not only for high school academics, but facilities are ill equipped to prepare students for athletic programs (Leedy, 2012). Often athletic programs in many of the schools are non-existent because of the lack of facilities or due to space to support such a program. In other cases, the classes are overcrowded and space is limited for small group instruction. Many of the middle schools still have cafeteriums instead of auditoriums. Some school districts still have middle grades in elementary or high school settings (AMLE, 2011).

Physical environment. Engelbrecht (2003) defines the physical environment of a classroom as the structural elements of a classroom such as desk placement and wall color choice. The literature has identified studies where the facility had a negative impact on students and their academic growth. For example, Kozol (1991) studied urban schools and reported that Mary McCloud Bethune Elementary School in East St. Louis, Illinois had traces of lead in the water and the paint peelings tested positive with poison. Students were consistently treated at local hospitals for lead poisoning. Kozol (1991) stressed the cleaning crew was short-staffed and that one person was assigned to clean the entire school. Limited budgets and bureaucracy caused this school to have issues with receiving

proper cleaning on a daily basis and adequate cleaning supplies to maintain a clean and well-maintained environment.

According to Engelbrecht (2003), color is an important structural element of the facility and it can have benefits for the classroom. However, Engelbrecht contends that the mental stimulation passively received by the color helps the student and teacher stay focused and yield positive feeling and attitudes. Based on his study, younger children are stimulated by bright colors while older students respond better to blues and greens. It is believed that the understanding of color differences helps teachers make informed decisions about how to accent the classroom for effective students learning while creating a suitable work environment for themselves. Engelbrecht also states that lighting, music, visually appealing walls, separate areas for various activities, opportunity for movement and flexibility in the room all work together to create a classroom most conducive to learning. Combine these elements with classroom teachers who are excited about what they're teaching, and you have a learning environment that nurtures the whole child – socially, emotionally and academically.

The literature has identified instances that validate a strong correlation between the condition of school facilities and student achievement. There are case studies that examine the relationship between building conditions and student achievement (Berner, 1993; Buckley, Schneider, & Shang, 2004; McGuffey, 1982). For example, Cash (1993) found that comfort factors in the school building design appeared to have more of an effect on student achievement than structural factors. The comfort factors included schools that were located in less noisy locations, were air conditioned, had less graffiti

and classroom furniture and student lockers in good repair. Schneider (2002) found the quality of school buildings is also related to student behavior, absenteeism, violence, smoking, vandalism, and suspensions. Temperature within the school building, heating and air quality are rated by Earthman (2004) as the more important individual elements affecting student achievement. Thus, building conditions are important factors in a school environment (Earthman, 2004; Schneider & National Clearinghouse for Educational Facilities, 2002).

There are a multitude of factors that contributes to the conditions of schools. In the Buckley et al. (2004) study, two-thirds of the teachers reported poor indoor air quality in their school. Poor indoor air quality within a building is also known as “sick building syndrome.” Buildings that are labeled as “sick” contribute to the decrease in student achievement and an increase teacher attrition. Moreover, since school buildings in the United States are, on average, over 40 years old, just the time when rapid deterioration often begins, the school community should expect problems with school facilities and illness to worsen (Berner, 1993; Buckley et al. 2004). Teachers placed in facilities that require extensive repair, often facilitate a hopeless state for improved conditions and ultimately impacts their ability to improve instruction in such working conditions (National Center for Education Statistics, 2010).

In conclusion, effective school leaders ensure that schools are organized in a manner where the climate ensures continuous growth for the teacher and the students, (Wallace Foundation, 2012). In most cases, a healthy school climate goes beyond the basics of safety and order, but to a climate that is supportive and responsive to teachers’

perceptions of the instructional time needed to attain a level of self achievement, accessibility to human and physical resources, and facilities that emanate developmental responsiveness can be contributing factors to the increase or decrease of student achievement (National Middle School Association, 2003).

Chapter 3

Methodology

After a restatement of the research questions, the present chapter begins with an explanation of the general methodology employed in this study—specifically, secondary analysis of an existing set of survey data—and a description of the instrument from which these survey data were derived—namely, the *Measures of Effective Teaching (MET)/Working Conditions Survey*—including the instrument’s psychometric properties. In the next section, the conditions under which the MET/Working Conditions data were collected are outlined and a statistical description of the more than 5000 persons whose responses constitute the present dataset is provided in two tables. The final section of the chapter provides a statement of the analytic strategies to be employed in answering the following research questions:

1. How do urban elementary and middle school teachers perceive the use of instructional time at their schools and do these perceptions differ by school type?
2. How do urban elementary and middle school teachers perceive the level of access to instructional resources at their schools and do these perceptions differ by school type?
3. How do urban elementary and middle school teachers perceive the general quality of facilities at their schools and do these perceptions differ by school type?
4. What relationships are observed between urban elementary and middle teachers’ perceptions of the use of instructional time, their access to resources, and the quality of facilities and student achievement in reading and math?

Overall Methodology

According to Tashakkori and Teddlie (1998), research is usually categorized in terms of its general methodology. In educational studies, he notes that the researcher may employ the use of qualitative, quantitative, experimental, or non-experimental methodology to frame his study. When employing a quantitative approach, questionnaires, tests, records, standardized observation instruments, and existing databases can serve as appropriate sources for data (Patton, 2007). Common to the quantitative approach is the utilization of data from human samples and the placing of that the data in predetermined categories for statistical analysis, the intended result being an unbiased and objective interpretation of data (Creswell, 2008).

Drawing upon two existing data sources—the first being MET/Working Conditions Survey data collected from more than 5,000 educational practitioners at over 200 schools, the second being standardized test score data pertinent to nearly 140 schools, taken from “report cards” maintained by the Tennessee Department of Education, and expressed as the school-wide percentage of students “proficient or advanced” in Reading and Mathematics—the researcher approached the four research questions posed by this study in a quantitative fashion, working in a venue of inquiry commonly referred to as “secondary analysis.”

According to Hakim (1982), secondary data analysis may be defined as “further analysis of an existing data-set which presents interpretations, conclusions, or knowledge additional to, or different from, those presented in the first report on the data collection

and its results” (p. 1). On this definition, specific uses to which such analyses may be put include:

- Condensed reports (such as social area analysis based on selected social indicators)
- More detailed reports (offering additional detail on the same topic)
- Reports which focus on a particular sub-topic (such as unemployment) or social group (such as ethnic minority)
- Reports angled towards a particular policy issue or question
- Analyses based on a conceptual framework or theory not applied to the original analysis
- Re-analyses, which take advantage of more sophisticated analytical techniques to test hypotheses and answer questions in a more comprehensive and succinct manner than in the original report. (Hakim, 1982, p. 1)

Given the uses outlined, the present study would appear to lend itself to secondary analysis, as it seems to be productive of the kinds of information outlined by Hakim. First, it focuses on a particular set of “subtopics” included in the original study—namely, time, resources, and facilities—and examines them in a greater depth. Second, evoking the literature on “school climate” and “teacher working conditions” and presumed relationship of these constructs to student achievement, the present study includes incorporates student proficiency outcomes assumed but not included in the previous study and searches for empirical relationships between such outcomes and conditions at the school. Finally, in breaking out the data into subgroups of schools and comparing and

contrasting results, the present study applies somewhat “more sophisticated analytical techniques to . . . answer questions” (Hakim, 1992, p. 1) that were not fully addressed or were unaddressed in the prior study.

Instrument

A review of the literature indicates that a wide variety of measures of the school environment—whether conceived of under the aegis of “school climate,” “learning environment” “teacher working conditions,” etc.—are in use. Witcher (1993) reviewed several of these measures and found that those that resulted in the most reliable assessments were those that generated information about multiple aspects of the school—including “an emphasis on academics, an ambience of caring, a motivating curriculum, professional collegiality, and closeness to parents and community.” These most reliable instruments were also easy for respondents to understand, were appropriate to several levels of schooling and possessed of adequate evidence of psychometric validity and reliability.

A survey that meets many, if not all, of these requirements is the MET (Measures of Effective Teaching)/Working Conditions Survey. Originally developed in 2002 by the New Teacher Center, the instrument made its debut in North Carolina as the “Teaching and Learning Conditions Initiative Survey” as part of the work of then-Governor Mike Easley and his state’s Professional Teaching Standards Commission. Over the past decade, the reach of the survey has extended to 12 states and 10 districts, providing information to both policymakers and practitioners about the following eight research-based constructs:

- Time—Available time to plan, to collaborate, to provide instruction, and to eliminate barriers in order to maximize instructional time during the school day
- Facilities and Resources—Availability of instructional, technology, office, communication, and school resources to teachers
- Community Support and Involvement—Community and parent/guardian communication and influence in the school
- Managing Student Conduct—Policies and practices to address student conduct issues and ensure a safe school environment
- Teacher Leadership—Teacher involvement in decisions that impact classroom and school practices
- School Leadership—The ability of school leadership to create trusting, supportive environments and address teacher concerns
- Professional Development—Availability and quality of learning opportunities for educators to enhance their teaching
- Instructional Practices and Support—Data and support available to teachers to improve instruction and student learning. (TELL Tennessee, 2012)

Perhaps because of the number of aspects of schooling that the instrument addresses, the Bill and Melinda Gates Foundation have insisted that the districts with which it works administer a version of the New Teacher Center’s “Teaching and Learning Conditions Questionnaire” as part of its “Measures of Effective Teaching” initiative. Hoping to get beyond “how well a teacher’s students do on assessments,”

according to the Gates' Foundation website, "the 'Measures of Effective Teaching' project seeks to uncover and develop a set of measures that work together to form a more complete indicator of a teacher's impact on student achievement" (Bill and Melinda Gates Foundation, 2012). Collecting data derived from such diverse sources as student surveys, supplemental student assessments, videotaped classroom lessons, teacher reflection on these lessons, and assessments of teacher's ability to recognize and diagnose student problems, the Gates Foundation also administers a version of Teaching and Learning Conditions Questionnaire that is tailored to the local contexts with which it partners. By means of this instrument, the Foundation seeks to render a kind of status report of within-school strengths and weaknesses that have been linked to retaining or losing effective teachers and, by extension, supporting or not supporting student achievement. The present dataset derives from the Gates Foundation partnership with a local district.

Some degree of informal or *prima facie* evidence of the validity of the MET/Working Conditions seems inherent in the instrument's longevity and wide usage. According to the New Teacher Center website, the information provided by the instrument has been of such high quality as to provide its former clients with sufficient guidance in such matters as

- Rewriting standards for principals and teachers;
- Allocating funds to support utilizing survey data in low-performing school districts;

- Supporting the creation of additional funding for professional development in low-performing schools;
- Developing school leadership training that requires administrators to use the survey data in making school-level improvement decisions;
- Changing professional development offerings and providing teachers with more autonomy in selecting growth opportunities; and
- Implementing targeted recruitment strategies for hard-to-staff schools (New Teacher Center, 2012).

Aside from this sort of informal, testimonial evidence, more formal evidence of the validity of MET/Working Conditions Survey has been recently marshaled by the state of Tennessee with respect to an adaptation of the original North Carolina survey that it refers to as “TELL Tennessee.” An acronym for “Teaching, Empowering, Leading and Learning,” the TELL Tennessee website charts the evolution of the instrument’s “content validity.” As relayed by the website, the items constituting the North Carolina instrument originated in one part from a wide-ranging literature review of research on the role of working conditions on teacher dissatisfaction and teacher mobility and in another part from School and Staffing Survey data “focused on areas that teachers identified as conditions that drove their satisfaction and employment decisions, including administrative support, autonomy in making decisions, school safety, class size, time, etc” (TELL Tennessee, 2012).

In addition to issues concerning “content validity,” the TELL Tennessee website also points to studies done to establish the instrument’s “construct validity.” Using data

taken from 400,000 teachers from 5,000 schools in 12 states, Swanlund (2011) used a combination of factor analysis and “Rasch measurement modeling” to examine the dimensionality of the instrument. In his analyses, Swanlund found more constructs (13) than the eight that the instrument purported to measure. However, Swanlund went onto note that the additional constructs seemed also to fit comfortably within the eight-construct framework, with the additional five clusters of items serving to refine four of the original domains. When an early wave of TELL Tennessee data were analyzed using an approach similar to Swanlund’s, the analyst identified 10 constructs, with the Facilities and Resources construct and Instructional Practices and Support construct each splitting into two subsets.

In terms of reliability, TELL Tennessee reports that all items pertinent to measuring eight of the original constructs exhibit adequate levels of “internal consistency” reliability, with alpha statistics observed to be 0.83 or higher.

In sum, all statistical analyses carried out to date suggest that the original instrument and its variants do indeed “measure what they purport to measure” (Popham, 2011), but that more fine-grained conclusions may be drawn about specific groups of items within two or three of the constructs.

Description of Sample

Schools selected for this study were elementary and middle schools, located in a large district in the Southeastern United States. As previously outlined, the district was one of a select number with whom the Gates Foundation chose to work, although it was the local district office of research and evaluation that made the dataset available to the

researcher for secondary analysis. Provided in Table 1 is a statistical description of all district respondents who completed the MET/Working Conditions Survey, while Table 2 provides a similar description of just those classroom teachers who completed the instrument. Prior to conducting the research for this study, permission was requested from the Institution Review Board (IRB) at The University of Memphis to conduct the study.

Proposed Analyses

For research questions 1 to 3, item-level frequencies and percentages provided for all items, and individual and school level item means and standard deviations were computed and compared for all schools combined and for elementary and middle schools separately. Because the differences in means calculated at the level of the individual respondent are all expected to be statistically significant, given the very large numbers involved, only effect sizes (d) were computed. At the school level, the independent t-test was used to statistically examine the difference between means and effect sizes based on that difference were provided. For the final questions, Pearson product-moment correlations will be computed between school-level outcomes obtained on MET/Working Conditions Survey and concurrent student achievement outcomes pertinent to the percentages of students categorized as proficient and advanced in reading and mathematics for the schools having such data.

Table 1

Demographic Characteristics of All Respondents to the 2010 Administration of the Measures of Effective Teaching Working Conditions Survey (N = 5007)

Group	All (N = 5007) %	Elem (n = 2765) %	Middle (n = 986) %	High (n = 1065) %	Others (n = 191) %
Teachers	91.8	92.8	90.1	91.9	85.9
Principals	1.5	1.4	1.7	1.0	3.7
Ass't Principals	0.7	0.3	1.7	0.8	1.6
Others	6.0	5.5	6.5	6.2	8.9
Total Years Employed as an Educator: All Respondents					
First Year	5.0	3.0	6.6	8.6	5.8
2 to 3 Years	9.1	6.7	11.3	13.3	8.9
4 to 6 Years	11.7	9.3	16.7	13.1	14.1
7 to 10 Years	17.5	18.1	18.0	16.5	12.0
11 to 20 Years	29.6	32.9	27.1	24.8	20.9
20 + Years	26.8	29.8	20.0	23.3	38.2
Not Answered	0.3	0.2	0.4	0.4	0.0
Total Years Employed at Present School: All Respondents					
First Year	14.1	10.5	6.6	21.1	23.0
2 to 3 Years	19.2	16.3	11.3	22.7	9.4
4 to 6 Years	20.9	20.4	16.7	19.4	18.3
7 to 10 Years	16.8	19.7	18.0	12.6	12.0
11 to 20 Years	15.9	18.8	27.1	11.9	17.3
20 + Years	7.7	9.0	20.0	7.1	12.0
Not Answered	5.3	5.2	0.4	5.1	7.9
Sites	206	112	39	41	14

Table 2

Demographic Characteristics of Teacher Respondents to the 2010 Administration of the Measures of Effective Teaching Working Conditions Survey (n = 4596)

Group	All (N = 4596) %	Elem (n = 2565) %	Middle (n = 888) %	High (n = 979) %	Others (n = 164) %
Total Years Employed as an Educator: Teachers Only					
First Year	5.2	3.0	7.0	9.1	6.7
2 to 3 Years	9.5	6.9	12.2	14.0	9.8
4 to 6 Years	11.9	9.2	17.6	13.4	14.6
7 to 10 Years	17.8	18.6	17.7	16.5	12.8
11 to 20 Years	29.4	33.1	25.8	24.0	22.6
20 + Years	26.0	29.0	19.5	22.7	33.5
Not Answered	0.3	0.2	0.3	0.3	0.0
Total Years Employed at Present School: Teachers Only					
First Year	14.1	10.4	15.1	21.6	22.6
2 to 3 Years	19.5	16.2	26.4	23.3	9.8
4 to 6 Years	20.4	20.2	23.8	18.6	17.7
7 to 10 Years	16.9	19.9	14.3	12.3	12.8
11 to 20 Years	16.2	19.0	11.8	12.4	17.7
20 + Years	7.7	9.0	4.1	6.9	11.6
Not Answered	5.2	5.3	4.6	5.0	7.9

Chapter 4

Results

Chapter 4 of this study presents the results of a secondary data analysis of 2,565 elementary school and 888 middle school teacher responses on sections of the Measures of Effective Teaching/Working Conditions Survey, regarding time, facilities, and resources as they impact school climate and ultimately student achievement. Originally developed by the New Teacher Center under another name and in another context, the MET/Working Conditions Survey was administered in 2010 under the auspices of the Bill and Melinda Gates Foundation to over 5,007 persons at 206 schools within a large, urban school district in Tennessee. As with previous versions of the instrument, the purpose of this version was to solicit responses to questions focused on the presence of critical learning conditions—including those related to the use of time, the level of access to resources, and the overall quality of facilities—which facilitate student achievement and enable teacher retention. In this study, evidence of the relationship between such conditions and student achievement is sought by merging the MET data with concurrent Tennessee Comprehensive Assessment Program (TCAP) results in reading and mathematics and correlating the MET and TCAP outcomes. The results of all analyses presented in this chapter are organized in terms of the four research questions posed in Chapter 1. These questions are as follows:

1. How do urban elementary and middle school teachers perceive the use of instructional time at their schools and do these perceptions differ by school type?

2. How do urban elementary and middle school teachers perceive the level of access to instructional resources at their schools and do these perceptions differ by school type?
3. How do urban elementary and middle school teachers perceive the general quality of facilities at their schools and do these perceptions differ by school type?
4. What relationships are observed between urban elementary and middle teachers' perceptions of the use of instructional time, their access to resources, and the quality of facilities and student achievement in reading and math?

Question 1: Perceptions of Time-related Items

Research question 1 pertains to how urban elementary and middle school teachers perceive the use of instructional time at their schools and whether such perceptions differ by school type. With respect to this question, frequencies and percentages were obtained for each of seven “time-related” items on the MET/Working Conditions Survey for all elementary school teacher respondents (Table 3) and middle school teacher respondents (Table 4). Complementing these two tables of frequencies and percentages are two additional tables in which means and standard deviations were computed and compared for subgroups of elementary and middle school teachers given the responses of individuals as the unit of analysis (Table 5) and responses aggregated to the school- or faculty-level as the unit of analysis (Table 6). With all of these responses pertinent to some aspect of the time invested in improving a climate of academic achievement in schools, these seven “time-related” items read as follows:

1. Class sizes are reasonable such that teachers have the time available to meet the needs of all students.
2. Teachers have time available to collaborate with colleagues.
3. Teachers are allowed to focus on educating students with minimal interruptions.
4. The non-instructional time provided for teachers in my school is sufficient.
5. Efforts are made to minimize the amount of routine paperwork to do.
6. Teachers have sufficient instructional time to meet the needs of all students.
7. Teachers are protected from duties that interfere with their essential role of educating students.

Table 3 displays the frequencies and percentages of time-related items for elementary teachers. Inspection of the percentages of agreement and strong agreement for these items reveal that only with respect to efforts to reduce paperwork do less than a majority of elementary teachers view the use of time as less than optimal (38.2%). At the other extreme, some 71.6% of the respondents agree that time is available for elementary school teachers to collaborate with colleagues, while 60% of the respondents feel protected from duties that interfere with their role of educating students.

Displayed in Table 4 are the frequencies and percentages pertinent to middle school teachers' responses to the time-related items. As with the elementary school teachers, the time-related item obtaining the lowest percentage of agreement/strong agreement among middle school teachers is for the item "efforts are being made to minimize the amount of routine paperwork teachers are required to do" (43%). Again, as

with the elementary school teachers, more than 70% of the middle school teachers seem to agree, “teachers have time available to collaborate with colleagues.” However, somewhat more middle school teachers (60.1%) than elementary school teachers (54.3%) seemed to agree that “the non-instructional time” provided to them was sufficient.

With respect to the item-level means and standard deviation for individuals (Table 5) and groups (Table 6), few differences are observed. Among individuals, it is noteworthy that the means obtained across all seven items were exactly the same for both elementary teachers ($M = 2.54, SD = 0.64$) and middle school teachers ($M = 2.54, SD = 0.66$). In contrasting the-means for groups, only two items proved to be significantly different. A significant difference in the elementary and middle school teacher responses with respect to minimizing the amount of paperwork that teachers are required to do was observed ($t(149) = -1.77, p < .10, d = -0.15$) as was a significant difference in elementary and middle school teacher responses to the item concerning the sufficiency of instructional time to meet the needs of all students ($t(149) = -2.05, p < .05, d = -.0.17$). In both instances, the differences favored the middle school teachers’ collective responses.

Table 3

Frequencies and Percentages for Time-Related Items: Elementary Level Respondents

Item	Strongly Disagree		Disagree		Agree		Strongly Agree		NA	
	<i>n</i>	%	<i>N</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Class sizes are reasonable such that teachers have the time available to meet the needs of all students.	357	12.9	805	29.1	1194	43.2	390	14.1	19	0.7
Teachers have time available to collaborate with colleagues.	194	7.0	520	18.8	1450	52.4	531	19.2	70	2.5
Teachers are allowed to focus on educating students with minimal interruptions.	311	11.2	824	29.8	1212	43.8	354	12.8	64	2.3
The non-instructional time provided for teachers in my school is sufficient.	317	11.5	878	31.8	1211	43.8	290	10.5	69	2.5
Efforts are made to minimize the amount of routine paperwork teachers are required to do.	640	23.1	998	36.1	859	31.1	197	7.1	71	2.6
Teachers have sufficient instructional time to meet the needs of all students.	284	10.3	940	34.0	1227	44.4	250	9.0	64	2.3
Teachers are protected from duties that interfere with their essential role of educating students.	321	11.6	725	26.2	1333	48.2	326	11.8	60	2.2

Table 4

Frequencies and Percentages for Time-Related Items: Middle Level Respondents

Item	Strongly Disagree		Disagree		Agree		Strongly Agree		NA	
	<i>n</i>	%	<i>N</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Class sizes are reasonable such that teachers have the time available to meet the needs of all students.	155	17.5	287	32.3	311	35.0	129	14.5	7	0.8
Teachers have time available to collaborate with colleagues.	71	8.0	166	18.7	481	54.2	154	17.3	16	1.8
Teachers are allowed to focus on educating students with minimal interruptions.	138	15.5	283	31.9	344	38.7	108	12.2	15	1.7
The non-instructional time provided for teachers in my school is sufficient.	97	10.9	238	26.8	436	49.1	99	11.1	18	2.0
Efforts are made to minimize the amount of routine paperwork teachers are required to do.	200	22.5	286	32.2	310	34.9	72	8.1	20	2.3
Teachers have sufficient instructional time to meet the needs of all students.	87	9.8	274	30.9	402	45.3	108	12.2	17	1.9
Teachers are protected from duties that interfere with their essential role of educating students.	122	13.7	238	26.8	412	46.4	98	11.0	18	2.0

Table 5

Means and Standard Deviations computed for individual for individual teacher responses for Time-Related Items and Scale by Grade Level

Item	<i>Elementary</i>			<i>Middle</i>		
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>
Class sizes are reasonable such that teachers have the time available to meet the needs of all students.	2548	2.57	0.89	882	2.47	0.95
Teachers have time available to collaborate with colleagues.	2501	2.84	0.81	872	2.82	0.81
Teachers are allowed to focus on educating students with minimal interruptions.	2513	2.57	0.85	873	2.48	0.90
The non-instructional time provided for teachers in my school is sufficient.	2507	2.52	0.83	870	2.62	0.83
Efforts are made to minimize the amount of routine paperwork teachers are required to do.	2503	2.20	0.89	868	2.29	0.91
Teachers have sufficient instructional time to meet the needs of all students.	2512	2.52	0.80	871	2.61	0.83
Teachers are protected from duties that interfere with their essential role of educating students.	2517	2.59	0.84	870	2.56	0.87
Statistics for Scale	2284	2.54	0.64	814	2.54	0.66

Table 6

Means and Standard Deviations Computed from School-Level Teacher Responses for Time-Related Items and Scale by Grade Level

Item	<i>Elementary</i>		<i>Middle</i>		<i>t</i>	<i>d</i>
	<i>(n = 112)</i>		<i>(n = 39)</i>			
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Class sizes are reasonable such that teachers have the time available to meet the needs of all students.	2.65	0.42	2.62	0.50	0.37	0.03
Teachers have time available to collaborate with colleagues.	2.88	0.30	2.88	0.30	0.08	0.01
Teachers are allowed to focus on educating students with minimal interruptions.	2.62	0.40	2.57	0.50	0.55	0.05
The non-instructional time provided for teachers in my school is sufficient.	2.56	0.34	2.67	0.41	-1.64	-0.13
Efforts are made to minimize the amount of routine paperwork teachers are required to do.	2.27	0.40	2.42	0.50	-1.77†	-0.15
Teachers have sufficient instructional time to meet the needs of all students.	2.58	0.31	2.73	0.40	-2.05*	-0.17
Teachers are protected from duties that interfere with their essential role of educating students.	2.64	0.36	2.62	0.42	0.28	0.02
Statistics for Seven-Item Scale	2.60	0.30	2.64	0.38	0.73	0.06

† $p < .10$. * $p < .05$.

Question 2: Perceptions of Resource-related Items

Research question 2 pertains to how urban elementary and middle school teachers perceive the level of access that they have to instructional resources at their schools and whether such perceptions differ by school type. With respect to this question, frequencies and percentages were obtained for each of five “resource-related” items on the MET/Working Conditions Survey for all elementary school teacher respondents (Table 7) and middle school teacher respondents (Table 8). Complementing these two tables of frequencies and percentages are two additional tables in which means and standard deviations have been computed and compared for subgroups of elementary and middle school teachers given the responses of individuals as the unit of analysis (Table 9) and responses aggregated to the school- or faculty-level as the unit of analysis (Table 10). With all of these responses pertinent to the availability of resources for improving a climate of academic achievement in schools, these five “resource-related” items read as follows:

1. Teachers have sufficient access to appropriate instructional materials.
2. Teachers have sufficient access to instructional technology, including computers, printers, software and Internet access.
3. Teachers have access to reliable communication technology, including phones, faxes and email.
4. Teachers have sufficient access office equipment and supplies such as copy machines, paper, pens, etc.

5. Teachers have sufficient access to a broad range of professional support personnel.

As shown in Table 7, the highest level of agreement among elementary teachers was observed for the resource-related item concerning “access to reliable communication technology, including phones, faxes, and email” (87.0%). Nearly as high was the level of elementary school teacher agreement to the item concerning teacher “access to appropriate instructional materials” (79.4%). While still above 70%, the lowest level of agreement among elementary school teachers was with respect to the resource-related item dealing with “access to instructional technology, including computers, printers, software, and internet access” (70.7%).

As shown in Table 8, the level of agreement/strong agreement to the resource-related items among middle school teachers was similarly high. Some 85.3% of the middle school teachers indicated that they had “access to reliable communication technology, including phones, faxes, and email,” while nearly that same percentage indicated that their “access to a broad range of support personnel” was sufficient. In contrast, only 61.2% of middle school teachers reported that they had “sufficient access to instructional technology, including computers, printers, software and internet access” roughly 9.5% fewer than was observed for elementary school teachers.

In general, as shown in Tables 9 and 10, the item means observed for elementary and middle school teachers with respect to resources trend higher for the former group, the only exception being the item concerning office equipment. As indicated in Table 10,

no significant differences were observed between teacher groups for any resource-related item or the 5-item scale taken as a whole.

Table 7

Frequencies and Percentages for Resource-Related Items: Elementary Level Respondents

Item	Strongly Disagree		Disagree		Agree		Strongly Agree		NA	
	<i>n</i>	%	<i>N</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Teachers have sufficient access to appropriate instructional materials.	148	5.4	398	14.4	1548	56.0	646	23.4	25	0.9
Teachers have sufficient access to instructional technology, including computers, printers, software and internet access.	221	8.0	557	20.1	1332	48.2	621	22.5	34	1.2
Teachers have access to reliable communication technology, including phones, faxes and email.	86	3.1	250	9.0	1641	59.3	767	27.7	21	0.8
Teachers have sufficient access to office equipment and supplies such as copy machines, paper, pens, etc.	293	10.6	576	20.8	1308	47.3	563	20.4	25	0.9
Teachers have sufficient access to a broad range of professional support personnel.	191	6.9	446	16.1	1510	54.6	572	20.7	46	1.7

Table 8

Frequencies and Percentages for Resource-Related Items: Middle Level Respondents

Item	Strongly Disagree		Disagree		Agree		Strongly Agree		NA	
	<i>n</i>	%	<i>N</i>	%	<i>n</i>	%	<i>n</i>	%	<i>N</i>	%
Teachers have sufficient access to appropriate instructional materials.	63	7.1	178	20.0	475	53.5	166	18.7	6	0.7
Teachers have sufficient access to instructional technology, including computers, printers, software and internet access.	106	11.9	229	25.8	380	42.8	163	18.4	10	1.1
Teachers have access to reliable communication technology, including phones, faxes and email.	30	3.4	97	10.9	520	58.6	237	26.7	4	0.5
Teachers have sufficient access to office equipment and supplies such as copy machines, paper, pens, etc.	95	10.7	198	22.3	405	45.6	183	20.6	7	0.8
Teachers have sufficient access to a broad range of professional support personnel.	66	7.4	180	20.3	466	52.5	165	18.6	11	1.2

Table 9

Means and Standard Deviations for Resource-Related Items and Scale by Grade Level

Item	<i>Elementary</i>			<i>Middle</i>		
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>
Teachers have sufficient access to appropriate instructional materials.	2547	2.96	0.77	882	2.84	0.81
Teachers have sufficient access to instructional technology, including computers, printers, software and internet access.	2536	2.84	0.86	878	2.68	0.91
Teachers have access to reliable communication technology, including phones, faxes and email.	2546	3.11	0.69	884	3.09	0.71
Teachers have sufficient access to office equipment and supplies such as copy machines, paper, pens, etc.	2543	2.75	0.89	881	2.77	0.90
Teachers have sufficient access to a broad range of professional support personnel.	2523	2.87	0.80	877	2.83	0.82
Statistics for Scale	2472	2.91	0.64	855	2.85	0.65

Table 10

Means and Standard Deviations Computed from School-Level Teacher Responses for Resource-Related Items and Scale by Grade Level

Item	<i>Elementary</i>		<i>Middle</i>		<i>t</i>	<i>d</i>
	<i>(n = 112)</i>		<i>(n = 39)</i>			
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Teachers have sufficient access to appropriate instructional materials.	2.98	0.34	2.87	0.41	1.60	0.13
Teachers have sufficient access to instructional technology, including computers, printers, software and internet access.	2.87	0.38	2.76	0.51	1.44	0.12
Teachers have access to reliable communication technology, including phones, faxes and email.	3.14	0.23	3.13	0.29	0.17	0.01
Teachers have sufficient access to office equipment and supplies such as copy machines, paper, pens, etc.	2.80	0.43	2.82	0.51	-0.28	-0.02
Teachers have sufficient access to a broad range of professional support personnel.	2.91	0.28	2.85	0.38	0.97	0.08
Statistics for Five-Item Scale	2.94	0.29	2.89	0.36	0.94	0.08

Question 3: Perceptions of Facilities-related Items

Research question 3 concerns urban elementary and middle school teachers' perceptions' of the overall quality of the facilities at their schools and whether these perceptions differ by school type. With respect to this question, frequencies and percentages were obtained for each of four "facilities-related" items on the MET/Working Conditions Survey for all elementary school teacher respondents (Table 11) and middle school teacher respondents (Table 12). Complementing these two tables of frequencies and percentages are two additional tables in which means and standard deviations have been computed and compared for subgroups of elementary and middle school teachers given the responses of individuals as the unit of analysis (Table 13) and responses aggregated to the school- or faculty-level as the unit of analysis (Table 14). With all of these responses pertinent to the overall quality of the facilities for improving a climate of academic achievement in schools, these four "facilities-related" items read as follows:

1. The school environment is clean and well maintained.
2. Teachers have adequate space to work productively.
3. The physical environment of the classrooms in this school supports teaching and learning.
4. The reliability and speed Internet connections in this school are sufficient to support instructional practices.

As it regards facilities (Table 11), over 80% of elementary teachers appear to agree that the facilities are clean and well maintained (83.4%), that their work space is sufficient (80.7%), and that the physical environment is supportive of teaching and learning (85.9%). Surprisingly, however, more than one-third of all responding elementary teachers disagreed when asked about “the reliability and sufficiency of internet connections . . . to support instructional practices” (36.8%).

As shown in Table 12, the responses of middle school teachers to the facilities-related items were similar to those among elementary school teachers, with some 83.4% of the former agreeing that facilities are clean and well maintained, some 81.9% agreeing that their work space is sufficient, and some 85.9% agreeing that the school’s physical environment is supportive of teaching and learning. While somewhat more middle teachers than elementary school teachers felt that “the reliability and speed of Internet connections” were sufficient for instructional purposes, almost one-third of their number perceived this not to be the case (32%).

As with teacher responses to the resources-related items, there was little difference in their responses to the facilities-related items, either at the individual-level (Table 13) or the group-level (Table 14). As suggested above, there appears to be some difference in elementary and middle school teachers’ perceptions of the functionality of their connections to the Internet for instructional purposes ($t(149) = -2.24, p < .05, d = -0.18$). This result is understandable as elementary schools tend to have older computers that are primarily used for student practice in acquiring basic skills and for enrichment purposes.

Table 11

Frequencies and Percentages for Facilities-Related Items: Elementary Level Respondents

Item	Strongly Disagree		Disagree		Agree		Strongly Agree		NA	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
The school environment is clean and well maintained.	138	5.0	341	12.3	1405	50.8	826	29.9	55	2.0
Teachers have adequate space to work productively.	127	4.6	359	13.0	1607	58.1	639	23.1	33	1.2
The physical environment of classrooms in this school supports teaching and learning.	97	3.5	254	9.2	1615	58.4	760	27.5	39	1.4
The reliability and speed of Internet connections in this school are sufficient to support instructional practices.	344	12.4	676	24.4	1295	46.8	419	15.2	31	1.1

Table 12

Frequencies and Percentages for Facilities-Related Items: Middle Level Respondents

Item	Strongly Disagree		Disagree		Agree		Strongly Agree		NA	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
The school environment is clean and well maintained.	37	4.2	91	10.2	450	50.7	290	32.7	20	2.3
Teachers have adequate space to work productively.	42	4.7	106	11.9	503	56.6	225	25.3	12	1.4
The physical environment of classrooms in this school supports teaching and learning.	34	3.8	84	9.5	528	59.5	234	26.4	8	0.9
The reliability and speed of Internet connections in this school are sufficient to support instructional practices.	96	10.8	188	21.2	434	48.9	164	18.5	6	0.7

Table 13

Means and Standard Deviations Computed from Individualized Teacher Responses for Facilities-Related and Scale by Grade Level

Item	<i>Elementary</i>			<i>Middle</i>		
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>
The school environment is clean and well maintained.	2514	3.06	0.80	868	3.14	0.77
Teachers have adequate space to work productively.	2536	2.99	0.74	876	3.04	0.75
The physical environment of classrooms in this school supports teaching and learning.	2529	3.10	0.71	880	3.09	0.71
The reliability and speed of Internet connections in this school are sufficient to support instructional practices.	2540	2.64	0.89	882	2.76	0.88
Statistics for Scale	2452	2.95	0.60	852	3.01	0.61

Table 14

Means and Standard Deviations Computed from School-Level Teacher Responses for Facilities-Related Items and Scale by Grade Level

Item	<i>Elementary</i>		<i>Middle</i>		<i>t</i>	<i>d</i>
	<i>(n = 112)</i>		<i>(n = 39)</i>			
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
The school environment is clean and well maintained.	3.13	0.44	3.13	0.45	-0.10	-0.01
Teachers have adequate space to work productively.	3.01	0.34	3.06	0.37	-0.73	-0.06
The physical environment of classrooms in this school supports teaching and learning.	3.12	0.29	3.08	0.38	0.81	0.07
The reliability and speed of Internet connections in this school are sufficient to support instructional practices.	2.64	0.34	2.79	0.39	-2.24*	-0.18
Statistics for Four-Item Scale	2.98	0.29	3.01	0.33	0.69	0.06

* $p < .05$.

Question 4: Correlations between Teacher Perceptions and Student Achievement

Research question 4 concerns the extent of the relationship between the mean results from the urban elementary and middle teachers' perceptions of a) the seven "time-related" items and a scale mean derived from these items, b) five "resource-related" items and a scale mean derived from these items, and c) four "facilities-related" items and a scale mean derived from these items and concurrent of student achievement at their schools. After aggregating individual teacher perceptions of time, resources, and facilities to the school level, these school-level means were merged with publically-available "report card" data concerning each school's percentage of students proficient and advanced in Reading on the 2010 TCAP and each school's percentage of students proficient and advanced in Mathematics on the 2010 TCAP.

As shown in Tables 15, 16, and 17, statistically significant relationships were observed between TCAP achievement levels and teacher responses to at least some of the items concerned with time, facilities, and resources. When seen, such relationships were typically observed across the entire set of 147 schools having both sets of scores.

With respect to the time-related items presented in Table 15, relationships were observed between TCAP Reading and/or Mathematics proficiency levels and four of the seven surveyed items across all 147 schools and the subgroup of 110 elementary schools grade level. For all schools, such relationships were strongest between the TCAP results and the item concerning "educating students with minimal interruptions" ($r = 0.32$ for Reading, $r = 0.33$ for Mathematics), were next strongest with respect to the item concerning reasonable class sizes ($r = 0.24$ for Reading, $r = 0.22$ for Mathematics), and

were next strongest with respect to the items concerning “protecting teachers from duties that interfere with their role of educating students” ($r = .20$ for Reading, $r = 0.21$ for Mathematics). The item concerning teacher collaboration was statistically significant with respect to Math outcomes for all schools ($r = 0.18$), but with respect to both Reading and Mathematics for the subgroup of 110 elementary schools ($r = .19$, $r = 0.24$, respectively). While, relationships were observed for this aforementioned subgroup of 110 schools between Reading and Mathematics proficiency levels and items concerning interruptions ($r = 0.36$, $r = 0.37$, respectively), class size ($r = 0.25$, $r = 0.24$, respectively), and non-instructional duties ($r = 0.19$, $r = 0.23$, respectively), no relationships were observed between any of the time-related items and TCAP outcomes for the subgroup of 37 Middle schools. Interestingly, however, although statistically significant relationships were not observed between TCAP achievement levels and three of the items, the overall mean observed for the seven-item scale was significant for all 147 schools in both Reading ($r = 0.21$) and Mathematics ($r = 0.19$) and for the 110 elementary schools in both Reading ($r = 0.22$) and Mathematics ($r = 0.25$)

As was the case with the time-related items, no significant relationships were observed at the middle school level between teacher responses to any of the resource-related items and TCAP achievement results in either Reading or Mathematics. However, with respect to the item concerning teacher “access to a broad range of support personnel,” student outcomes in both Reading and Mathematics appeared to be linked to teacher perceptions both for all 147 schools ($r = 0.20$, $r = 0.22$, respectively) and for the subset of 110 elementary schools ($r = 0.29$, $r = 0.23$ respectively). For the entire set of

schools, a relationship was observed between student outcomes in TCAP Mathematics and the mean obtained for the entire scale ($r = 0.18$) and between student performance in TCAP Reading and teacher access to office equipment and supplies ($r = 0.18$).

Finally, as shown in table 17, there were, again, no statistically significant relationships observed at the middle school level between teacher responses to any of the facilities-related items and TCAP achievement results in either Reading or Mathematics. However with respect to both “all schools” and the 110 elementary schools, statistically significant relationships were observed for two of the four facilities-related items. For the entire group of 147 schools, TCAP outcomes for both subject matters were linked to teacher perceptions concerning the cleanliness of school environment ($r = 0.17$ in Reading, $r = 0.18$ in Mathematics) and to the physical environment of the classrooms ($r = 0.17$ in Reading, $r = 0.21$ in Mathematics) but only for TCAP mathematics the 110 elementary schools ($r = .20$ for the former item, $r = 0.19$ for the latter item) when analyzed independently. No relationships between student outcomes and teacher perceptions were observed for the remaining two facilities-related items or for the 4-item scale taken as a whole.

Table 15

Correlations between Time-Related Item and Scale Means and Percent Proficient in TCAP Reading and Mathematics 2010 for All Schools and by Grade Level

Item	<i>All</i>		<i>Elementary</i>		<i>Middle</i>	
	<i>(N = 147)</i>		<i>(n = 110)</i>		<i>(n = 37)</i>	
	<i>Read</i>	<i>Math</i>	<i>Read</i>	<i>Math</i>	<i>Read</i>	<i>Math</i>
Class sizes are reasonable such that teachers have the time available to meet the needs of all students.	.24**	.22**	.25**	.24*	0.19	0.10
Teachers have time available to collaborate with colleagues.	0.14	.18*	.19*	.24*	-0.02	-0.06
Teachers are allowed to focus on educating students with minimal interruptions.	.32**	.33**	.36**	.37**	0.19	0.14
The non-instructional time provided for teachers in my school is sufficient.	0.11	0.04	0.09	0.09	0.20	0.12
Efforts are made to minimize the amount of routine paperwork teachers are required to do.	0.11	0.05	0.11	0.15	0.14	0.00
Teachers have sufficient instructional time to meet the needs of all students.	0.07	0.02	0.06	0.11	0.15	0.06
Teachers are protected from duties that interfere with their essential role of educating students.	.20*	.21*	.19*	.23*	0.23	0.11
Correlations for Scale	.21*	.19*	.22*	.25**	0.19	0.09

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 16

Correlations between Resource-Related Item and Scale Means and Percent Proficient in TCAP Reading and Mathematics 2010 for All Schools and by Grade Level

Item	<i>All</i>		<i>Elementary</i>		<i>Middle</i>	
	<i>(N = 147)</i>		<i>(n = 110)</i>		<i>(n = 37)</i>	
	<i>Read</i>	<i>Math</i>	<i>Read</i>	<i>Math</i>	<i>Read</i>	<i>Math</i>
Teachers have sufficient access to appropriate instructional materials.	0.10	0.13	0.06	0.06	0.16	0.12
Teachers have sufficient access to instructional technology, including computers, printers, software and internet access.	0.08	0.15	0.11	0.16	-0.03	-0.03
Teachers have access to reliable communication technology, including phones, faxes and email.	0.13	0.14	0.15	0.15	0.08	0.07
Teachers have sufficient access to office equipment and supplies such as copy machines, paper, pens, etc.	.18*	0.14	0.17	0.17	0.21	0.14
Teachers have sufficient access to a broad range of professional support personnel.	.20*	.22**	.29**	.23*	-0.05	0.06
Correlations for Scale	0.16	.18*	0.18	0.18	0.09	0.08

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 17

Correlations between Facilities-Related Item and Scale Means and Percent Proficient in TCAP Reading and Mathematics 2010 for All Schools and by Grade Level

Item	<i>All</i>		<i>Elementary</i>		<i>Middle</i>	
	<i>(N = 147)</i>		<i>(n = 110)</i>		<i>(n = 37)</i>	
	<i>Read</i>	<i>Math</i>	<i>Read</i>	<i>Math</i>	<i>Read</i>	<i>Math</i>
The school environment is clean and well maintained.	.17*	.18*	0.19	.20*	0.11	0.15
Teachers have adequate space to work productively.	-0.08	-0.04	-0.11	-0.06	0.03	0.09
The physical environment of classrooms in this school supports teaching and learning.	.17*	.21*	0.18	.19*	0.14	0.18
The reliability and speed of Internet connections in this school are sufficient to support instructional practices.	0.04	0.01	0.01	0.05	0.17	0.17
Correlations for Scale	0.09	0.11	0.08	0.12	0.13	0.18

* $p < .05$. ** $p < .01$. *** $p < .001$.

In conclusion, this chapter provided the results and an explanation of the secondary data analysis used from this study. This chapter also displayed the data collection and method of analysis that was used to interpret the information studied. Each response was formulated to address the data findings and to answer the 4 research questions that surrounded this study.

Chapter 5

Summary and Discussion

Most researchers agree that a positive school climate exists when all students feel comfortable, wanted, valued, accepted, and secure in an environment where they can interact with caring people they trust (Loukas, 2007). Collectively and individually, a positive school climate can have a major impact on the success of all students in the school (Loukas, 2007). Moreover, a positive school climate can have a major impact on teachers and their job satisfaction and efficacy (Taylor & Tashakkori, 1995).

However, there is insufficient research from teachers' perspective in relationship to the elements of instructional time, resources and facilities and their relationship to student academic achievement. There are even fewer studies on teachers' perceptions of these elements and their affect student achievement.

School climate, specifically in urban settings, not only affects the students' behavior, it also affects the teachers' sense of job satisfaction and contributes to job higher retention (Taylor & Tashakkori, 1995). Lezotte (1989) notes that teacher' perceptions of school climate and culture could affect their ability to connect with the student thus affecting their ability to be effective teachers. Since teachers are mostly responsible for educating the students, it is imperative, that their perspective be added to the research in the field of education. This study examined teachers' perceptions of the school climate elements of instructional time, resources, facilities and their relationship to student academic achievement in elementary and middle schools in an urban school district.

This chapter provides a brief restatement of the problem, method and a detailed synopsis of the summarized findings and a discussion of the results as well as their relationship to the research questions through the theoretical foundational lens.

As previously stated, the researcher used secondary data to analyze teachers' perceptions of time, resources, and facilities and their relationship to student academic achievement. Schools in this study were elementary and middle schools located in a large district in the Southeastern region of the United States, which was selected, based on the grade configuration. The total enrollment for the large urban district was 102,798 students in 2009 school year as displayed earlier in Table 1.

Summary of Results

The researcher sought to identify aspects found in high achieving schools' climates that could attribute to their success. The literature identified multiple contributors; however, for this study the researcher analyzed the responses from classroom teachers by the use of a secondary data set related to the teachers' perception about the use of time during the school day, the level of access to resources needed to achieve the task, and the overall quality of the facilities in which they work.

According to the data results about the first aspect of instructional time, overall, elementary and middle school teachers believe there is good use of their time during the school day. Both groups of teachers believe they have time to collaborate, meet the needs of students, and sufficient non-instructional time. In as much, both groups of teachers feel that in order to optimize their time, more efforts should be made to minimize the required paperwork. In reference to the inspection of the percentages of

agreement and strong agreement for these items, the data revealed that with respect to efforts to reduce paperwork, less than a majority of elementary teachers view the use of time as less than optimal at a rate of (38.2%). At the other extreme, some (71.6%) of the respondents agree that time is available for elementary school teachers to collaborate with colleagues, while (60%) of the respondents feel protected from duties that interfere with their role of educating students.

Displayed in Table 4 are results pertinent to middle school teachers' responses to the time-related items. As with the elementary school teachers, the time-related item obtaining the lowest percentage of agreement/strong agreement among middle school teachers is for the item "efforts are being made to minimize the amount of routine paperwork teachers are required to do" (43%). Again, as with the elementary school teachers, more than (70%) of the middle school teachers seem to agree that "teachers have time available to collaborate with colleagues." However, somewhat more middle school teachers (60.1%) than elementary school teachers (54.3%) seemed to agree that "the non-instructional time" provided to them was sufficient.

Another interesting finding was that (60%) of the elementary teachers feel protected from duties that interfere with their role of educating students, yet (61.8%) believe there is too much required paperwork. This observation is somewhat contradictory in that, how is time protected, when paperwork requires time to complete? Additionally, although both groups of teachers agree that there is sufficient non-instructional time; middle school teachers had a higher response (60.2%) to this item. Such a high response rate may be due to the daily planning period that may vary from 45-

60 minutes daily, opposed to the 2 hour and 15 minutes per week guaranteed to elementary teachers. With respect to the time related items (Tables 5 and 6), few differences were observed. It is noteworthy that the means obtained across all seven items were exactly for the same for both elementary teachers and middle school teachers ($M = 2.54$). In contrasting the-means for groups, only two items proved to be significantly difference in the elementary and middle school teacher responses with respect to time. One was minimizing the amount of paperwork that teachers are required to do, and the sufficiency of instructional time to meet the needs of all students. In both instances, the differences favored the middle school teachers' collective responses.

The second aspect analyzed from the data was related to elementary and middle school teachers' perception about the level of access they have to instructional resources at their schools. For example, in review, both groups of teachers felt they have access to the resources when needed especially as it relates to communication technology, instructional materials, and support personnel; although middle school teachers believe that access to instructional technology could be increased. As shown in Table 7, the highest level of agreement among elementary teachers was observed for the resource-related item concerning "access to reliable communication technology, including phones, faxes, and email" (87.0%). Nearly as high was the level of elementary school teacher agreement to the item concerning teacher "access to appropriate instructional materials" (79.4%). While still above (70%), the lowest level of agreement among elementary school teachers was with respect to the resource-related items dealing with "access to

instructional technology, including computers, printers, software, and internet access” (70.7%).

As shown in Table 8, the level of agreement/strong agreement to the resource-related items among middle school teachers was similarly high. Some (85.3%) of the middle school teachers indicated that they had “access to reliable communication technology, including phones, faxes, and email,” while nearly that same percentage indicated that their “access to a broad range of support personnel” was sufficient. In contrast, only (61.2%) of middle school teachers reported that they had “sufficient access to instructional technology, including computers, printers, software and internet access” roughly (9.5%) fewer than was observed for elementary school teachers.

In general, as shown in Tables 9 and 10, the item means observed for elementary and middle school teachers with respect to resources trend higher for the former group, with the item concerning office equipment as the only exception ($M = 2.75$). As indicated in Table 10, no significant differences were observed between teacher groups for any resource-related item. In general, there were no reported differences between the teacher groups for any resource related items, thereby indicating that teachers believe they have adequate access to resources necessary to accomplish their instructional tasks.

The third aspect addressed in the results was related to teachers’ perceptions about the overall quality of the facilities in which they work. As it regards facilities (Table 11), over (80%) of elementary teachers appear to agree that the facilities are clean and well maintained (83.4%), that their work space is sufficient (80.7%), and that the physical environment is supportive of teaching and learning (85.9%). Surprisingly, however, more

than one-third of all responding elementary teachers disagreed when asked about “the reliability and sufficiency of internet connections . . . to support instructional practices” (36.8%).

As shown in Table 12, the responses of middle school teachers to the facilities-related items were similar to those among elementary school teachers, with some (83.4%) of the former agreeing that facilities are clean and well maintained, some 81.9% agreeing that their work space is sufficient, and some (85.9%) agreeing that the school’s physical environment is supportive of teaching and learning. While somewhat more middle teachers than elementary school teachers felt that “the reliability and speed of Internet connections” were sufficient for instructional purposes, almost one-third of their number perceived this not to be the case (32%).

As with teacher responses to the resources-related items, there was little difference in their responses to the facilities-related items (Tables 13 & 14). As suggested above, there appears to be some difference in elementary and middle school teachers’ perceptions of the functionality of their connections to the Internet for instructional purposes. This result is understandable as elementary schools tend to have older computers that are primarily used for student practice in acquiring basic skills and for enrichment purposes. According to the data collected, both groups of teachers believe that the school facilities are clean and well maintained, and that their workspace is sufficient and supportive for the teaching and learning process. Also both groups felt the reliability and sufficiency of Internet connections that support instructional practices should be enhanced. This feeling was more prevalent among elementary school teachers

and is reasonable since elementary schools tend to have older computers that are primarily used for student practice and enrichment activities, unlike middle teachers use during lesson presentation, class research and instructional activities.

The last set of data reviewed was the relationship between the mean results from elementary and middle school teachers' perceptions about the related items concerning time, resources, and facilities and that of schools whose achievement results were proficient in reading and math on the 2010 Tennessee Comprehensive Achievement Program (TCAP) assessment. This aspect addressed the extent of the relationship between the mean results from the urban and middle school teachers' perceptions of a) seven item "time-related" items and a scale mean derived from those seven items, b) five "resource-related" items and a scale mean derived from these items, and c) four "facilities-related" items and a scale mean derived from those items and concurrent student achievement at their schools. This information is provided in Tables 15, 16, and 17.

There were four "time-related" items that were significant when correlations were computed between these items and the scale mean and percent proficient in TCAP Reading and Mathematics (see Table 15). The strongest relationship among "all schools" was between TCAP results and the item concerning minimizing interruptions for Reading, Math). Commonsensically, these results imply that if teachers are allowed to focus on teaching students without interruptions, student achievement will definitely increase. The second strongest relationship in the "all schools" category was having class sizes that are reasonable so that the needs of all students can be met ($r = 0.24$ for

Reading, $r = 0.22$ for Mathematics). Based on these outcomes, teachers perceive that class size is a critical factor with respect to their ability to reach students and help them achieve. The results would further indicate that this is even more strongly the case in elementary settings. The third strongest relationship was between TCAP results and protecting teachers from duties that interfere with educating students ($r = 0.20$ for Reading, $r = 0.21$ for Mathematics). Lastly, the item concerning teacher collaboration was statistically significant with respect to Math ($r = 0.18$) for “all” schools. However, at the elementary level, collaboration has a significant relationship with students scoring proficient on TCAP, with respect to both Reading ($r = 0.19$) and Mathematics ($r = 0.24$).

There were also four “time-related” items that were significant at the “elementary” level when correlations were measured between these time-related items and scale means and percent proficient in Reading and Mathematics on TCAP: namely, the items concerning interruptions ($r = 0.36$, $r = 0.37$), class size ($r = 0.25$, $r = 0.24$), protection from non-instructional duties ($r = 0.19$, $r = 0.23$), and collaboration ($r = 0.19$, $r = 0.24$). Surprisingly, there were no relationships observed between any “time-related” items and TCAP results for middle schools. It is to be noted that while middle school teachers are concerned about these issues, their responses to the survey do not co vary with students’ performance. Overall, the mean observed for all seven survey items was significant for all of the schools in both Reading ($r = 0.21$) and Math ($r = 0.19$) and for the elementary schools in Reading ($r = 0.22$) and Math ($r = 0.25$).

Relationships between teachers’ perceptions of how well resources were being used and student achievement are displayed in Table 16. Although teacher responses did

not co vary in general with respect to resource issues, a major exception concerned the availability of professional support personnel, For that item, there was a relationship between student achievement in Reading ($r = 0.20$) and Mathematics ($r = 0.22$) for all 147 schools as well as for elementary schools only in both Reading ($r = 0.29$) and Mathematics ($r = 0.23$). In addition to these findings, for all 147 schools, a relationship was observed between student achievement in TCAP Mathematics ($r = 0.18$) and the means for the entire scale and for TCAP Reading and the item concerning teacher access to office equipment and supplies ($r = 0.18$).

What these results would seem to imply is that teachers most require support from a broad range of professional personnel in the area of Mathematics. Such professional support personnel can assist math teachers with the implementation of intervention programs such as Stanford Math, Algebra Readiness, and Study Island. On the other hand, teachers perceive that sufficiency of access to office equipment and other supplies are especially critical to student achievement in reading. This level of access enables teachers to make copies of formative tests, print short stories, or create capstone projects. Surprisingly, no significant relationships were observed between middle school teacher responses and student outcomes on the TCAP assessment in Reading and Mathematics. This does not mean that resources are not important to middle school teachers. It simply means their responses to the five resource-related items did not systematically co vary with student outcomes on the TCAP in Reading and Mathematics.

Lastly, correlations between teachers' perceptions of "facilities-related" items and student achievement were displayed in Table 17. There were no significant relationships

between the responses of middle school teachers to any of the four facilities-related items and TCAP achievement in either Reading or Mathematics. However, with respect to “all schools, significant relationships were observed between as regards teachers’ perceptions of the overall cleanliness and maintenance of the school environment in both Reading ($r = 0.17$) and Mathematics ($r = 0.18$), and their perceptions of the support for learning provided by the physical classroom environment in both Reading ($r = 0.17$) and Mathematics ($r = 0.21$)—relationships that were also found with respect to the elementary level in Mathematics as well. All of these responses underscore how simply keeping the school attractive, clean and in good working order can positively impact student achievement and how an excess of broken furniture, broken equipment, and other non-functioning school artifacts can undercut the learning efforts of teachers and students. Students learn best when they are comfortable and teachers and students have access to operable instructional equipment. If instructional leaders show that they really care about the facilities, then students will see that someone really care and student achievement will go up.

In summary, school climate issues bearing upon time, resources, and facilities, although often overlooked, would seem to remain important in helping teachers to help students learn. When these factors align with and support teachers’ work, they are enabled to focus on educating students with minimal interruptions and without distractions. It is to be noted that school leaders have some control over the majority of these time- facilities, and resource-related matters. Thus, they should pay particular attention to these matters as they plan prior to and during the school year. In developing

such plans, leaders should be especially solicitous of teacher input as teachers are the true soldiers taking on the fight of educating students in urban school settings and their perceptions of the quality of these settings does seem to make a difference.

Discussion of Results

In light of the continuous search for school reform models that effectively consider all aspects of the school organizational structures, the researcher addressed considerations from the teachers' perceptions about their working environment and set out to determine if there was a relationship to student achievement. The aspects, of the school environment found in the literature and substantiated by the surveyed respondents that motivate teachers to perform at high academic standards are the use of time, access to resources, and the quality of the facilities.

Although, the literature indicated that the school climate does impact student achievement, it also identified that a learning environment must have certain attributes in order to facilitate effective teaching and learning. For the purpose of this study, time, resources, and facilities were surveyed. The MET surveyed item in reference to "time" reported the strongest relationship between TCAP results and the item concerning "educating students with minimal interruptions" ($r = 0.32$ for Reading, $r = 0.35$ for Mathematics). The next strongest relationship was between TCAP results and the item concerning reasonable class size ($r = 0.24$, Reading, $r = 0.22$ for Mathematics). The MET surveyed item in reference to "resources" reported the strongest relationship between TCAP results and the item concerning teacher "access to a broad range of support personnel" ($r = 0.20$, Reading, $r = 0.22$, Mathematics). With respect to elementary and

middle schools “facility” related items, significant relationships were observed between TCAP results and cleanliness of the school ($r = 0.17$, Reading, $r = 0.18$, Mathematics). There was also a relationship between the physical environment of the classroom and TCAP results ($r = 0.17$, Reading, $r = 0.21$, Mathematics). One interesting factor revealed in the study was the responses of middle school teachers on the MET survey. The responses of middle school teachers in all three surveyed items did not coincide with the results on the TCAP. These responses were not considered dissatisfiers or insignificant to middle school teachers. It just meant that the responses didn’t match the outcomes on the TCAP.

In comparison to the data results outlined in chapter 4 and the review of the works from Herzberg (1959), the motivators that can influence teachers to perform at higher levels in urban schools are the possibility of achievement, also referred to as personal accomplishment, and the work itself of educating students. From the stance of the teachers, such motivators as human resources can serve as motivators for both elementary and middle school students. In contrast, hygiene factors that could result in job dissatisfaction were not evident in any of the responses as a problem because teachers perceive that they have good interpersonal relationships because there is time to collaborate with their colleagues and the facilities facilitate adequate working conditions that served as motivator for job satisfaction. However, severe constraints on time and resources could swiftly convert the motivators to hygiene factors for the teachers. In conjunction, teachers who have experienced success in urban schools believe that academic success is obtainable and thereby expend extra efforts to accomplish it with

available resources, which substantiate the works of Weiner (1980). Likewise, when success and high achievement is accomplished in similar settings, teachers tend to be motivated to believe it can occur for them at their school.

Implications for Leadership and Climate in an Urban School Environment

Urban schools continue to search for teachers who can make a difference in educating the students they serve. It is the role of the school leaders to provide a work environment that facilitates student success. Based on the information found in this study, the following implications concerning the elements of the school climate as it relates to use of time, the level of access to resources, and the quality of the facilities were identified as inferences for elementary and middle school leaders in the Southeastern region of the United States to influence teachers' perceptions and to motivate them to achieve high levels of academic success for students.

The first implication for school leaders is that there is a need to allocate funds to purchase new technology, and provide access to technology, supplies and other resources for teachers to use at will to accomplish desired academic related tasks, as well as provide reliable internet access and computer-based instructional material to aid teaching and learning. By doing so, teachers can have access to 21st century technology as a teaching tool that they deem necessary to achieve academic success. For example, elementary and middle school teachers reported that they need teacher assistants, school psychologists, and guidance counselors, etc. It is to be noted that reading teachers have a greater need than math teachers as related to sufficient access to office equipment such as copier, paper, and pens.

The second implication for school leaders is that systems must be put in place to minimize the required paperwork teachers are expected to routinely complete in order to free up time to educate students; because teachers believe that paperwork can cause them to lose valuable instructional time. Teachers should also be protected from duties that interfere with educating students such as: hall duty, supervising other students, etc during instructional time.

A third implication, specific to elementary principals is to consider master scheduling strategies that can provide teachers with more non-instructional time to plan, similar to that of middle school teachers. For example, middle school teachers have 55 minutes of planning time daily, opposed to the 2 hours and 15 minutes weekly.

A fourth implication is teachers agree that time is sufficient to collaborate with colleagues. This implication is justified because the MET survey indicated that elementary and middle school teachers (26%) need time to collaborate with colleagues. Another implication from the study is that the physical environment yields a minimal impact to teachers' perceptions about their work environment. For example, more than (80%) of elementary and middle teachers deemed the physical classroom environment was suitable to meet the instructional needs. Although time, facilities, and resources were important to middle school teachers; it appeared that there were no significant relationship between the survey items, teacher responses, and student outcomes on the TCAP; thereby implying that facilities are adequate for high student achievement.

An implication for school leaders who lead schools that have proficient scores on TCAP in reading and math according to federal benchmarks is that the class sizes do

impact effective teaching and learning. In essence, the implications ascertained in this study can be used to identify recommendations to influence student achievement.

The researcher also deemed it necessary to provide specific recommendations to school leaders who lead schools that have proficient scores on TCAP in reading and math in order to perpetuate the results and monitor working conditions so that the dissatisfiers of the job do not impact performance. Therefore school leaders should consider ways to limit interruptions during the school day and structure other duties so that they do not interfere with instruction. Also consider that in order to effectively meet the needs of students, the class sizes must be small enough to individualize the instruction via a low number of students per class or professional support personnel available to assist in differentiating the instruction.

Recommendations for Further Research

The field of education must find ways to motivate teachers to not only remain, but also perform at high levels to improve student achievement. The role of school leaders is to provide working conditions within the school to accomplish such a task. Following is a list of recommendations for additional research that can broaden knowledge base for this topic:

1. What specific resources must exist in schools to improve student learning?
2. How much instructional time is needed in urban schools to increase student achievement?
3. What specific characteristics must be present in a facility to motivate teachers and students to perform at their highest levels?

4. How do teachers in high, rural or suburban schools feel about the use time, access to resources and quality of facilities?
5. How do teachers in other regions of the United States feel about the use time, access to resources and quality of facilities in the schools they work?

Conclusion

The crisis of increasing test scores in urban schools and the achievement gap between upper-income and lower-income students is a monumental problem facing school districts all across the country (Education Report, 2011). In as much, school leaders may benefit from this study by ensuring that school climates provide structures that nurture and consider the key factor that has the greatest impact on student achievement, the teacher.

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Appendix

THE UNIVERSITY OF MEMPHIS

Institutional Review Board

To: Rosalind Renee Martin
Leadership

From: Chair, Institutional Review Board
For the Protection of Human Subjects
irb@memphis.edu

Subject: An Examination of Elements of Climate and their affects on Student
Achievement in Middle School Schools of 6-8 a grade structure
(041111-369)

Approval Date: May 24, 2011

This is to notify you that the Institutional Review Board has designated the above referenced protocol as exempt from the full federal regulations. This project was reviewed in accordance with all applicable statuses and regulations as well as ethical principles.

When the project is finished or terminated, please submit a Human Subjects Research Completion Form (COMP) to the Board via e-mail at irbforms@memphis.edu. This form can be obtained on our website at <http://www.memphis.edu/irb/forms.php>.

Approval for this protocol does not expire. However, any change to the protocol must be reviewed and approved by the board prior to implementing the change.



Appendix B



Research, Evaluation & Assessment

Every Child. Every Day. College Bound.



September 1, 2011

Rosalind Martin
University of Memphis
Martinr1@mcsk12.net

Ms. Martin,

After consideration of your proposal, *An Examination of School Climate and Student Achievement in Middle Schools*, we have approved your request to conduct a research study in the Memphis City Schools. You should use this letter as official notification of approval for your study.

I look forward to working with you in the completion of this project.

Please direct any inquiries to me via email at 

Regards,

