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School culture: a sequential mixed methods exploratory meta-analysis

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SCHOOL CULTURE
A Sequential Mixed Methods Exploratory Meta-Analysis

by

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Dedication

I dedicate this study to my Lord and Savior, Jesus Christ. Through him, all things are possible. This work is proof of Divine intervention. I know I did not complete this study on my own—you were there.

To all educational leaders who are humble enough to realize that attempting to change an individual's values and beliefs to match their own is an egotistical self-serving endeavor. The influence we have, as educational leaders, over experience, perception, social preferences, and expectations is enough.

To all of the effective educators who just want to teach without interference—I hear you.

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A dissertation is not the result of an individual's efforts. I cannot understate the immense sacrifices of all who have endured this dissertation process alongside me.

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I am blessed to have an understanding family. I look forward to the time when I can rejoin the activities. I miss them. They have understood as I selfishly put my needs and this dissertation process above visiting, celebrations, vacations, and even shopping.

It is a blessing to have a supportive husband. I look forward to rejoining our marriage, helping to maintain the house, and maybe cooking dinner again. I know he looks forward to having and deserves to have, a smaller share of the responsibility.

No matter how long I worked or how tired I got, I could always count on the comfort and kisses of Bella, Bing, and Jack. They were always by my side every minute of each late night and early morning, while I wrote and rewrote.

It is a blessing to have a beautiful, intelligent, and extraordinary daughter. I am exceedingly proud of her. I hope I have been a worthy model of integrity, scholarship, and perseverance, as she sets out on her own academic journey. I know she will be successful.

Abstract

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This multi-national study used systematic review as a data collection technique to determine the current field of empirical studies that posit a definition of school culture and its characteristics. The data gathered from a qualitative synthesis and analysis of the acquired studies informed school culture taxonomy. The taxonomy presented domains, classes, categories, characteristics, and elements, which became the variables for meta-analysis. This adapted methodological process resulted in a valid and generalizable definition of school culture. The adapted sequential mixed methods exploratory approach used in this study resulted in the generation of grounded theory. The grounded theory is a definition of school culture that depicts its descriptions, domains, classes, categories, characteristics, and elements. *School culture is the distinct individual social preferences, perceptions, experiences, and expectations of each school community member (i.e. administrators, teachers, parents, support staff, and students) that forms the collective internal school environment.* This resolution is essential to educational leadership, policymakers, and the research community.

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Chapter 1
Introduction

Anthropologists and sociologists are the examiners of culture (House & Javidan, 2004). Anthropologists first applied the concept of culture to explain the ways of social groups (Peterson & Deal, 2009; Triandis, 2004; Hofstede, 2001). Sociologists expanded the idea into areas such as personal relationships and collective moral codes (Waller, 1967). The result is culture falls under a multitude of descriptions and understandings describing "the ability of people who think differently to work together" (Hofstede, 2001, p. xv).

When a collective uses the word culture, their purpose determines its interpretation (Atkinson & Delamont, 2005). The meaning of culture changes, when the cause of the collective changes. Various researchers believe it is not appropriate to define culture because defining culture suggests society is capable of being organized. The organization of society inspires concern from many perspectives (Atkinson & Delamont, 2005).

Before there can be a precise definition of culture, there must be a reevaluation of analytic strategies to avoid “fragmented reductionism” (Atkinson & Delamont, 2005, p. 823). Whenever the qualitative research community seeks to determine the full realm of understanding on a subject, the use of multiple modes of inquiry such as discourse analysis, visual analysis, and narrative study, prevents fragmented reductionism (Atkinson & Delamont, 2005). Research based in only one analytic form creates a myopic view of the subject. When faced with a complicated topic, using a combination of rigorous strategies avoids reducing the data to simplistic explanations that ignore complex structures.

Like culture, school culture is a complex field of study. There are issues involving subjectivity and validity characteristic of its distinctive nature. Sarason (1996) acknowledges this when he writes, "We come [to school] with images, expectations, and implicit and explicit attitudes" (p. 14). These preconceptions lead to various forms of bias. Nearly all researchers have first been participants in school. Therefore, as observers of schools, we do not come to the task with blank minds (Sarason, 1996).

To further complicate the study of school culture, in addition to the notion of researchers being bias observers without a definitive idea of what is being studied, Redfield and Malinowski (1948) describe culture as the "co-operative working of partly independent, partly coordinated institutions within the group" (p. 302). This description indicates that culture is not only a group practice, but also a group action. To support this theory, Chhokar, Brodbeck, and House (2008), define culture as the "practice of entities" (p. 4).

Respective of the irreconcilable understandings of culture, the study of school culture is a worthy endeavor. It is necessary to understand school culture—to define and relate it with enough clarity for educational leaders to use while keeping in mind the pitfalls of fragmented reductionism and bias. American academicians have developed an understanding of educational practice, which focuses on the connections between private and public policy. That is, policies, which directly affect individuals, often use the term school culture as a descriptor or component (Bradford, Gary, & Wallach, 2000).

Schools are social entities because individuals grow and develop there (Waller, 1967). Yet, even social scientists cannot agree upon a universal definition of culture (House & Javidan, 2004). The relationship between cultural study and cultural policy is

explicit (Bradford, Gary, & Wallach, 2000). Not having a universally accepted definition of school culture affects social policy. "What is one person's cultural exchange is another person's imperialism; what is one person's educational frill raises another's test scores" (Bradford, Gary, & Wallach, 2000, p. 11).

Researchers continue to work to understand the influence of school culture (Peterson & Deal, 2009). However, there is a notable lack of indisputable information, alongside a wealth of conflicting theory, concerning its interpretation. Due to this inconsistency, school culture becomes confused with the terms school climate and school ethos (Peterson & Deal, 2009). Educational psychologists argue whether schools even have a unique culture (Peterson & Deal, 2009; Sarason, 1996; Waller, 1967). Some researchers warn against describing any culture as unique (Martin, 2002), though few educational researchers have pragmatically studied school culture exclusively.

One of the few contemporary works that centers on school culture is *The Shaping School Culture Field Book* by Peterson and Deal (2009). Five of the eighteen citations referenced in this book are works by Terrence Deal, the author, and another two are by Edgar H. Schein (Peterson & Deal, 2009), whose research focuses primarily on organizational culture—not school culture. School culture should be a well-researched subject of sound and objective data that facilitates school improvement. Unfortunately, it is not.

Educational leadership desires to transform school culture. Peterson and Deal (2009) indicate this aspiration in *The Shaping School Culture Field Book*: "Over the past few years, interested leaders have asked us to help them learn how to read, appraise, and shape the culture of their school or district" (p. 1). The ability to transform school culture

is the difference between transformational leadership and transactional leadership. If changing a school's culture is the essential element that distinguishes these two types of leadership, then school leadership must have strong, unbiased research to help navigate school culture (Fullan M. , 2007).

Educational leadership tries to connect with the local community and larger society in order to address the needs of their students. Culture plays a sizeable role in this effort. "[Culture is] the glue which holds together members of a community, or a force which links a locality to the larger society" (Bradford, Gary, & Wallach, 2000, p. 253). If school culture is the key to linking schools to the community and society, then it is not enough to base school administrative policies and decisions on research specific to organizational, business, or community culture. Educational leaders and school policy makers must base policies and decisions concerning schools on research about culture that is specific to schools.

Cultural scholars have replaced objectivity with special interests (Bradford, Gary, & Wallach, 2000). "This problem is not only a methodological one but, it is also a disciplinary one; driven by overspecialization" (Bradford, Gary, & Wallach, 2000, p. 349). If the conclusions drawn by cultural scholars are too subjective, they are of little use to school leadership. School leadership will fail because of unexplained cultural differences by country, by industry, by occupation, and by history (Bradford, Gary, & Wallach, 2000). Researchers must investigate school culture while focusing on helping educational leaders to establish appropriate policy for all schools and communities (Bradford, Gary, & Wallach, 2000).

The study of school culture has resulted in tension between research and understanding (Sergiovanni & Corbally, 1986). School culture is a determinant of student and leadership success; it has the ability to influence and explain resistance to change (Fullan M. , 2007; Evans, 2001). Still, there are differing opinions, definitions, and examples of school culture characteristics, approximately dating as far back as 1932 (Waller, 1967; Peterson & Deal, 2009). One key opinion is that school cultures are unique—different and separate from cultures of organizations, businesses, and communities (Peterson & Deal, 2009). In spite of this suggestion, no standard definition or complete arrangement of characteristics exists that is explicitly fundamental to schools. To complicate matters further, there is an inconsistency between school culture, school ethos, and school climate, which contributes to the tension and confusion (Van Houtte & Van Meale, 2011; Peterson & Deal, 2009).

Researchers, such as Schoen and Teddlie (2008), published studies to develop a comprehensive school culture model and eliminate the confusion of culture-relevant terms. However, attempts at clarification resulted in more confusion because of the lack of a clear, foundational definition of school culture, based solely on the unique characteristics of a school. Appeals from the research community propose the clarification of school culture and its role in school effectiveness (Van Houtte & Van Meale, 2011; Peterson & Deal, 2009). School culture, as comprehensive knowledge, needs to be universally applicable (Waller, 1967). School culture influences leadership and every organizational process. Yet, researchers are just beginning to understand how (House & Javidan, 2004). Vague definitions of school culture involving descriptions of alternative realities and perceptions of what is, and what should be (Sarason, 1996) are

not helpful to school leadership practice. If the school community is going to continue to make use of the term school culture as a determinant of change, then finding out what school culture is, and what makes school culture unique, is crucial.

Most inquiries into school culture have been qualitative in nature. Qualitative research must always occur before quantitative research (Waller, 1967). This investigation of school culture stretched current methodology further by employing an adapted sequential mixed methods exploratory process.

This multi-national study used systematic review, as a data collection technique to determine the current field of empirical studies that posit a definition of school culture and its characteristics. The data gathered, from a qualitative synthesis and analysis of the acquired studies, informed school culture taxonomy. The taxonomy presented terms, which became the variables for meta-analysis. This adapted methodological process resulted in a validated and generalizable definition of school culture. The adapted sequential mixed methods exploratory approach used in this study resulted in the generation of grounded theory. This theory is a definition of school culture that depicts its descriptions, domains, classes, categories, characteristics, and elements. *School culture is the distinct individual social preferences, experiences, perceptions, and expectations of each school community member that forms the collective internal school environment.* This is essential to educational leadership, policymakers, and the research community.

Problem Statement

Evidence and studies suggest culture is a critical aspect of schools, and a crucial component for creating change in schools; even though, there is no standard definition of culture (Bolman & Deal, 2008; Chhokar, Brodbeck, & House, 2008; Hofstede &

Hofstede, 2005; Hofstede, 2001; House & Javidan, 2004; Schein, 2004; Peterson & Deal, 2009; Sarason, 1996). Since there is no standard definition of culture, school culture has the ability to become an ideological instrument for submission and control that promotes social and political agendas (Bradford, Gary, & Wallach, 2000).

A research term with multiple definitions gives researchers license to pick and choose whichever analytic result suits their personal preference or cause (Bradford, Gary, & Wallach, 2000; Sergiovanni & Corbally, 1986). The lack of a precise definition of school culture results in intellectual confusion, inadequate change initiatives, and leadership difficulties (Peterson & Deal, 2009; Van Houtte & Van Meale, 2011) with no prospects for resolution. There are toxic cultures, which threaten the educational system (Peterson & Deal, 2009). For future school leaders, who are expected to transform school culture (Fullan M. , 2007), there must be a concerted effort to define school culture or risk continued ineffective change and perpetuated institutional bias in schools.

Policymakers, school administrators, teachers, parents, students, and communities have expectations of their schools (Evans, 2001; Fullan M. , 2007; Peterson & Deal, 2009). If a school is not performing according to expectations, school leadership is obligated to implement change. School change does not succeed without cultural support. "Everything we do, and we do mean everything, is affected by culture" (Peterson & Deal, 2009, p. 7).

It is time to revise and rethink school culture in today's educational environment. Students deserve to learn in the best schools educational leaders have the ability to provide. The need for leaders to move forward and create a positive school culture has never been greater (Peterson & Deal, 2009). Successful school leaders must advance

systemic transformational change, which requires leadership to change a school's culture (Evans, 2001). Without the ability to define a school's culture, one does not have the ability to transform a school's culture.

Purpose Statement

The purpose of this multi-national adapted sequential mixed methods exploratory investigation was to prove a definition of school culture and its characteristics. Establishing a definition of school culture enables school leadership to create transformational cultural change.

Data collection for this study began with a systematic review of the empirical literature that posited a school culture definition. Synthesizing and analyzing the gathered data in a constant comparative method informed school culture taxonomy. The terms from the taxonomy were meta-analyzed, which provided valid and generalizable results. These combined methods resulted in the generation of grounded theory, which depicts the descriptions, domains, classes, categories, characteristics, and elements specific to school culture. This resolution is essential to school leadership, policymakers, and researchers. This study answered the following questions:

1. According to a qualitative synthesis and analysis of empirical research, what are the characteristics of schools?

2. According to a qualitative synthesis and analysis of empirical research, what are the characteristics of school culture?

3. According to a qualitative synthesis and analysis of empirical research, what are the structural elements of school culture?

4. How does a qualitative synthesis and analysis of the empirical research on school culture, school culture characteristics, and school culture elements inform taxonomic analysis?

5. What hypotheses emerge from the findings of a qualitative synthesis and analysis of the empirical research on school characteristics, school culture characteristics, school culture elements, and school culture taxonomy?

6. How does a qualitative synthesis and analysis of the empirical research on school characteristics, school culture characteristics, school culture elements, and school culture taxonomy inform a meta-analysis?

7. How do the findings of a qualitative synthesis and analysis, the variables of school culture taxonomy, and meta-analysis contribute to the emergence of grounded theory?

8. According to existing empirical research, what is the definition of school culture?

Significance of the Study

This study organized the internal and external environments of school characteristics. These school environments developed into descriptions, domains, classes, and categories. The constant comparative method used in synthesizing and analyzing the school domains, classes, and categories assisted in the supposition of school culture characteristics and elements. The domains, classes, categories, characteristics, and elements became the taxonomic variables. The variables from the taxonomy were meta-analyzed—proving valid and generalizable. The valid and generalizable determination of school characteristics, school culture characteristics, and the structural elements of school

culture provided the foundation for grounded theory. The developed grounded theory established a definition of school culture characteristics, school culture elements, and school culture itself. This definition of school culture provides the ability of assessment, replication, and inquiry to produce systemic, transformational school change; and informs school leadership, policymakers, and researchers.

Practice

Peterson and Deal (2009) discussed cultural leadership in *Shaping School Culture*. Based on the theories of organizational business culture, *Shaping School Culture* illustrates school culture's influence on educational practice. Peterson and Deal (2009) claim that culture is an "unwritten tablet of social expectations" (p. 9); it shapes the way teachers think, feel, and act (Peterson & Deal, 2009).

Evans (2001) reported transformational school leadership requires the ability to change school culture. According to the unwritten tablet of Peterson and Deal (2009), this denotes a school leader needs the ability to modify the way teachers think, feel, and act—if they are to create transformational change in their schools.

Peterson and Deal (2009) also address culture's affects on student behavior, student motivation, school effectiveness, and educational productivity. Their assertion—culture directly contributes to school effectiveness—has been the inspiration of much research seeking to improve school effectiveness and leadership practice.

Figuring out how to change school culture has become a popular school reform initiative. Websites such as "The Change Leader" found at *The Center for Development and Learning* at: http://www.cdl.org/resource-library/articles/change_ldr.php as of 6 January 2012, aspire to help school leaders create a positive and collaborative culture

within their schools. Similar to Schein (2004), and Peterson and Deal (2009), Dr. Michael J. Fullan, the author of "The Change Leader," bases his school culture definition and characteristics on business organizations. His primary school culture reference is a book by J. Collins, written in 2001, titled: *Good to great: Why some companies make the leap...and others don't* (Fullan M. J., 1992).

Building school cultural theory on organizational business theory (Fullan M. J., 1992; Peterson & Deal, 2009; Schein, 2004) and expecting school leadership to change the way a teacher thinks, feels, and acts (Peterson & Deal, 2009) are the results of not having a clear and pragmatic definition of culture that is unique to schools. This study addressed this deficit for the purpose of empowering educational practice and policy with the capacity to recognize school culture and replicate desired cultural characteristics.

Policy

The state of New Jersey created the publication, *Collaborative Professional Learning in School and Beyond: A toolkit for New Jersey educators* (2006), to address concerns regarding the development of "true learning communities" in schools (Killon, 2006, p. 8). This toolkit, designed for teachers, teacher leaders, and administration at all school and district levels, illustrates the need to create a "culture for student achievement" (Killon, 2006, p. 28). The toolkit provides evidence of the importance of establishing a school culture that encourages continuous improvement. The publication indicates the necessity of schools to have a culture comprised of shared responsibility, support, and learning. The use of culture is excessive throughout this document (Killon, 2006).

The state of New Jersey assumes culture has an impact on instruction, responsibility, collaboration, school improvement, student achievement, and teacher

support (Killon, 2006). *Collaborative Professional Learning in School and Beyond: A toolkit for New Jersey educators* (2006) is persistent in its presentation of culture without defining it. This ambiguous word usage is not conducive to the clarity needed in public school policy and practice.

The state of New Jersey is not alone in its ambiguous use of the word culture, or school culture, in educational policy. Delaware uses the term school culture in its "Professional Standards and Interstate Licensure Policy" (Assembly, 2009). New York uses culture and school culture in its publication of the "New York Educational Administrative Code" (The State of New York, 2010). The words school culture were used in the "The Pennsylvania Code: Title 22 Education" (The State of Pennsylvania, 1985) over three hundred times. None of these examples of the terms culture and school culture, frequently used in state educational policy, indicated a definition explaining the intention of its use. A precise meaning of school culture will help to eliminate ambiguous educational policy. Eliminating ambiguous educational policy will enable educational leadership to use the term school culture, throughout the United States, uniformly, collaboratively, and effectively.

For educational policymakers, the definition of school culture posited by this study provides a common language of universal meaning to establish a base of understanding when creating educational policy. The use of this definition of school culture by educational policymakers will result in a shared meaning that resonates between states and regions.

Research

Researchers, such as Van Houtte and Van Meale (2011), have called for a consensual definition of school culture because there is confusion between the terms school culture, school climate, and school ethos throughout the research community (Schoen & Teddlie, 2008). Educational researchers have an obligation to clarify the differences between school culture, school climate, and school ethos; or accept responsibility for the lack of clarification and its correlation to school failure and institutional bias.

Methodologically, studies of school culture typify "theoretical pluralism," or multiple theories leading to multiple interpretations of similar data (Westoby, 1990, p. x). In addition, school culture researchers collect diverse types of evidence that are difficult to compare and offer partial or temporary explanations to research questions (Westoby, 1990). For the research community, this study developed a definition of school culture that is a foundation to begin further inquiries to inform, rather than confuse, researchers and practitioners.

Methodologically, this study shows how existing theories of school culture come together through qualitative synthesis and analysis utilizing constant targeted comparison. The adapted methodology, used in this study, supports and encourages researchers to synthesize and quantitatively analyze qualitative research to inform and construct valid theory. This inquiry, into school culture, intends to inspire further validation and exploration regarding the posited definition of school culture.

This study organized school characteristics into external and internal environments through qualitative synthesis, qualitative analysis, and constant targeted

comparison. Taxonomy of school domains, classes, categories, characteristics, and elements developed. The variables from the taxonomy were meta-analyzed, establishing a valid and generalizable foundation for grounded theory. The developed grounded theory explained school characteristics, school culture characteristics, the structural elements of school culture, and the definition of school culture. The use of this definition of school culture enables further inquiry, assessment, and replication of school culture and its characteristics by school leadership, policymakers, and researchers to produce systemic, transformational school change.

Delimitations

Empirical school culture research, in the forms of content related journal articles, unpublished papers, dissertations, theses, and conference papers, informed this study. There was no predetermined starting date for collected data. This study sought to include all school culture research as of 14 July 2011. Excluded studies were those without a methodological sample, those that proposed a causal relationship between culture, change, and leadership, and those that took into consideration or evaluated only one school community member's viewpoint of school culture.

The studies located that did not have a methodological sample were theoretical—not empirical—and could not be included for synthesis, analysis, and meta-analysis. The studies that proposed a causal relationship between culture, change, and leadership had a strong potential for bias; striving to create a cultural depiction relating to the avocation of a change strategy, change theory, or leadership style. The studies that used only one school community member's view were obviously biased. If kept, these myopic studies

would undermine the results of the methodological analyses by creating an imbalance of perspective.

As much research as possible became part of this study's data, dependent upon the realities of procurement. This process of inquiry required the review of all empirical school culture research for validity; however, it is naïve to think every piece of applicable research, past and current, was included.

Data collection was not limited to the English language. If necessary, converting data took place by using Google Translate (http://translate.google.com/translate_tools) to convert studies in foreign languages to English. This web-based translation tool has the capabilities of translating word documents and PDF files, which do not require optical character recognition (OCR), into English. For studies, which require OCR for conversion, ABBYY FineReader 10 (http://www.abbyy.com/) had the capabilities to address that issue. ABBYY FineReader 10 runs OCR, when necessary, to convert PDF, .jpeg or .gif, files into word documents.

Empirical research, used as data, was not limited to the United States. It was not the purpose of this study to limit the potential definition of school culture by geographic location, ethnicity, gender, race, sexual orientation, disability, or religious beliefs. The single discriminatory aspect of this study was age. All collected, empirical studies took place in schools that serve children PK-12. Studies of higher education institutions were not included.

A delimitation of this study was having one researcher, which may result in researcher bias. However, this study used transparency and predetermined strict criteria for inclusion and exclusion of data. The criteria for inclusion, exclusion, and mitigating

bias, are in the systematic review protocol. See Appendix B for the systematic review protocol, labeled "Systematic Review Protocol."

Despite using a systematic review protocol, subjective decisions developed throughout the adapted methodological process of this study. Other researchers in the educational field, as well as educational colleagues, provided advice and support. Some related correspondences are in Appendix B labeled "Systematic Review Commentary and Correspondence."

One of the inherent limitations of secondary analysis is its reliance on the studies used to inform it. If the empirical research used to generate an analysis is less than credible, then the resulting analytic study is less than credible (Smith, 2008). A mixed methods approach mitigates secondary analysis limitations (Creswell & Plano Clark, 2011). By examining the data qualitatively and quantitatively and applying a constant comparative method, this adapted methodological design eliminated the use of less than credible qualitative data by recognizing each implausible datum occurrence as an outlier.

In addition to the comprehensive data evaluation, fixed in this study's adapted methodological process, a validity table, constructed with the information found in each study, enabled a close examination of each datum's potential for predisposition and bias. The collected empirical research was vetted with valid methods, leaving the most credible and reliable evidence for this analysis. See Appendix C for the qualitative validity table labeled "The Study Validity Table."

Organization of Chapters

The subsequent chapters in this study are as follows: Chapter 2 is a conceptual framework of school culture. This chapter includes concepts relating to culture,

organizational culture, and community culture. This conceptual framework assumes the station of the traditional literature review for this study.

Chapter 3 is an explanation of the adapted sequential mixed methods exploratory methodology. Organization of this chapter follows the sequential phases of the methodological process with a separate, subsequent division that explains the data analysis process of each applicable phase. It begins with a description of the systematic review as the chosen data collection technique, and the first phase in the methodological process. Next, chapter 3 goes on to explain the qualitative research synthesis as phase 2 of the methodological process. The procedures and rationale behind the use of taxonomy follows as phase 3. The following section of chapter 3 includes an explanation regarding the procedures of meta-analysis as the best quantitative approach to this study, and phase 4 in the overall process. Chapter 3 discusses each meta-analytic test utilized and the rationale for its use. The final explanation regarding the methodological process in chapter 3 is grounded theory, phase 5.

A description of the data analysis processes used for this study is an additional division of chapter 3. This segment provides an explanation of the qualitative analysis process utilizing constant targeted comparison and the quantitative meta-analytic methods, which led to the grounded theory process positioned as the culmination and conclusion of this study. In sum, chapter 3 explains the chosen and adapted methods, reasoning, and assumptions made and successfully implemented in the adapted sequential mixed methods exploratory methodology of this study.

Chapter 4 is a qualitative research synthesis and analysis. This section begins by discussing external and internal school characteristics. It continues by identifying and

discussing school culture characteristics and concludes by recognizing and clarifying the structural elements that work together to construct school culture. Chapter 4 identifies and explains the variables that formulated the school culture taxonomy.

Chapter 5 is a taxonomic analysis of school culture. It organizes internal and external school characteristics, anthropological and sociological school culture characteristics, and individual and collective school culture structural elements into domains, classes, categories, and elements.

Chapter 6 is a meta-analysis. Three posited hypotheses emerged from the previous chapters. Discussions of the tests verifying these hypotheses are in this chapter. Chapter 6 illustrates the results of a quantitative test for homogeneity, Chronbach's Alpha, meta-regression analysis, and power analysis. This chapter reviews and explains the rationale for the use of the meta-analysis, its capabilities concerning theory building, the chosen quantitative tests, and the results that led to the rejection of the null hypotheses.

Chapter 7 is a synthesized analysis of chapters 4-6 resulting in grounded theory. It is the culmination of the research findings and addresses all posited questions and hypotheses presented in this study. Chapter 7 discusses the significance of the findings that emerged during inquiry and their connection to school climate, school ethos, school subgroups, and school change.

Chapter 2
Conceptual Framework

This conceptual framework uses the existing empirical research on school culture as information for synthesis and analysis. The existing empirical research proposing a definition or explanation of school culture was not included in this framework because it is the data for the qualitative and quantitative phases of this study.

Chapter 2 of this study is an overview of conceptual thinking that pertains to school culture and its characteristics. The presented information is the result of reviewing the concepts related to school culture. The emergent primary themes discussed in this framework are culture, organizational culture, and community culture.

Culture becomes a central educational issue because it is the foundation of the term school culture. Sometimes definitions, or partial definitions, of culture supplant definitions of school culture. This phenomenon creates an obligation to consider culture a conceptual focus of this framework.

Organizational culture is a theoretical focal point because according to some school culture definitions, schools are nearly identical to business organizations deeming students as the product. As evidence of this theory, the most extensively used explanation of school culture is Edgar Schein's 1985 definition of organizational culture (Schein, 2004). Since a definition of organizational culture is the most cited description of school culture, it was necessary to examine this argument.

Community culture is a part of this framework because schools are communities, or at least reflections of the area in which they operate (Bradford, Gary, & Wallach, 2000). Having a united school community is a common educational objective (Putnam,

Gunnings-Moton, & Sharp, 2009). Therefore, community culture is a logical concept to include.

Chapter 2 is comprised of four divisions: thematic issues, culture, organizational culture, and community culture, which conceptually frame the research synthesis, research analysis, taxonomy, meta-analysis, and grounded theory in the following chapters.

Thematic Issues in School Culture

Culture pertains to anthropological and sociological structures (House & Javidan, 2004; Hofstede, 2001). Some describe schools as organizations, institutions, or communities, when they assume such characteristics. As a result, school culture has accumulated a multitude of diverse, overlapping definitions (Sergiovanni & Corbally, 1986).

Some researchers, such as Schein (2004), study organizational culture from the perspective of businesses and corporations. These researchers attempt to modify school characteristics to fit existing organizational and business theory. The hierarchical school structure reinforces the position of these researchers—schools are forms of businesses or corporations.

On the other hand, some researchers, such as Fullan (2007), study school culture from the perspective of organizational culture. These researchers attempt to modify organizational and business theory to fit school characteristics. In essence, some researchers modify business and organizational theory to fit school culture characteristics while other researchers modify school culture characteristics to fit organizational and business theory.

The typical school structure employs a top-down management style (Evans, 2001) that mirrors institutional organizations and businesses. Educational institutions and organizations socially reproduce the prejudices that cause the academic achievement gap (Kymlicka, 1989). This societal indictment of schools, regarding institutional bias and social reproduction, makes it necessary to look at schools as organizations. It is necessary to determine the similarities and differences between organizational and business culture versus school culture.

The final component of this framework is the school as a community. Schools are groups of individuals with common interests and goals, as are communities (Putnam, Gunnings-Moton, & Sharp, 2009). This conceptual framework reviews the definition of community culture and community culture characteristics to compare the similarities and differences between schools and communities. It provides a description of the research, which theoretically surrounds the term “community” as it relates to school culture.

Culture

Exploration of the literature regarding culture reveals dichotomous conceptual theories. Some theories of the definition of culture are subjective, without statistical method or empirical evidence as a foundation (Sergiovanni & Corbally, 1986). Greenfield (1986) considers culture a "self-created web of meaning, a manmade world… [If researchers try to measure it, study it, or explain it, they will]…lose it" (p. 154). Definitions of culture, such as Greenfield's (1986), lend themselves to ambiguous, abstract explanations of culture.

An Abstract Concept

There are many definitions of culture as an abstract concept. The descriptions are usually vague, such as something that exists in a group's psyche, which has considerable impact on their behavior (Trompenaars & Hampden-Turner, 1998). Another example of a definition of culture as an indistinct, abstract concept is "the shared ways groups of people understand and interpret the world" (Trompenaars & Hampden-Turner, 1998, p. 3). According to Schein (2004), to define an abstract concept, one has to think of it with an "evolutionary perspective" (p. 2). In other words, a person has to know where culture comes from, and how culture has evolved to explain it.

One of the earliest published definitions of culture is by Robert Redfield (1948) who described culture as shared meaning (Redfield & Malinowski, 1948). This abstract definition evolved into a more definitive explanation by Harry C. Triandis (2004), who established the characteristics of culture in the GLOBE study, an international review of leadership, culture, and organizations in sixty-two societies, as collective "practices and values" (p. xv). In response to Triandis, Schein (2004) further interpreted culture as a theory of strong forces, widening the milieu of conceptual abstraction.

In a later attempt to explain culture**,** Bryant and Charmaz (2007), posited the definition of culture as collective assumptions and values, adapted from Schein (2004), and added individual bias to the mix. Bryant and Charmaz (2007) explained how attitudes, values, opinions, and concepts influence how individuals think, define events, make decisions, and behave; thereby, making individual biases part of a collective culture. Bryant and Charmaz (2007) also wrote that to immerse oneself within a culture

results in an increased sensitivity to a collective's established language, traditions, tacit knowledge, social relationships, and respect patterns.

Before Bryant and Charmaz (2007) indicated an existing relationship between culture and a collective's established language, Cooper (1988) identified culture as a language of change. She described culture as quirky and natural—it lives and grows (Cooper M. , 1988). Cooper (1988) believes cultures are organic and personal. It is more than environment and tasks—culture is the personal history of the individuals in the setting, and their criteria for membership.

Contrary to Cooper (1988), Bruner (1990) believes individualistic culture is impossible. He argues culture is the product of history—not nature. Bruner (1990) maintains culture is something in which humans participate, rendering the construction of psychology on an individual basis impossible. He posits culture as a connection of individuals to shared meanings, shared concepts, and shared modes of discourse (Bruner, 1990). Struggling to reposition culture from an abstract concept to a concrete model, some researchers began to characterize culture as patterns of behavior based on social interaction.

Patterns of Behavior

Schein (2004) believes natural interaction between individuals, in a structured or unstructured group, forms a culture. This social interaction manifests into behavioral patterns and standards (Schein, 2004).

In a formal group, a leader or founder imposes beliefs, assumptions, values, goals, and a vision about how things should be (Schein, 2004). The leader establishes patterns of behavior. Therefore, the leader creates the culture.

Bryant and Charmaz (2007) believe patterns of behavior are the result of individuals acting on common sense and understanding. Patterns of behavior become daily routines, which are the stable traits of society. These stable traits of society become social life. (Bryant & Charmaz, 2007).

Following the same line of thought, Wheatley (2006) describes culture as "reoccurring patterns of behavior" (p. 128). The difference is Wheatley (2006) believes the reoccurring patterns of behavior originate from individuals' thinking, feeling, and acting. Whereas, Bryant and Charmaz (2007) believe the reoccurring patterns of behavior are collective rules, routines, and practices. Hofstede and Hofstede (2005) also describe culture as patterns of behavior, but they surmise these patterns come primarily from the environment—not the people.

Hofstede and Hofstede (2005) believe that culture is collective experiences shared with individuals who exist within the same social environment. They explain that culture's characteristics are symbols, heroes, rituals, and values (Hofstede & Hofstede, 2005). This description of culture is similar to Schein (2004). However, according to Hofstede and Hofstede (2005), the divisions of culture are national, regional, gender, generational, social class, and organizational. Hofstede and Hofstede (2005) also posit that culture reproduces itself.

Culture is an unclear term that affects everything (Peterson & Deal, 2009), and as a result, is used to justify strange phenomena (Schein, 2004). Because of its vague definition, the term has the potential to become a means of control for those with social and political agendas (Bradford, Gary, & Wallach, 2000). To avoid this, researchers must

trace the origin and the development of culture (Schein, 2004), and establish its impact on organizations, businesses, and institutions.

Organizational Culture

According to Schein (2004), organizational culture analysis is the comparison of patterns, values, and assumptions of an organization to a person's own patterns, values, and assumptions. Research theories of organizational culture fracture into two models: ideational and functional (Martin, 2002).

Ideational leaning researchers of organizational culture seek to gain an in-depth understanding of it by creating interpretations from patterns of clarity, inconsistency, and ambiguity (Martin, 2002). To an ideationalist researcher, a cultural perspective means seeing the world through cultural lenses. An ideationalist researcher believes organizational culture is a theory of powerful forces (Schein, 2004), an abstract concept.

Functionalist or materialist leaning researchers' organizational cultural analyses depict culture as an inventory of behaviors, materials, resources, rituals, and values (Martin, 2002). The functionalist researcher's interpretation of organizational culture is comparable to the definition of culture as patterns of behavior (Wheatley, 2006).

In an effort to combine the theories of ideationalist researchers and functionalist researchers, Martin (2002) states the ideational viewpoint is the relationship between ideationalist research ideas and functionalist research ideas regarding organizational culture. Martin (2002) describes organizational cultures as ideological, theoretical assumptions as well as, manifestations of rituals, stories, humor, jargon, policies, practices, physical arrangements, formal structures, and informal norms. Furthermore, Martin (2002) describes values and basic assumptions as contextual themes that form the

relationships between interpretations of cultural manifestations for someone to develop his or her own ideas of what organizational culture is.

Ideational

Ideational cultural advocates see organizations as integrated combinations of small systems that are subjective, distinct, and independent (Martin, 2002). This interpretation uses culture as a metaphor and a lens for examining organizational life (Martin, 2002). Ideational cultural advocates use symbolic meanings and cultural forms, such as rituals and physical arrangements, to discuss culture—not to define it.

Ideationalist researchers believe culture is a language of change. Culture helps to create and identify change (Cooper M. , 1988). It is the ideationalist researchers' viewpoint that requires types of cultures within an organization. These subcultures, such as professional culture, collaborative culture, and leadership culture, represent autonomous systems, which make up the conceptual, cultural whole of the organization.

Functionalist

The differences between functionalist theory and ideationalist theory are subtle, yet significant. Functionalist researchers use objective terms to identify and define culture. Ideationalist researchers use subjective terms to discuss organizational culture. Functionalist researchers believe all social systems, including organizations, consist of the patterned activities of individuals (Martin, 2002).

The functionalist organizational cultural researcher believes reports, statements, celebrations, and news about industry-specifics are the artifacts of organizational culture as opposed to symbols, rituals, and myths (Cook & Yanow, 1993). To a functionalist researcher, culture is a variable within the organization that changes based on social

patterns (Martin, 2002). In contrast, an ideational organizational cultural theorist believes variables such as harmony, ambiguity, denial, and contradiction combine to create an organizational culture (Martin, 2002).

Like ideational organizational culture researchers, functionalist organizational culture researchers believe organizations are open systems. Ideationalist researchers and functionalist researchers believe the external environment influences the organization, although for the functionalist researcher, space and time limit those influences. Functionalist researchers believe organizational patterns will repeat according to outcome (Katz & Kahn, 1966). If a particular social pattern works, it will continue to become part of the organizational culture. If the pattern does not work, the pattern will terminate and not become part of the culture.

The External Environment of the Organization

No organization is entirely self-contained or in complete control of its existence. An organization's dependence on its environment is what makes an organization an open system (Pfeffer & Salancik, 1978). All organizations have to adapt to their surroundings by acquiring and retaining resources. The demographic and socioeconomic setting determines the extent of the organization's involvement in political activities and voluntary associations (Pfeffer & Salancik, 1978). In order to endure effectively, organizations have to rise to the demands of interest groups (Pfeffer & Salancik, 1978).

A difference of estimation exists between researchers as to the amount of influence an organization has on its environment. Sometimes the external environment of an organization is exogenous (Pfeffer & Salancik, 1978). In an exogenous environment, the outside world has an impact on the organization, but the organization has no affect on

the external environment. For example, when the Federal government mandates regulations or standards of which an organization has no control, the environment is exogenous. Classes of exogenous environmental components are resources, political forces, technology, and ethnic identity (Pfeffer & Salancik, 1978).

In an endogenous environment, an organization is a part of shared change (Pfeffer & Salancik, 1978). For example, an organization may train homebuilders that work in the surrounding community. The homebuilders' knowledge directly influences the stability of the structures they create in the community (Pfeffer & Salancik, 1978). The community and the organization that trains the homebuilders influence each other. The environment is endogenous.

If exogenous and endogenous environments are both included as part of an organization's culture, then the organizational environment includes every event in the world that influences the organization (Pfeffer & Salancik, 1978). Including every event in the world that influences an organization as part of the external environment of an organization is impossible to inventory as a functionalist researcher. However, including every event in the world, that influences an organization as part of the external environment fits into an ideationalist researcher's abstract view of organizational culture quite nicely.

Another theory of exogenous and endogenous environments posits that organizations affect their own external environments by how they collect and perceive information (Pfeffer & Salancik, 1978). The effect that school community members allow the external environment to have on an organization is how the functionalist

researcher depicts environmental imprinting of an external environment on the internal environment of an organization (Carroll & Hannan, 2000).

The Internal Environment of the Organization

An organization measures its effectiveness in terms of efficiency (Pfeffer & Salancik, 1978). Patterns of performance often conflict in the name of promoting efficiency, which undermines conformity, and creates a loosely coupled system (Meyer & Rowan, 1977). Efficiency also creates gaps between institutional structures and work activities (Meyer & Rowan, 1977). Loosely coupled systems and gaps between structures and activities, are terms used when referring to organizational culture as an abstract concept—an ideationalist viewpoint.

Functionalist researchers seek to explain the internal environment of organizational culture by creating long and exhaustive lists of everything and everyone within the organization (Martin, 2002). Such a practice is in accordance with functionalist theories and the use of artifacts for organizational culture analysis.

Organizational Members

Organizations are the individuals that labor there. The actions of those individuals who make up an organization account for the events, which occur within that organization (Pfeffer & Salancik, 1978). Individuals' actions, motivations, and capabilities predict the outcomes of situations that occur within an organization. To change a situation, simply change the action or the person (Pfeffer & Salancik, 1978). When changing a situation that occurs in an organization by changing an individual within that organization, individuals become targets of authoritative decisions,

circumstance, or environmental contingency, which influences organizational behavior and can manifest in cultural resistance (Pfeffer & Salancik, 1978).

Schein (2004) posits any social unit sharing a history will have a culture—the longer the history, the stronger the culture. A new member is not immediately part of an organization's pre-existing culture. A new person must establish his or her identity within an organizational culture. The constructed identities of others already present in an organization create the identities of newcomers (Schein, 2004). A new person has no identity within a pre-existing organizational culture until that culture adapts the new person to comply with the organization's established culture (Schein, 2004).

Organizational Leadership

Leaders must recognize an existing cultural system with a well-entrenched structure is already in place within an organization when they arrive. If that organizational cultural system is dysfunctional, then the leader needs to help unlearn some of the organization's cultural assumptions (Dufour & Eaker, 1988; Putnam, Gunnings-Moton, & Sharp, 2009). If there are going to be changes in the culture, leadership needs to do something (Putnam, Gunnings-Moton, & Sharp, 2009).

The organizational leader must be an effective advocator of ideas and an effective manipulator of the social setting (Pfeffer & Salancik, 1978). To the functionalist researcher, organizational behavior is a game of power (Mintzberg, 1983). Various players, called influencers, attempt to control the organization's decisions and actions (Mintzberg, 1983). The assumption is power matters—resource control, technical skill, professional knowledge, private access, and constituency control (Mintzberg, 1983). According to the functionalist researcher, the leader recognizes constraints and freedoms

come from the actions of others, and the influence of the leader is an equal part of the organizational environment (Pfeffer & Salancik, 1978).

To the ideationalist researcher, the leader is a symbol or focal point for the organization's successes and failures (Pfeffer & Salancik, 1978). Leadership recognizes social context and social constraints, and works to manage the organization's constituents. Social context determines the consequences of an individual's actions, and social consensus of the organization's members overrides the hierarchical structure (Pfeffer & Salancik, 1978). Eventually, competitive classes within an organization realize that to retain power over the masses, they must share it between themselves; otherwise, it is simply the substitution of one power for another (Michels, 1962) rather than transformational change taking place.

Cultural researchers do not agree upon what to study when researching organizational culture (Martin, 2002). Organizational cultural studies define culture one-way, and then operationalize the concept another way. The dichotomy between definition and function is confusing (Martin, 2002). Usually, the views and goals of the researcher determine the outcome of organizational cultural studies.

Community Culture

The word community saturates schools within terms such as educational community, professional community, learning community, and school community (Putnam, Gunnings-Moton, & Sharp, 2009). The school, as a community, indicates a departure from the school as an organization and all of the implications of an organizational institution, such as institutional bias, institutional bureaucracy, and organizational hierarchy. If a school is a community, there are elements and

characteristics of school culture that educational researchers must examine differently in analyses.

Culture develops within a community with children in mind. Children are part of a community and a community's social patterning, social values, and social beliefs (Dufour & Eaker, 1988). Characteristics of community culture such as celebrations, traditions, activities, and curfews develop with the anticipation of child involvement. Children find themselves part of a communal group, a relationship that is not voluntary (Dufour & Eaker, 1988). These are shared characteristics of schools and communities.

A functionalist researcher's view of community culture emphasizes the community's arts, artifacts, dress, cuisine, rituals, ceremonies, and norms of social interaction (Trumball, Rothestein-Fisch, Greenfield, & Quiroz, 2001). Schools, like communities, have arts, artifacts, dress, cuisine, rituals, ceremonies, and norms of social interaction.

The ideationalist researcher's approach to community culture includes ideas, beliefs, and understandings of the group, such as knowledge passed on to newcomers (Trumball, Rothestein-Fisch, Greenfield, & Quiroz, 2001). Schools and communities have the ability and responsibility to convey knowledge to children. Unlike an organization, which can terminate an individual who is not successful in retaining knowledge, neither schools nor communities can readily terminate their children.

Some researchers, such as Putnam (2009), define community culture by dividing it into elements or fundamentals of community culture. Putnam (2009) likens a professional learning community to the layers of an apple; stating there are levels of culture within the professional learning community: physical, social, value, goal, and

operational (Putnam, Gunnings-Moton, & Sharp, 2009). Kymlicka (1989) considers the divisions of a cultural structure as a "context of choice"—a representation of the "character of a historical community" (p. 168).

A Community or Organization

Public schools operate according to the principles and concepts of the organizational factory model (Dufour & Eaker, 1988). In spite of this, there are differences between schools and industry that should not be minimized (Dufour & Eaker, 1988). While organizations can find their niche in the market or enhance the quality of their product, public schools must take all students, regardless of their academic capacity or level of parental and community support (Dufour & Eaker, 1988).

Parents of students and members of the community show their support in various, unique ways when they believe their schools are properly serving the community (Dufour & Eaker, 1988). Most constituents of a culture consider their culture unique whether it is or not (Martin, 2002). Some cultural researchers, such as Martin (2002), do not believe a culture can be unique. Regardless of whether or not school culture is, or can be, unique, schools themselves are unique (Bolman & Deal, 2008; Hofstede & Hofstede, 2005; Evans, 2001; Fullan M. , 2007; House & Javidan, 2004; Sarason, 1996; Peterson & Deal, 2009). In sum, although schools and communities may have more in common than schools and organizations, it depends on the school because schools are unique regardless of whether or not school culture is unique. Therefore, a school cannot be a community—it is a school.

Conclusion of the Conceptual Framework

Multiple definitions of culture come from traditions of sociological functionalism, social anthropology, and corporate governance (Hargreaves, 1991). Culture is a concept that emphasizes the commonalities of human relationships—their values, habits, norms, and beliefs (Hargreaves, 1991). However, there are problems with emphasizing the commonalities of human relationships.

Consider the assumption of the existence of shared cultures. No matter how complex and discriminate the organization, there is an assumption of an existing shared culture (Hargreaves, 1991). The theoretical and methodological emphasis on an organization's sharing may exaggerate the consensus-based aspects of human relations; affording consensus-based relations importance in research studies, which outweighs their significance in practice (Hargreaves, 1991). In some organizations, disagreements and differences are more prominent and significant than what is shared (Hargreaves, 1991).

Cultures are instinctive; they develop over time (Cooper M. , 1988). Bruner (1990) defined culture as shared symbolic systems of the traditional ways people live and work together. He wrote that there are constraints in life on a person's dedication to a collective, which are not cultural, but biological. However, culture shapes the human life and the human mind, and gives meaning to actions (Bruner, 1990).

There are accessible frameworks that describe the characteristics of culture. In 1971, Edward Stewart developed a taxonomy that characterized culture using four domains: activities, relations, identities, and humanities. In 1976, Hall focused on discursive elements. He divided culture into two domains: The first domain consisted of

high linguistic, contextual cultures. The second domain consisted of low linguistic, contextual cultures. Hall (1966), along with Brislin (1993), and Hofstede (1983), also studied culture, in terms of time and space, relating time and space to individual and collective values (Trumball, Rothestein-Fisch, Greenfield, & Quiroz, 2001).

Some definitions of culture emphasize culture's arts, artifacts, dress, cuisine, rituals, ceremonies, and norms (Trumball, Rothestein-Fisch, Greenfield, & Quiroz, 2001). Some definitions of culture focus on the combination of material elements, patterns of behaviors and social customs. Yet another approach to defining school culture is to focus on its ideational aspects: ideas, beliefs, and understanding of groups passed on to others—an abstract approach (Trumball, Rothestein-Fisch, Greenfield, & Quiroz, 2001). It is disingenuous to separate these types of definitions (Trumball, Rothestein-Fisch, Greenfield, & Quiroz, 2001) if a complete picture of school culture that will assist school leadership is to be determined.

It is possible that the institutionalization of schools has contaminated and ruined them in pervasive and subtle ways (Cooper M. , 1988). Therefore, existing institutions cannot solve their own problems, because they are the problem (Chubb & Moe, 1990). Trumball, Rothstein-Fisch, Greenfield, and Quiroz (2001) believe that institutional norms, problems of equality, and problems of school reform are the result of society. Society distributes its benefits and burdens to schools as members of a cultural community (Kymlicka, 1989).

Culture is an essential component of schools and understanding school change. However, "we are just beginning to understand how culture influences leadership and organizational processes" (House & Javidan, 2004, p. 5). School Culture is a recent field

of study (Muhammad, 2009), but school culture is crucial to the implementation of school reform, which has been less than successful (Cooper M. , 1988).

The following chapter describes the adapted sequential mixed-methods exploratory process used for this study, which sought to characterize and define school culture. Chapter 3 describes the assumptions and rationale of the adapted methodology, the sample, the data collection procedure, the qualitative research synthesis, the qualitative data analysis, the taxonomic analysis, the meta-analysis, the tests used for meta-analysis, the constant targeted comparison approach, and the rigor of this study.

Chapter 3
Methodology

The purpose of this multi-national, adapted, sequential mixed methods exploratory investigation was to determine, synthesize, and analyze the current field of empirical studies, and to posit a definition of school characteristics, school culture characteristics, school culture structural elements, and school culture. The mixed methods process used for this study was adapted from *Designing and Conducting Mixed Methods Research* (second edition) by John W. Creswell and Vicki L. Plano Clark (2011). This adapted process began with data collection.

The adapted methodology for this study utilized a systematic review to obtain published and unpublished data in order to identify the universe of research without publication bias (Lipsey & Wilson, 2001). The location of all qualitative, quantitative, and mixed methods research with the intention of selecting studies according to the predetermined criteria established in the systematic review protocol was the primary goal of this systematic review. See Appendix B for the systematic review protocol labeled "Systematic Review Protocol."

After the data collection procedures were complete, a qualitative research synthesis and analysis ensued, utilizing a constant targeted comparative process. This synthesis and analysis confirmed the organization of school characteristics as divided into external and internal environmental domains. These domains were the beginning of a taxonomic analysis, which organized school culture into classes, categories, characteristics, and structural elements. The classes, categories, characteristics, and structural elements from the taxonomy were meta-analyzed, utilizing various quantitative tests, proving the variables valid and generalizable across schools. The valid and

generalizable determination of school characteristics and school culture domains, classes, categories, characteristics, and structural elements along with other meta-analytic testing assisted in the development of grounded theory. The developed grounded theory presented a sensible definition of a school's characteristics, school culture characteristics, school culture structural elements, and school culture. This definition of school culture provides school leadership, policymakers, and researchers the ability of school culture assessment, replication, and inquiry to produce systemic, transformational school change. This study answers the following questions:

1. According to a qualitative synthesis and analysis of empirical research, what are the characteristics of schools?

2. According to a qualitative synthesis and analysis of empirical research, what are the characteristics of school culture?

3. According to a qualitative synthesis and analysis of empirical research, what are the structural elements of school culture?

4. How does a qualitative synthesis and analysis of the empirical research on school culture, school culture characteristics, and school culture elements inform taxonomic analysis?

5. What hypotheses emerge from the findings of a qualitative synthesis and analysis of the empirical research on school characteristics, school culture characteristics, school culture elements, and school culture taxonomy?

6. How does a qualitative synthesis and analysis of the empirical research on school characteristics, school culture characteristics, school culture elements, and school culture taxonomy inform a meta-analysis?

7. How do the findings of a qualitative synthesis and analysis, the variables of school culture taxonomy, and meta-analysis contribute to the emergence of grounded theory?

8. According to existing empirical research, what is the definition of school culture?

Assumptions and Rationale of the Methodology

Educational researchers and policymakers are incapable of identifying what works in education from observational qualitative and quantitative research exclusively (Torgerson, 2003). Mixed methods approaches are less familiar than quantitative or qualitative strategies, but are more effective (Creswell, 2009). The idea of mixing methods originated in 1959 with Campbell and Fiske, who used multiple methods to study the validity of psychological traits (Creswell, 2009). More researchers began using mixed methods approaches for triangulation to negate the biases inherent in qualitative processes (Creswell, 2009). Recently, reasons for utilizing a mixed methods approach have grown from its original triangulation based value (Creswell, 2009).

Creswell and Clark's 2011 sequential exploratory design, described in *Designing and Conducting Mixed Methods Research* (second edition), advised the adaptation and development of the general methodology and sequential exploratory design used for this study.

Adapted Sequential Exploratory Design

Sequential procedures are necessary "when the researcher seeks to elaborate on or expand the findings of one method with another method" (Creswell, 2009, p. 16). The sequential exploratory model is usually a two-phase design, which begins with a qualitative phase before building to the quantitative phase (Creswell & Plano Clark,

2011). It is usually an iterative design that qualitatively explores a question and develops a device as an intermediate step to collect data for quantitative analysis (Creswell & Plano Clark, 2011). This study adapted the sequential exploratory design through expansion of the overall sequential process by beginning with a systematic review, which preceded the qualitative research synthesis and analysis commonly used in the standard sequential design. The constructed intermediate device, which helped to convert the qualitative information into variables for quantitative analysis was the taxonomy. The chosen sequential quantitative phase of the design was a meta-analysis. The general sequential exploratory design was further adapted by adding a grounded theory phase that synthesized and analyzed all of the previously collected findings into a definition of school culture. In essence, the primary adaptations made to the sequential exploratory design described by Creswell and Clark (2011) in *Designing and Conducting Mixed Methods Research* (second edition) was an expansion of the overall sequential process.

Usually, the sequential exploratory design places emphasis on either the qualitative phase or the quantitative phase. When emphasizing the qualitative phase, the priority is the emerging ideas or intermediary tool produced by the qualitative data. The qualitative data are the basis of the quantitative questions or hypotheses. Creswell and Clark (2011) cite Goldenberg, Gallimore, and Reese (2005) as an example of this design structure. According to their investigation, they "identified new variables and hypotheses about predictors of family literacy practices based on qualitative case study" (Creswell & Plano Clark, 2011, p. 90). Sometimes the sequential exploratory design places emphasis on the quantitative phase, such as in Mak and Marshall (2004), whose primary focus was

to use their qualitative findings, and developed instrument variants to test hypotheses for the quantitative phase of their study (Creswell & Plano Clark, 2011).

This study had no purposeful emphasis placed on any strand of the sequential exploratory design. Initially, it was unknown if any phase would produce more significant data than another would. In retrospect, none did. During the systematic review, the quantitative, qualitative, and mixed methods studies in the forms of journal articles, published papers, unpublished papers, theses, and dissertations mixed from the beginning. The qualitative research synthesis and analysis included quantitative and qualitative data. Therefore, the information provided for the taxonomy and meta-analysis was qualitative and quantitative. The meta-analysis proved validity, generalizability, triangulation, and information for theory development. All phases informed grounded theory. Each phase of this study was of equal importance. Each phase informed the following phase, and the inquiry could have ended at the conclusion of any one of the phases. All collected qualitative, quantitative, and mixed methods studies, findings, and methods blended throughout the process. Qualitative, quantitative, and mixed methods studies and their collected data intermingled from the beginning of the systematic review phase. Figure 3.1 shows the process followed for this investigation.

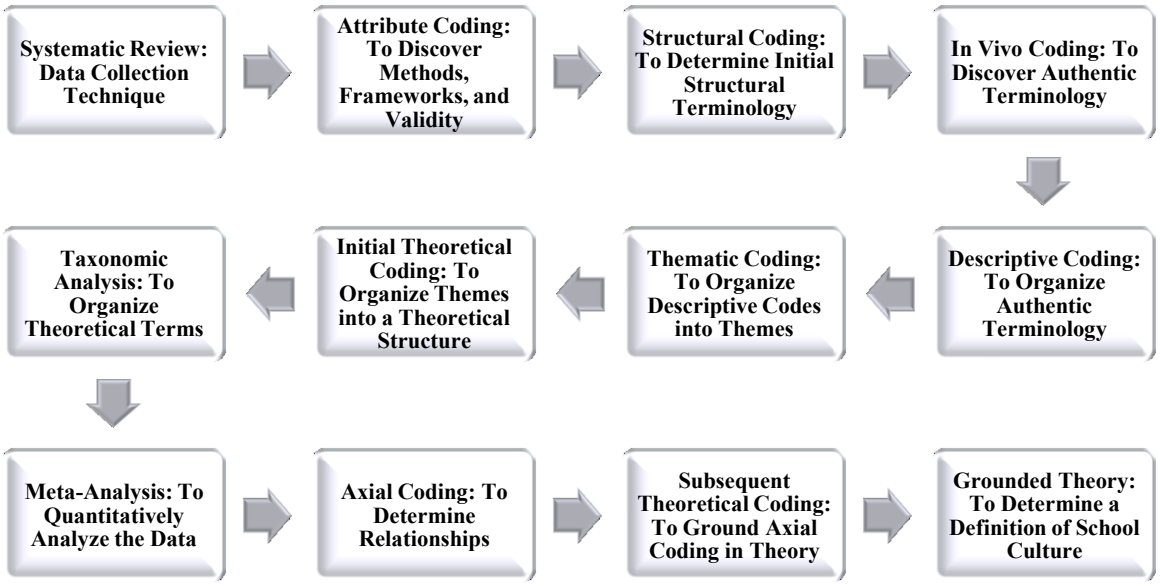

Figure 3.1. The Sequential Mixed Methods Exploratory Design
A physical map of the process design: Each box represents a separate phase of the study process. The arrows direct the flow and sequence of the process.

Phases of the Design. There were five phases to the adapted sequential mixed methods exploratory design used for this study. The first phase was a systematic review applied as a data collection strategy. The second phase was a qualitative research synthesis and analysis using the collected qualitative and quantitative studies. Taxonomy, the third phase, provided a means to organize the variables used for the fourth phase, meta-analysis. The fifth and final phase was grounded theory.

The variables and hypotheses employed in the quantitative phase emerged after the conclusion of the taxonomy. Likewise, there was no predetermination or assurance of grounded theory until the completion of all previous phases. Figure 3.2 shows a pictorial description of the five phases.

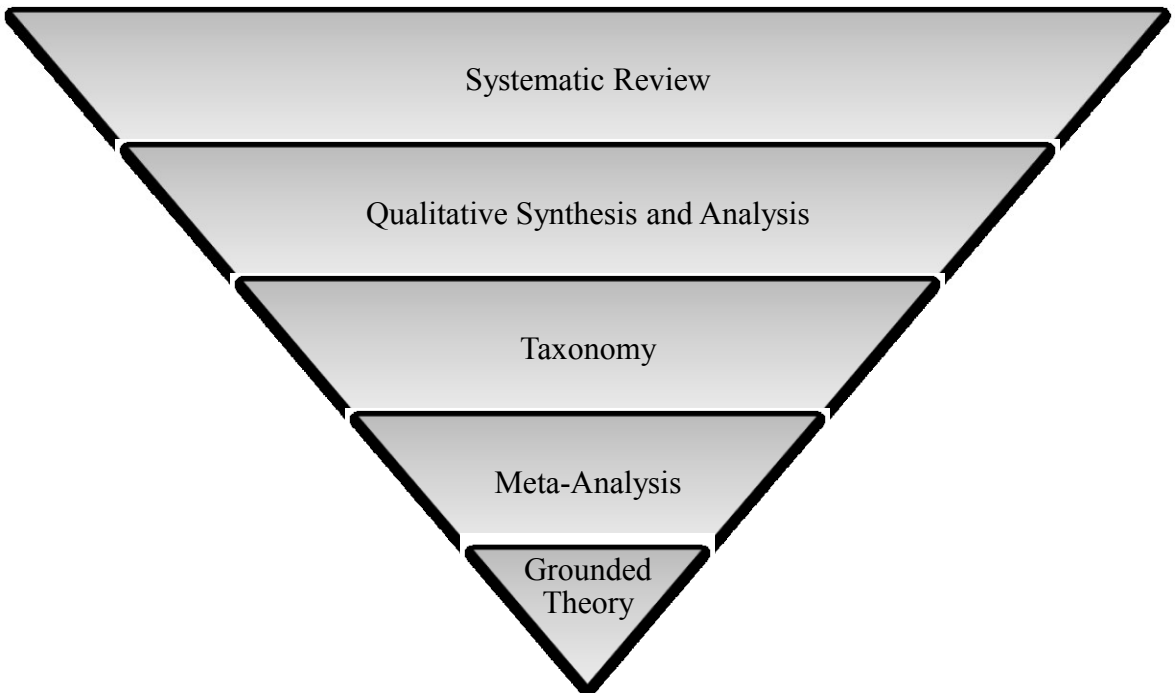

Figure 3.2. The Five Phases of the Adapted Sequential Mixed Method Exploratory Process: A pictorial description of the five phases of the sequential mixed methods exploratory process. The inverted triangle represents the narrowing of the data from the collection phase (systematic review) to the grounded theory phase.

The Sample

Twenty-six qualitative, quantitative, and mixed methods studies represent the totality of research that fit the inclusion criteria established in the systematic review protocol. The systematic review protocol criteria required all studies to address a description of school culture or its characteristics as a central research question or finding. This was a primary and specific outcome of interest. In addition, each study had to have a methodology, which made use of multiple school-community member perceptions in a PK-12 school environment. The studies had to be empirical research, although they could utilize qualitative, quantitative, or mixed methods methodologies (Petticrew & Roberts, 2006).

The Research Participants

The research participants for the current inquiry were previously conducted empirical studies—*paper people*. The final 26 studies collected were by 26 different authors utilizing unique data sets. The date of data collection for each study varied between, and was inclusive of 1985 and 2008—23 years. The published studies held publication dates spanning between 1990 and 2010—20 years. Dr. Kent Peterson confirmed "There wasn't much written about 'school culture' before 1990" (Personal communication, Dr. Kent Peterson, 1 June 2011). The only noted outlier was a study that used a piece of empirical datum, copyrighted in 1968, as an historical artifact.

Four of the studies showed practices of quantitative data analysis techniques and quantitative data collection techniques such as surveys, psychometrics, and archived data. Four studies indicated mixed methods—sequential and congruent. One study was an action research project. There were 17 types of qualitative research. There were six case studies, four multicase studies, one interactions study, one story analysis, two information analysis studies, one content analysis study, and two critical incident studies.

The studies indicated the use of nine experimental research forms for data collection. To accommodate individual research applications, researchers personally refined six of the nine tools. Five other researchers collected data utilizing validated research forms. Added to the nine experimental research tools, the total was 14 research forms used within the collected data of this study.

The categories of information retrieved for this study included 10 journal articles, five conference papers, and one research paper in brief. There were five doctoral dissertations, four theses, and one unpublished paper.

The geographical areas of study outside of the United States included Port-Louis, Mauritius; Nicosia, Cyprus; Brasilia, Brazil; Bentley, Australia; Elâzığ, Turkey; Northern Ireland; Ontario, Canada; Alberta, Canada; British Columbia, Canada; the University of Calgary, Canada; Southern Ontario, Canada; West Midlands, UK; England, UK; Northern England, UK; Beijing, Hebei, and Guangdong, China. The culminating total was 10 different nations inclusive of the United States.

The geographical areas studied within the United States included Colorado, USA; Blacksburg, Virginia, USA; Washington, D.C., USA; Lincolnshire, Illinois, USA; Des Moines, Iowa, USA; Menomonie, Wisconsin, USA; South Carolina, USA (state study); Pennsylvania and New York, USA (same study); Louisiana, USA (state study); and two United States national studies. The combination of these studies entirely encompassed the United States.

The geographical areas where the studies took place represented 11 investigations in the United States. There were seven US states represented including the District of Columbia and there were two US national studies included in this data collection sample.

Outside of the United States, there were five studies conducted in Canada, one in China, one in Australia, one in Ireland, one in Turkey, one in Mauritius, one in Cyprus, one in Brazil, and three studies from the United Kingdom. See Appendix C for a table representation of the sample data labeled "Study Attribute Data."

Sometimes the specifics of sampling regarding the collected studies were elusive. For example, one study indicated 30 schools as its sample; however, it did not identify how many schools were in the district leaving the reader to conclude 30 schools were comprehensive of the entire population (Ewen, 2004). One researcher reported 100

participants from various schools, but did not determine how the 100 participants divided between the schools (Turner & Crang, 1996). Another researcher studied 152 schools, although he did not identify what grade levels (Jones, 1996). A third researcher mentioned five various types of schools without any additional sampling information (DuFour, 1995). Without specific identification of a study's research participants, it became necessary to deduce the participants' classifications through the utilization of each study's content.

There were 291 high schools, 234 middle schools, and 1,089 elementary schools identified. Inclusive of the aforementioned studies, the entire sample for this study was 1,614 schools. This number includes elementary, middle, and high schools, an all-girls private school, 14 Catholic schools, one alternative school, and various schools, although definitely not entities of higher education, whose orientation was unidentified.

The cumulative number of participants sampled was 159 administrators; 39,758 parents; 84,744 school staff; 143,744 students; 100 unidentified adult participants and 20 school alumni. The entire sample population was 268,525 individual participants. See Appendix C for the sample population data represented in a table format labeled "Methodology Table."

Phase 1: Systematic Review and Data Collection

A systematic review for research analysis seeks to realize the entire population of studies as defined by the predetermined eligibility criteria (Lipsey & Wilson, 2001; Chalmers, 1999; Torgerson, 2003; Petticrew & Roberts, 2006; The Centre for Reviews and Dissemination, 2009). Systematic reviews are a way to view all information on an issue if there is some uncertainty of the answer (Petticrew & Roberts, 2006). Combining

the results of several studies gives more reliable and accurate information than one study alone can give (The Centre for Reviews and Dissemination, 2009).

Educational researchers were the earliest users of systematic reviews (Torgerson, 2003). They started combining results of educational experiments in the early half of the twentieth century (Torgerson, 2003). A systematic review is different from a traditional narrative review because its methods are transparent and open to scrutiny (Torgerson, 2003). Collecting research evidence is a monumental undertaking, assuming one aims for completeness, and insists on a clear design to prevent bias (Chalmers, 1999). The first step to conducting a systematic review is to investigate whether or not a report on the research topic has already been completed (Chalmers, 1999).

The first resource used for previous systematic review inquiry in this study was the Evidence for Policy and Practice Information and Co-coordinating Center or EPPI-Center (http://eppi.ioe.ac.uk/EPPIWeb/home.aspx). The EPPI-Center sustains a sequential string of systematic reviews in educational research. These systematic reviews provide information for educational policy and practice (Torgerson, 2003; Petticrew & Roberts, 2006). The inquiry conducted for this study resulted in the identification of no previous systematic reviews regarding the definition of school culture.

The second resource used for previous systematic review inquiry in this study was C2-SPECTR—The Campbell Collaboration (http://www.campbellcollaboration.org/library.php) established in February 2000, the same year as the EPPI-Center. The sociological, psychological, educational, and criminological trial register (C2-SPECTR) aims to identify all experimental research of educational, social policy, and criminal justice interventions. C2-SPECTR updates and

makes available systematic reviews of social and educational interventions (Torgerson, 2003; Petticrew & Roberts, 2006). C2-SPECTR originated due to the realization "a single experiment seeking to investigate the effectiveness of an educational policy, no matter how well conducted, is limited by time, sample, and context specificity" (Torgerson, 2003, p. 4). The inquiry conducted for this study resulted in the identification of no previous systematic reviews regarding the definition of school culture.

Each study contributes to a totality of the field of research to create a complete picture. Each study contributes at various levels of importance and influence (Torgerson, 2003). The ability to identify all studies in a field for the reader to judge the evidence—whether or not it supports a given proposition—is the benefit of a systematic review (Torgerson, 2003). To date, there is no completed systematic review regarding the definition of school culture.

Criticisms of Systematic Review

Some describe systematic review as too mechanical without regard to the quality of the collected studies or the qualitative nature of interpreting data (Torgerson, 2003). Systematic reviews and methods are within the positivist worldview; they are not "value-free" (Torgerson, 2003, p. 11). Systematic reviews usually address research bias by including only quantitative data for meta-analyses. In spite of this control method, poor quality in research remains as a primary source of bias (Torgerson, 2003).

Utilizing only quantitative data is a limitation and bias, itself. This is especially true in the social sciences, where randomized controlled trials are not widely used (Torgerson, 2003). Even with the threat of poor study quality, which weighting can mitigate, researchers, educators, and policymakers have access to the full range of evidence on a subject when utilizing a systematic review. Having the totality of

information on a subject is vital in order to engage in informed debate, for decision-making, and for effective policymaking (Torgerson, 2003). Failure to include all appropriate studies may lead to incorrect interpretations of the data (Torgerson, 2003). Systematic reviews compensate for the poor validity of a single experiment by identifying all of the relevant studies within a topic (Petticrew & Roberts, 2006).

Systematic Review Rationale

The traditional research review is not as helpful for guiding policy as a systematic review because a traditional review frames the basis of an opinion or a thesis. Systematic review tends to be a nonpartisan sample of the full range of the literature on a subject (Torgerson, 2003). If the search strategy, inclusion criteria, and exclusion criteria are not clear, it will be impossible for a third party to replicate the search (Torgerson, 2003) and considered a poor systematic review.

Unmanageable amounts of information inundate school researchers, school policymakers, and school leaders. Systematic reviews are able to integrate existing information, and provide data for decision-making (Chalmers, 1999; Petticrew & Roberts, 2006). A systematic review of research evidence is not a scientific activity—it is a fundamental requirement for a purposeful, unbiased inquiry. A systematic review reduces large amounts of disjointed information into smaller useful quantities (Chalmers, 1999; Torgerson, 2003). Key elements, in the recent adoption of evidence-based education, have developed into a renewed focus on systematic review methodology, and a renewed focus on systematic review methods in education (Torgerson, 2003). The use of explicit methods required for systematic reviews increases the ability to replicate results (Chalmers, 1999).

The Researcher

The researcher's view is not separate from personal interpretations and personal reflections on the meaning of the collected data (Plano Clark & Cresswell, 2010), which must be considered during the data collection phase of any study. Bias decreased due to the use of previously established criteria questions, which minimized subjectivity regarding study inclusion and exclusion from this study. See Appendix B for systematic review protocol labeled "Systematic Review Protocol."

Search Strategy

The search strategy used for this study was adopted from Littell, Corcoran, and Pillai (2008), echoed by Iain Chalmers (1999), and Petticrew and Roberts (2006). Sensitive keywords within the largest possible universe of data were searched first and subsequently narrowed to references deemed potentially relevent and difficult to acquire. Databases were used for searching, beginning with those supplied by the retrieval and storage software, Thomson Reuters EndNote X4 desktop and Thomson Reuter's EndNote Web 3.0. After searching databases, the Rowan University Library was searched. Database searching ended with *orphan databases*. See Appendix B for all database searches and results labeled according to documentation category.

The orphan databases were not part of any structure or library. They were relevant databases and search engines discovered by researching systematic review references such as Petticrew and Roberts (2006), Higgins and Green (2008), and Mulrow and Oxman (1996).

After searching databases, relevant journals from the Rowan University Library were selected. The journals spanned the topics of anthropology, sociology, and education.

The same strategy used for databases was used for journals. The journal search was documented by listing all journals in the anthropological and social sciences available from Rowan University. The list of journals after title elimination, the list of journals after content elimination, and a final list of journals were searched while documenting the statistical results of articles exported into Mendeley 9.0.9.2 for a full text review. See Appendix B for journal search lists and results labeled "Journal Search Documentation."

After the journal search, bibliographies were searched from relevant books for possible empirical studies to use as data. Some books were acquired during the systematic review process through ILLiad (provided by Rowan University) and Amazon (http://www.amazon.com).

The overall, systematic review search strategy spanned from large databases and sensetive keyword use to searches of bibliographic references. An attempt was made to find all potentially relevant data for synthesis and analysis. Although it is impossible to establish whether all relevant studies were found, the search is rigorous, transparent, and replicable as required for systematic review (Petticrew & Roberts, 2006).

Protocol

The systematic review protocol purports a theoretical plan for the study. It also establishes the background of the study, which includes the criteria of the review, the scope of the review, and the methods of the review (Torgerson, 2003; Petticrew & Roberts, 2006). In addition, a description of the predetermined inclusion and exclusion criteria is included (Torgerson, 2003). Protocols of systematic reviews frequently change after the review begins (Petticrew & Roberts, 2006). For this study, a change in the stated software, from Thomson Reuters EndNote X4 to Mendeley 9.0.9.2, occurred due to

technological difficulty. See Appendix B for systematic review protocol labeled "Systematic Review Protocol."

Protocol criteria. The primary purpose of this study was to identify a consensual explanation of school culture. The most critical criteria question was if the study or possible data identified school culture or its characteristics. All studies that addressed only types of culture other than school culture, such as ethnic culture and geographical culture, were ineligible and therefore, eliminated.

The second criteria questioned asked whether school culture was the primary focus of the study. Studies that primarily sought to prove a change strategy, or discover types of leadership qualities were ineligible. For example, a study where school culture was not the primary focus, but was a reference of association in regards to an alternative agenda was ineligible.

The third protocol criteria question addressed skewed perception. Skewed perception could potentially bias the results of the meta-analysis (Petticrew & Roberts, 2006). There had to be more than one perception taken into account for a study to be included. If a study took into account only teachers' or leaders' perceptions of school culture, the analysis skews and biases the larger body of the studies that represent a definition of school culture according to multiple school community members' perceptions. Every study, for inclusion in the analyses, had to have the perceptions of at least two school community members used in its data collection. Where qualitative studies used only one researcher—one perception—to gauge a school's culture, the assumption made was that the researcher was objective in his or her analysis.

The last criterion of the systematic review protocol required studies to have a methodology and sample size. This requirement excluded studies that were entirely theory based, with no substantial evidence of empirical observation or statistical inquiry.

School Climate, School Ethos, and School Culture

An aspect of this study questioned if the terms school culture, school climate, and school ethos were interchangeable for data collection. There is no established definition distinguishing each word from the other. The education community uses these terms interchangeably, thus causing confusion for researchers and practitioners (Schoen & Teddlie, 2008; Van Houtte & Van Meale, 2011). Because of this confusion, it was not sensible to ascertain only data that specifically used the term school culture. Therefore, studies that used school culture, school climate, and school ethos were included. Retrospectively, this was an important decision because excluding studies using school climate and school ethos would have not only biased this study, but would have limited its perspective because of the terminological confusion.

Citations Located and Excluded

Within each database search, elimination by review of the study title was the first subjective decision made regarding data exclusion. Often, easily recognized irrelevant reference titles were ineligible and discarded (Littell, Corcoran, & Pillai, 2008). Other studies proved irrelevant by reading the abstracts. If there was still indecisiveness after reading the abstract of a study, reading the full-text of the study became the determinant for exclusion.

Rationale for Selection and Exclusion

The data collection process follows the systematic review protocol. All 26 pieces of datum focus on either clarification or verification of school culture as the primary purpose. All datum applies multiple perspectives—usually students, administrators, and teachers. All pieces of datum have an explicit methodology and sample.

The Search Effort

The official start of the systematic review began on 14 April 2011. It officially ended on 10 June 2011. It took an average of six hours a day, totaling approximately 342 hours spent searching for data.

Utilizing database search software, such as Thomson Reuters EndNote X4, sped up the data collection process, but a reoccurring error appeared on the desktop version of the software indicating file corruption in the references. Because of the file corruption, some references transferred in less than APA format to Mendeley 9.0.9.2. See Appendix B for the EndNote X4 and EndNote Web 3.0 list of references labeled "EndNote 3.0 Web Databases" and "EndNote X4 Desktop Databases."

For difficult to find studies, difficult to acquire studies, and all of the bibliographic references, the OCLC ILLiad service was accessed and utilized through the Rowan University Library. ILLIAD is an interlibrary lending service. It provides increased access to library materials that are difficult to acquire.

Studies in Languages Other than English

Data collection was not limited to the English language. Google Translate (http://translate.google.com/translate_tools) converted all studies in languages other than English to English, when necessary. This web-based translation tool has the capabilities

of translating word documents and PDF files, which do not require optical character recognition (OCR). For studies that required OCR, ABBYY FineReader 10 (http://www.abbyy.com/) provided this service. ABBYY FineReader10 includes OCR, which converts PDF, .jpeg, or .gif, files into word documents if necessary.

Abstracts and Unpublished Studies

Unpublished and partial studies became part of the collected data as long as they met the selection criteria set forth in the systematic review protocol. The result of the completed systematic review was one unpublished paper included for analysis in this study.

Research Leader Communication

It was important to connect with research authors and research leaders within the fields of school culture and organizational culture to inquire about possible missed studies to use for data. See Appendix B for correspondence labeled "Systematic Review Commentary and Correspondence." The contacts made were very helpful and informative.

The Use of Keywords

The keywords used for electronic searching were *school culture*, *school climate*, or *school ethos*. Meta-database positioning of the keywords was in the most sensitive placement possible. For example, if the database allowed for *all words in text*, the keywords were located there. Sometimes a database allowed for only *keyword/title* or *title/abstract*. Whatever position of the keywords delivered the most results determined the placement.

The keywords used for the Rowan University databases mirrored the meta-database search. Placement in the Rowan University database was one level of sensitivity below the Thomson Reuters EndNote X4 and Thomson Reuters Web 3.0 database searches. For example, if the Rowan University database allowed for *all text*, the keywords were located in the next sensitive step below, which was *title/abstract*. If the most sensitive placement available was in *subject/title* or *title/abstract*, then *keywords* were the chosen placement. Sensitivity was never less than *keywords*. Some databases allowed for only a one-line search. In such cases, the term *school culture* was located in the first tier of sensitivity placement.

For journal searching, the keyword *school culture* was in the *title/abstract* position. The bibliographic search did not require the use of keywords. For bibliographic searches, the APA reference of the study provided the information used for an internet search. IxQuick https://www.ixquick.com/ was the search engine used for APA reference searches. If the internet search proved inadequate, ILLiad services obtained the study. In order to locate data, ILLIAD serviced 91 requests during the systematic review process of this study to locate data. Keywords were stored for replication without typing errors. See Appendix B for keywords labeled "Database Keyword Examples and Documentation."

Database Software

Thomson Reuters EndNote X4 was the first database chosen for retrieval and compilation of the systematic review data. Endnote X4 is a product of the Thomson Reuters Corporation, and operates connections to the Web of Science and the Social Science Index (EndNote, 2010). It allows for the retrieving, sorting, and filing of

references. It has a web component, EndNote Web 3.0, which allows for the capture of PDF files from other databases (EndNote, 2010).

Another database used was Mendeley 9.0.9.2. Mendeley 9.0.9.2 is a web-based database that allows researchers to share their data with other researchers. The importing of files into the database from the computer desktop, or from a designated file folder is optional (Mendeley Ltd., 2008). Mendeley 9.0.9.2 allows the researcher to highlight, annotate, and save separate notes and files (Mendeley Ltd., 2008). Results from the Rowan University database search, the orphan database search, the journal search, and the bibliographic search were stored in Mendeley 9.0.9.2.

EndNote X4 Desktop and Web 3.0 Search and Review. Endnote X4 (http://www.endnote.com/) operates in windows and provides data retrieval, as well as data storage, for desktop and web-based applications (EndNote, 2010). Thomson Reuters created Endnote X4 as a leading source of intellectual information for businesses and professionals (EndNote, 2010). Thomson Reuter's combines industry expertise with innovative technology to deliver critical information (EndNote, 2010). Thomson Reuters's primary location is in New York; and its chief operations are in London and Minnesota (EndNote, 2010).

Thomson Reuters EndNote X4 and EndNote Web 3.0 provided 37,910 references representing 263 databases. Of the 37,910 references 22,333 (59%) were duplicates. 14,801 references (39%) were ineligible because of title irrelevance. After reviewing abstracts, 507 (.014%) of the collected references were ineligible; and 122 references were eliminated (.003%) by full text.

After a second data review of the full text, another 115 studies were ineligible either because of methodology or because of subject, leaving only seven (.0001%) which fit the criteria questions and could potentially be eligible data. After transferring these references, database searching continued. See Appendix B for a complete list of all Thomson Reuters Endnote X4 and Thomson Reuters EndNote Web 3.0 data labeled by documentation type.

Mendeley 9.0.9.2. Mendeley 9.0.9.2 (http://www.mendeley.com/) is a reference manager and academic network (Mendeley Ltd., 2008). It assisted in locating research, organizing research, and pooling networks. Mendeley 9.0.9.2 finds and imports papers and automatically generates bibliographies from collected references. Mendeley 9.0.9.2 is web based and has an iPhone application for reviewing papers while mobile (Mendeley Ltd., 2008). Mendeley 9.0.9.2 became the final storage database for all references after technical difficulties occurred with EndNote X4 and EndNote Web 3.0.

Rowan University Library Database Search and Review. Rowan University provides access to 204 general and subject specific databases. After reviewing databases to search for eligible references, 50 (25%) were chosen for further exploration. The chosen databases were social science, education, and anthropology. Some government databases and historic databases were possibly applicable and searched for potential gray data. From the 50 chosen databases, 19,590 references were located. Fifteen thousand, three hundred and sixty-seven (78%) of the references could be easily eliminated by title alone. Frequently, references were health related due to the keyword *culture*, or agriculturally related due to the keyword *climate*. Seven hundred and twenty-seven (0.37%) references were ineligible for inclusion, eliminated by reading abstracts. Two

hundred and eighty-three (.014%) references were ineligible for inclusion, eliminated by reading the methodology from the full text. There were 3,208 (17%) duplicated references. The five (.0002%) references kept were in Mendeley 9.0.9.2 as collected potential data. See Appendix B for an excel spreadsheet of the references retrieved from each database labeled by the name of each database.

Orphan Database Search and Review. The last groups of databases searched were orphan databases (Petticrew & Roberts, 2006). Orphan databases were not part of a larger database network, program, or the Rowan University Library System. They were databases discovered in preparation for this study. One of the resources used to prepare for this review was *Systematic Reviews in the Social Sciences* (2006) by Mark Petticrew and Helen Roberts. This book suggested a number of databases for systematic review. Fifty of the suggested databases became potential sources of reference data for this study.

The keywords used for the orphan databases were restricted. Most orphan databases were meta-databases. *School culture*, *school climate*, or *school ethos* was appropriate in the *title only* criteria box. Where there was one keyword line available, *school culture* was suitable. Of the 50 databases, 13 (26%) were not accessible. These 13 databases required a login from an institution or group, which was not individually obtainable. Some of the efforts to obtain these logins are in Appendix B labeled "Systematic Review Commentary and Correspondence."

Extracted references totaled 7,203 from the 37 remaining orphan databases. Six thousand, two hundred and forty-one (87%) of these references were eliminated by title. Six hundred and seventeen (.086%) of the references were eliminated by abstract review, and 93 (.013%) were eliminated by reviewing the full text. Two hundred and forty-four

(.03%) studies were duplicates, and eight (.001%) of the references were imported into Mendeley 9.0.9.2 for further investigation as possible data. Similar to the Rowan University Library search, the references were in the original database when reviewed. See Appendix B for documentation of the orphan database search labeled "Orphan Database Documentation." Table 3.1 shows the documentation in numerical format of the database search results.

Table 3.1. Database Search Results

Database	Total	Title	Abstract	Method	Duplicate	Kept	%
Thomson Reuter's Databases (263)	37,910	14,891	557	122	22,333	7	.0001
Rowan Databases (50)	19,590	15,367	727	283	3,208	5	.0002
Orphan Databases (50)	7,203	6,241	617	93	244	8	.001
Total (363) Databases	**64,703**	**36,499**	**1901**	**498**	**25,785**	**20**	**.0013**

Journal Search and Review

E-Journals from the Rowan University website produced references on the subjects of social science, anthropology, social anthropology, and cultural anthropology. There were 52 journals under social and cultural anthropology. Fourteen journals were from *Education: College and School* publications. Three hundred and thirty-two journals were from *Education: General* and 644 journals were from *Education: Theory and Practice*.

Of the 1,042 journals, 421 (40%) were eliminated by title due to the lack of relevance to the topic and study criteria. The remaining 621 (60%) were reviewed primarily by website capability and article access capability. This number narrowed to 43 (.04%) because of study duplication, study irrelevance, and access capability.

Forty-three journals yielded 4,436 articles. The journal abstracts were visible within the databases for review of all journal references. Four thousand, three hundred and nineteen (97%) of the references were eliminated by title, abstract, or because of duplication.

Saturation was determined when the journal searches produced the same titles or the same number of titles as in the databases. From the 43 journals and 4,436 articles, 113 (.025%) articles required full review for eligibility. The full review existed of rereading the abstracts and checking the methodology sections to make sure the criteria questions were satisfied. The journal search yielded four (.0001%) new pieces of potential data, which required transfer into the Mendeley 9.0.9.2 database. See Appendix B for documentation of the journal search labeled "Journal Search Documentation." Table 3.2 shows the documentation in numerical format of the journal and article search results.

Table 3.2. Journal and Article Search Results

Journals Available	Journals Searched	Articles Retrieved	Articles Eliminated by Title/Abstract/ Duplication	Articles Eliminated by Review	Articles Kept
1,042	43 (.041%)	4,436	4,319 (97%)	113 (.025%)	4 (.0009%)

Bibliographic Search and Review

Of the 126 books, 37 (29%) were used for bibliography review. The other bibliographies were inappropriate usually due to fringe relevance inclusive of topics such as cultural psychology, ethnic culture, or geographical culture.

Alongside 37 books whose bibliographies mostly fit the criteria, were the bibliographies from the then 24 pieces of previously collected data. The combined bibliographies yielded 958 possible new references.

Six hundred and seventeen (64%) of the bibliographic references were eliminated because of title irrelevance. Of the 317 (33%) remaining titles, 302 (32%) were eliminated by a second review. The second review was of annotations, titles, and abstracts. Thirty-three (.03%) of the references were duplications. Kept, were six pieces (.0006%) of potential data imported into Mendeley 9.0.9.2. See Appendix B for the bibliographic search and the bibliographic review documentation labeled "Book Search Documentation" and "Bibliography Search Documentation. Table 3.3 shows the documentation in numerical format of the bibliographic review search results.

Table 3.3. Bibliographic Review Results

Total Bibliographic References	Title	Review	Duplicate	Kept
958	617 (64%)	302 (32%)	33 (.03%)	6 (.006%)

Relevance of Studies

Thirty pieces of potential data emerged from 346 databases, 1,042 journals yielding 4,436 articles, and 958 references from the bibliographies of 37 books and 24 pieces of data. This entire search yielded 70,097 references. Of the 70,097 references, 37,116 (53%) were eliminated by title. Six thousand, five hundred and twenty-two (.089%) were eliminated by abstract review. Six hundred and forty-four (.009%) were eliminated by reading the methodology or the full text. Twenty-five thousand, seven hundred and eighty-five (37%) were eliminated due to duplication, leaving 30 (.0004%) potentially relevant pieces of data for analysis. This percentage, .0004%, is not a high percentage of the possible school culture studies. Most studies reviewed did not fit the research criteria established in the systematic review protocol. Table 3.4 shows the documentation in numerical format of the culminating systematic review data.

Table 3.4. Culminating Systematic Review Data

Total	Title	%	Abstract	%	Full Text	%	Duplicates	%	Kept	%
70,097	37,116	53	6,522	.093	644	.009	25,785	37	30	.0004

Data Exclusion

One of the criteria established for excluding studies involved either the researcher's utilization of teachers' perception of school culture, the leaders' perception of school culture, or the students' perception of school culture as the sole form of school culture perception surveyed.

Studies that indicated a causal relationship between culture, leadership, and change—using school change as the primary focus or outcome of interest—were other reasons for exclusion. Studies were inappropriate if they were by the same author, utilizing a duplicate data set or if they were studies of higher education entities. Studies without a methodology, which were purely theoretical, were unsuitable for this study.

Data Appraisal

When appraising collected data, it is necessary to consider each paper independently and comparatively (Sandelowski, 2007). An appraisal assessment is part of the systematic review process. It is the final step, formatted as a data extraction sheet. See Appendix B for the data extraction sheet labeled "Data Extraction Sheet."

The first purpose of the appraisal for this research study was to make sure the retrieved studies met the inclusion criteria as specified by the systematic review protocol. The second purpose of the research appraisal was to make sure the inclusion standards set beforehand in the systematic review protocol did not require adjustment (Sandelowski, 2007). The third purpose of the research appraisal was to become familiar with the informational content, methodological orientation, research style, and analytical form of the collected studies (Sandelowski & Barroso, 2007). See Appendix C for a table of attribute data, and a table of methodological data, that are inclusive of the study appraisal elements labeled "Study Attribute Data" and "Methodology Table."

Appraisal is about "appreciation and evaluation" (Sandelowski, 2007, p. 75). Having the attribute and methodological data in a table format puts the value of the collected data into perspective. For the purpose of this qualitative synthesis and analysis, it was essential to look at studies cumulatively; the data became one unified, mixed

source for further analysis. Having the data in a table format facilitated a comparative, definitive, and rigorous analysis.

Data Validity

Although not all studies used in this investigation were qualitative, a majority of the research employed qualitative methods. Therefore, performing routine quantitative validity tests necessary for a systematic review and a meta-analysis was not appropriate. A qualitative validity assessment established an understanding of the inter-generalizable aspects of each study, individually. Validity influences the data synthesis and analysis. The qualitative validity assessment, adopted from *The Handbook for Synthesizing Qualitative Data* by Margarete Sandelowski and Julie Barroso (2007), became the validity assessment for this study.

Qualitative studies provide precise, in-depth information about meanings of interventions and behaviors (Petticrew & Roberts, 2006). It was necessary for the purposes of rigor to review each study to discover research bias or potential methodological inaccuracies. See Appendix C for the validity table labeled "Study Validity Table."

Data Extraction

This study applied the systematic review process as a data collection procedure. During this final step of the systematic review process, data sheets documented an extensive review of the systematic review protocol criteria as it applied to the 30 selected studies. See Appendix B for the data extraction sheet labeled "Data Extraction Sheet."

Four additionally eliminated studies left 26 studies as the official number of data. A depiction of this process follows in the "Systematic Review Process Chart" (Figure 3.3) and the "Flowchart of Selected Studies" (Figure 3.4). These depictions are

requirements of the systematic review process. The "Systematic Review Process Chart" is a depiction from the PRISMA Group (2009) and is available at http://www.prisma-statement.org/ as of 8 January 2012. "The Flow Chart of Selected Studies" is from QUORUM and is available at http://www.quorumreview.com/forms/ as of January 8, 2012.

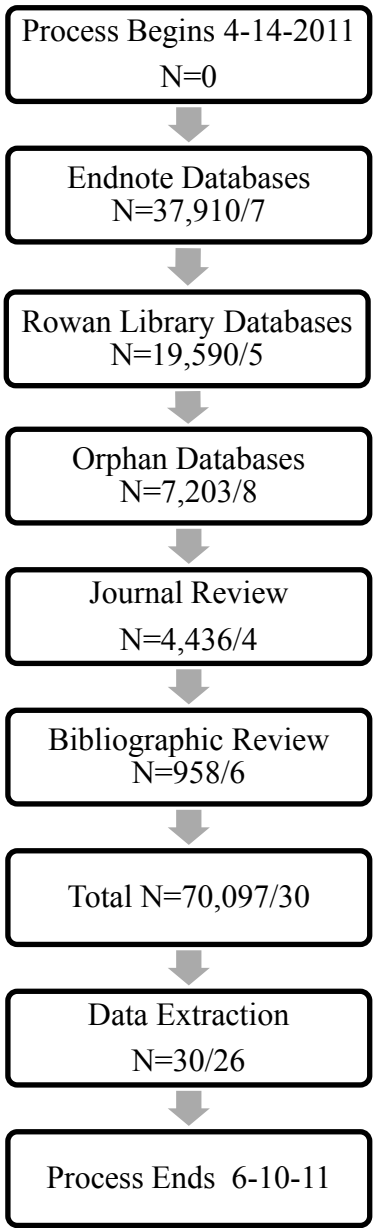

Figure 3.3. The Sequential Systematic Data Collection Process is available from http://www.prisma-statement.org/ as of 13 January 2012. It is available to all users, as long as, the PRISMA web-address accompanies the illustration. This process format is a requirement of systematic review for transparency.

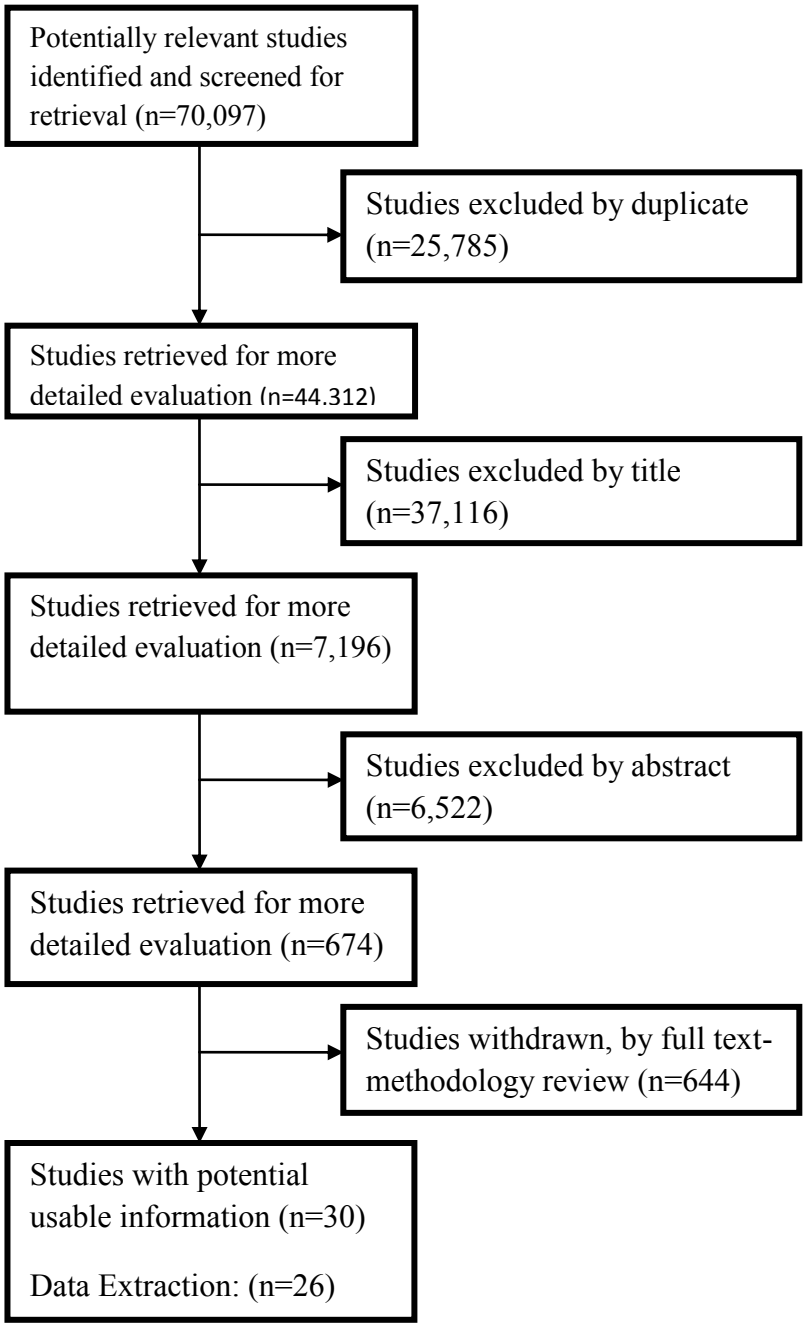

Figure 3.4. The Flow Chart of Selected Studies is from QUORUM at http://www.quorumreview.com/forms/ as of January 8, 2012. This flow chart is available to all users if referenced by supplying the web-address. This process format is a requirement of systematic review for transparency.

Phase 2: Qualitative Synthesis and Analysis

After the data collection was complete, phase 2, a qualitative research synthesis and analysis, began. Sequential models are not a good fit for qualitative research because of the consistent reconsidering, coding, and modifying which occurs as new developments arise. Therefore, the order in which a qualitative synthesis and subsequent analysis might take place is unreliable (Maxwell, 2005). A researcher cannot read and comprehend multiple studies without thinking about their meaning in relation to previous knowledge. Thus, to say that qualitative synthesis and qualitative analysis, for this study, were completely absent of each other is intellectually impossible and untrue. It can only be said that synthesis was focused on and primarily happened first, followed by a primary focus on qualitative analysis. In reality, a constant comparative method, and convergent coding, even if unintentional or intuitive, occurred throughout the qualitative synthesis and analysis process.

The use of the word “sequential,” for the purpose of this study, refers to the larger overall design of the methodology—not the methods themselves. For example, phase 2, the qualitative research synthesis and analysis, was complete before the taxonomy, phase 3, developed. However, to describe the detailed adapted sequential mixed methods exploratory design process used in this study, an explanation of the qualitative data analysis procedures takes place under "Data Analysis" divided from the process of the qualitative research synthesis.

Qualitative Research Synthesis

Social sciences did not use the term “qualitative research” until the late nineteen-sixties. It is an umbrella term, which refers to a multitude of strategies (Bogdan & Biklen,

2007). This study uses research synthesis and analysis, constant targeted comparison, and taxonomic analysis. Such research strategies fall under this umbrella term. Qualitative research refers to the specific characteristics maintained in qualitative studies (Bogdan & Biklen, 2007). One of the characteristics of qualitative research is the use of soft data. Soft data are rich in the description of persons, places, and conversations—not easily handled by statistical procedures (Bogdan & Biklen, 2007).

Qualitative data are telling, yet diverse (Gibbs, 2010). Determining what information the academic community has produced on some question, such as the definition of school culture, is a genuine scholarly endeavor (Glass, McGraw, & Smith, 1981). Qualitative research synthesis is scientific inquiry. It produces interpretive products, which evaluate and integrate findings of completed qualitative studies (Sandelowski & Barroso, 2007). Qualitative research synthesis requires the researcher to be flexible yet systematic; accountable for judgments made, loyal to theoretical foundations, and faithful to the integrity of the reports studied.

The reasoning behind utilizing a wide sampling of reports when conducting a qualitative research synthesis is to negate the impression of support for a favored assumption, which artificially enhances misleading generalizations over integrating the entire body of accessible literature (Glass, McGraw, & Smith, 1981). For this study, the intent was to find the totality of literature. Nevertheless, no matter how determined one might be to find all empirical research on a topic, it is not possible. There is simply too much literature, in too many odd places, to find everything (Glass, McGraw, & Smith, 1981). Sometimes, when synthesizing many reports, the terms metasummary or metasynthesis are used (Sandelowski & Barroso, 2007).

The qualitative research synthesis employed for this study was a combination and adaptation of a metasummary in which the findings are extracted, grouped, and abstracted with a qualitative metasynthesis which "is an interpretive integration of qualitative findings in primary research reports" (Sandelowski & Barroso, 2007, p. 199). The first adaptation to these definitions was to include the use of quantitative findings in the process.

The research synthesis process began with the extraction of the empirical findings from each piece of datum. The separation of the empirically based school culture findings from the theoretically based school culture descriptions required a constant comparative process to confirm the physically observed and interpreted information. After extracting and separating the findings, grouping and organizing the findings according to topical similarity, using a constant comparative method, first cycle coding ensued. First cycle coding is further explained under *Data Analysis*. Abstracting or condensing the findings followed in order to create manageable depictions. At this point, in a metasummary, calculating the findings would be the next step in the process. However, for this study, the calculations of the findings happened later in the meta-analysis phase. Instead, the process of metasynthesis applied, and interpretively integrating the findings followed.

Although the approach taken to conduct a qualitative metasummary is explicit, the approach taken to conduct a qualitative metasynthesis depends on the purpose of the study (Sandelowski & Barroso, 2007). For this study, the purpose of the qualitative synthesis was to organize and condense the data in a systematic way in preparation for further coding and analysis. Interpretation and integration of the findings allowed for the negation of semantics and the discovery of conceptually related findings. In a

metasynthesis, the product is always an integration of the findings. Both metasummary and metasynthesis processes can and usually result in some form of taxonomy (Sandelowski & Barroso, 2007). Further explanation of the qualitative data analysis process is under the *Data Analysis* section of this methodology.

Phase 3: Taxonomic Analysis

Like the natural sciences, cognitive anthropologists studying social phenomena make use of taxonomies (Glesne, 2006). Taxonomic analysis is an inductive form of domain analysis, which shows the conceptual range of findings and provides a foundation for conceptual descriptions, models, theories, or hypotheses (Sandelowski & Barroso, 2007). It seeks to organize information into cognitive domains (Glesne, 2006). For this study, the taxonomic figure shows the logical properties, theoretical properties, and organizational properties of the qualitative findings (Glesne, 2006; Sandelowski & Barroso, 2007) in the form of domains, classes, categories, characteristics, and elements of schools and school culture.

Carolus Linnaeus introduced the first formal taxonomy—*kingdom, class, order, genera*, and *species* in 1735 (Johnston, 2008). Two hundred and seventy-seven years later, the process of developing taxonomy—of conceptual organization—continues to be individual and vague. However, the process always begins with discovery of the content (Johnston, 2008). For this study, the first task in developing taxonomy was to retrieve and isolate the variables from the qualitative analysis—this was the content. The hierarchical list that resulted from the qualitative synthesis and analysis was too artificial and rigid to represent the inner workings of school culture, but it was a beginning (Johnston, 2008).

The actual variables, as depicted in the data, were more fluid and interconnected than a hierarchical list can illustrate.

Utilizing descriptive codes and thematic codes created during the qualitative synthesis and analysis, theoretical coding generated and grouped new variables. The findings from the qualitative research synthesis and analysis determined the connections and inner workings between the variables (Johnston, 2008). The data showed less interconnectedness between the external environmental variables than the internal environmental variables thus, there are fewer lines connecting them in the illustration (Figure 5.1). That is the only variance depicted in the taxonomy. The rest is purely descriptive and not intended to demonstrate the weight of any variable against another (Johnston, 2008). The only prior intended purpose for creation of the taxonomy was to enumerate the variables and provide a framework for the ensuing meta-analysis, and possibly create a foundation for future inquiry (Johnston, 2008).

Phase 4: Meta-Analysis

A research synthesis is not typically the endpoint in an investigation of a topic (Wood & Eagley, 2009). The goal is to determine the known and unknown according to the "status" of the research literature; it does not provide a definitive answer to theoretical or practical questions (Wood & Eagley, 2009). As it is favorable to present findings or definitively contribute to the canon of scientific knowledge by more than just calling for further research, it is preferable that research not be limited to a synthesis (Wood & Eagley, 2009).

Meta-Analysis is the attitude of data analysis. It applies to summaries of individual experiments (Glass, McGraw, & Smith, 1981). Meta-analysis is not a

technique, but a perspective to record the study properties and findings in quantitative terms (Glass, McGraw, & Smith, 1981). “The essential characteristic of meta-analysis is: the statistical analysis of summary findings of many empirical studies” (Glass, McGraw, & Smith, 1981, p. 21).

Research review in the social sciences, such as education, has largely become a matter of private judgment. If educational inquiry and review is nothing but private judgment, then it is inconsistent with scientific research (Glass, McGraw, & Smith, 1981). If meta-analysis offers any improvement over traditional research, it is in the area of "removing… sources of arbitrariness—to arrive at an impartial and representative view of *what the research says*” (Glass, McGraw, & Smith, 1981, pp. 67-68).

The purpose of the meta-analysis phase of this study was to provide the needed statistical information to inform grounded theory for validity and generalization and to reject the null hypotheses listed below.

> H_o: The number of schools studied determines the school characteristics.
> H_1: The number of schools studied does not determine the school characteristics.

> H_o: The number of schools studied determines school culture characteristics.
> H_1: The number of schools studied does not determine school culture characteristics.

> H_o: The number of schools studied determines school cultural elements.
> H_1: The number of schools studied does not determine school cultural elements.

Quantitative testing accomplished the previously stated purposes, providing statistical information and rejecting the null hypotheses, as well as contributing to the creation of grounded theory.

Meta-Analysis and Theory Building

Although meta-analysis has been widely recognized as a powerful empirical research method, its acknowledgement as a valuable tool for research theory building is lacking (Yang, 2002). Each phase of this sequential mixed methods exploratory meta-analysis contributed to the emergence of grounded theory. The quantitative meta-analytic phase of this study was no different.

The process of theory building using meta-analysis consists of five steps:

(a) Review existing theory and identify variables of interest

(b) Search existing empirical studies and code variables of interest

(c) Examine the variability of effect sizes for the variables of interest

(d) Conduct appropriate statistical test(s) to explain variability

(e) Confirm and disconfirm current theory and/or search for alternative theory

Process adapted from (Yang, 2002).

The first stage employed for meta-analytic theory building was to review the existing theories on the topic of school culture and identify the variables of interest. This step occurred during the qualitative synthesis and analysis as well as the taxonomic analysis phases of this study. This stage and those that follow correspond to the conceptual development phases of the general method of theory building in applied disciplines research (Lynham, 2002 as cited in Yang, 2002).

The second stage for developing meta-analytic theory is to search existing empirical studies in the literature and code the variables of interest (Yang, 2002). The main purpose of this theory-building phase was to link abstract theoretical ideas to

observable indicators at the empirical level (Yang, 2002). This step occurred when developing the taxonomy to determine the meta-analytic variables.

The third stage of theory building using meta-analysis examines the variability of effect sizes based on conceptualized characteristics of existing empirical studies (Yang, 2002). The coding that took place during the qualitative synthesis and analysis, and resulting taxonomy enabled a common metric to be established negating the need for the use of an effect size for this meta-analysis. The only necessary variable adjustment was the differences in study population, which weighting by SPSS quantitative analytic software readily accomplished when necessary.

The fourth stage of theory building using meta-analysis is to conduct the appropriate statistical analyses (Yang, 2002). Although there were many assessments conducted (see Appendix D for all conducted testing and supplemental information), the results of four meta-analytic tests of normality were most applicable to testing the stated quantitative hypotheses for the purposes of attaining validity and generalizability. The results of these tests of normality are in chapter 6. Other meta-analytic results were better suited for chapter 7 to support the proposed grounded theory.

The first application was the weighting summary. Weighting of the studies occurred when deemed appropriate for certain meta-analytic tests. Tests of normality were homogeneity, Chronbach's Alpha, and power analysis. Meta- regression tested model fit and reliability.

The fifth stage of theory building using meta-analytic techniques was to draw theoretical implications based on the statistical assessments conducted in step 4 (Yang, 2002). When using combined tests to examine the overall impact of several exploratory

variables, the results are either non-significant or significant. It is important to mention that even though the discussions of all tests conducted are not included in the meta-analysis chapter of this study, their results, when applicable are included and discussed during the process of grounded theory in chapter 7 and can be found in Appendix D. It is in chapter seven that a full application of analyses regarding all phases of this current study emerges.

Raw Data

The meta-analysis began with the calculation of basic data elements. Two databases, constructed in SPSS, contained dependent and independent variables ascertained form the previously developed taxonomy. Descriptive statistical testing showed the population of schools used in the 26 studies was 1,614 (M = 62.08 and SD = 203.6).

Random Effects Model

Fixed effects and random effects are the two main approaches in meta-analyses for estimating mean effect sizes (Littell, Corcoran, & Pillai, 2008). The difference in these models manifests in how weighting applies to the effect sizes and how the mean is calculated. A random effects model fit the current study because random effects models assume that true effects vary between studies.

Effect Size

An effect size is a measure of the magnitude and the direction of a relationship between variables (Littell, Corcoran, & Pillai, 2008). However, for this study, although a multivariate effect size utilizing the mean difference was calculated, it was not necessary.

Weighting the studies for the number of schools sufficed due to the established common metric between variables.

To correlate the number of schools and the number of words used in each study, a mean difference between the number of codes (words) and the number of references (number of times each word was referred to in each study) was calculated. However, when studies use instruments to assess outcomes (NVivo9, word count, and school numeration per study), a mean difference is comparable across studies (Borenstein, Hedges, Higgins, & Rothstein, 2009). This determination encompasses two arguments. The first being that even if all of the studies were linear transformations of each other, which for this study they were not, the mean is the same as the mean difference as long as the data are equal to a transformed *SD* of 1.0 (Borenstein, Hedges, Higgins, & Rothstein, 2009).

The second argument for determining the necessity of a multivariate effect size is a measure of overlap between distributions (Borenstein, Hedges, Higgins, & Rothstein, 2009). For this study, there were three independent variables, the number of schools, the number of codes, and the number of references to each code. It is arguable that the codes and references may be correlative, although for this study, they were not. The numbers of references and codes were independent of each other—neither indicative nor relative with no overlap.

Coding and Common Metric

The key variables coded for the meta-analysis were the studies, the school characteristics, the school culture characteristics, and the school culture elements. NVivo9 assisted with the coding of all studies. The coding of quantitative data entailed

descriptions, results, discussions, and findings of each study. All studies used a common metric, which established a foundation for analysis (Taras & Steel, 2007). Theoretically, each code resulted in a score of one having the weight of one occurrence. Weighting of the studies, when necessary, occurred by individual sample size. For most meta-analyses, only sample size has an observable effect, and with the large range in N in this study, this was absolutely the case (Taras & Steel, 2007). Because of the demonstrated common metric, an effect size was not necessary for meta-analytic testing.

Homogeneity

To find out how much variation existed within variable distributions and whether or not the variation was attributable to sampling error or chance, a statistical test for homogeneity was necessary. The variance is the measure of distance between data point sets. The random effects model uses the variance between variables along with the standard of deviation for tests of homogeneity (Borenstein, Hedges, Higgins, & Rothstein, 2009). The random effects model suggests that the true effect size will vary from study to study. Therefore, homogeneity testing established whether or not the variation was significant and whether or not it was most likely due to sampling error (Littell, Corcoran, & Pillai, 2008).

There are several statistical tests for homogeneity of effect size. For this study, The Q-statistic was necessary because the variance differed significantly from zero and a fixed effects analysis was not appropriate, in which case the Q-calculation is obligatory (Cooper, Hedges, & Valentine, 2009). Using the standard of deviation, number of codes, number of references, and number of studies, the variance was tested**.**

Homogeneity testing allows researchers to examine the viability of any conceptual grouping of the existing studies (Yang, 2002). The variability among studies points to the possibility of an existing mediator variable that might explain the variability in the variables. For example, if large school populations had more occurrence of the school culture element "experience" than small schools, one could posit that the number of schools or N mediates the strength or occurrence of a school culture characteristic. On the other hand, a non-significant result of the homogeneity test rejects the possibility of moderator variables being influential.

Chronbach's Alpha

Probability theory states: if data from multiple samples is collected, the point estimates from the samples will distribute around the population (Littell, Corcoran, & Pillai, 2008). Meta-analysis uses this idea and relies on multiple point estimates from various studies to develop a better picture of the distribution effects and better estimates of parameter; however, all estimates are approximate and express only some level of certainty (Littell, Corcoran, & Pillai, 2008). The calculated Chronbach's Alpha originated from the collected data for all categorical variables. Chronbach's Alpha indicates the reliability of estimates. It is different from variable to variable and gives assurance that the statistical model is correct (Cooper, Hedges, & Valentine, 2009).

Meta-Regression

Meta-regression provides several advantages (Taras & Steel, 2007). The most important being it assesses the potential impact of one or more continuous variables. The dependent variable is usually the effect size, the independent variables are moderators, and the studies are the units of analysis. For this study, the dependent variables were the

references, the independent variables were the codes, and the unit of analysis was the studies. To perform a meta-regression there must be at least 10 studies for each variable (Borenstein, Hedges, Higgins, & Rothstein, 2009). A meta-regression analysis illustrates the significance or non-significance of the moderator variables.

Power analysis

Power analysis is the probability of a null hypothesis rejection when the null hypothesis is actually true. The power is a function of the possible distributions, determined by the parameter, under the alternate hypothesis (Borenstein, Hedges, Higgins, & Rothstein, 2009). The power analysis conducted for this study confirmed that no type II errors occurred.

Bias and Limitations of the Meta-Analysis

Various types of bias infiltrate a meta-analysis (Littell, Corcoran, & Pillai, 2008). The first is publication bias. Publication bias occurs when a meta-analysis uses only published studies. Using only published studies may lead to the exclusion of useful outcomes from the analysis (Littell, Corcoran, & Pillai, 2008). In this study, the systematic review controlled for publication bias with the systematic review protocol. This study used unpublished data that fit the systematic review protocol criteria.

Another type of bias, which may be problematic in a meta-analysis, is small sample bias. Often, in the case of small sample size, a control such as Hedge's $\hat{g}$ is used. If the number of schools were the effect size in this study, Hedges $\hat{g}$, for studies that used only one school as the sample, would be applicable. Because of the use of coding resulting in a common metric in this study, the need for Hedges $\hat{g}$ was eliminated (Borenstein, Hedges, Higgins, & Rothstein, 2009).

Despite best efforts, some of the concerns regarding limitations of the studies remain. Very small samples representing some countries remain a limitation of a majority of the collected studies. In addition, it seems to be questionable if the samples used in the studies are representative and generalizable to entire nations. For example, Campolina and Santos Lopes de Oliveira (2007) based their study on a sample of one school and, thus, the generalizability of the data to the entire country of Brazil is disputable. The findings of this study address this limitation.

A common challenge in meta-analysis is the dissimilarity of papers. Studies are usually different in terms of methodology, metric, or sample (Taras & Steel, 2007). Fortunately, minor instrument modifications are not likely to lead to a substantial alteration of a construct or of psychometric properties. However, to establish commensurability favoring content took precedence over criterion (Taras & Steel, 2007).

Strengths and Weaknesses of Theory Building in Meta Analysis

Although meta-analysis has its unique features as a valuable research technique, the process of theory building from meta-analysis tends to be only identifiable with other approaches, as it was in this study. There are both advantages and disadvantages associated with a meta-analytic approach to theory building (Yang, 2002).

One advantage of a meta-analytic approach to theory building is its capacity to integrate and synthesize current empirical studies on a particular topic (Yang, 2002). Meta-analysis allows researchers to integrate the existing empirical findings with sophisticated tools such as combined tests. Because different existing studies may come from various empirical areas, a combined test tends to cumulate the existing findings (weighted or un-weighted) and offers more generalizable results (Yang, 2002).

A second advantage of meta-analysis for theory building comes from its nature of analysis of analyses. Meta-analysis not only cumulates results from individual studies but also tests complex theories involving many variables (Yang, 2002). Because social and organizational phenomena tend to be complex, different theories from various domains are difficult to explain. There might be several competing theories or theoretical frameworks within one research domain (Yang, 2002). For example, researchers identified different theories and associated variables of school culture to determine its definition. Meta-analysis presented a useful method to evaluate the possibility of relative existing predictors affecting the dependent variables and thus provided aggregated empirical results for reviewing and judging existing theories and conceptual models (Yang, 2002).

A third advantage is that meta-analysis allows researchers to develop and verify new theoretical ideas based on possible attributes and characteristics of all possible existing studies (Yang, 2002). In essence, meta-analysis can follow a "research-then-theory-strategy" of theory building (Reynolds, 1971 as cited in Yang, 2002). Comparing other approaches with the research-then-theory strategy in theory building, the main advantage of meta-analysis is that it accounts for a number of proved empirical studies (whether published or not) instead of one single study. For the methodology of this study, using meta-analysis in this capacity of research-then-theory was particularly complementary to the overall methodological process.

Although there are several advantages to using meta-analysis as a theory-building tool, the acknowledgement of some disadvantages is inevitable. The first disadvantage of meta-analysis is that the fundamental parameters of the theory used to explain social or

organizational phenomena are dependent on the existing studies. The meta-analytic researcher cannot include or test variables that are unexamined in the existing studies. A meta-analysis cannot confirm or disprove a distinctive theory that is beyond the existing empirical studies (Yang, 2002).

The second disadvantage of meta-analysis lies in its theory-building strategy because of its usual limitation as the analysis of existing analyses. The meta-analytic researcher cannot operationalize new theoretical ideas beyond the variables and study attributes that have been included in the existing studies (Yang, 2002). Consequently, a meta-analytic approach to theory building tends to be more applicable to a research-then-theory method than a theory-then-research strategy (Yang, 2002).

Phase 5: Grounded Theory

Although grounded theory is a relatively new technique, it has proven useful in identifying themes and developing theories (Glesne, 2006). In 1967, Anselm Strauss and Barney Glaser were the first to conduct grounded theory research (Glesne, 2006). The purpose of grounded theory is to establish a relationship between conceptual categories. Grounded theory defines the conditions leading to the creation, change, maintenance, or emergence of theory (Glaser, 1995). It is a form of post-positivist research typically used to develop theories regarding social phenomena (Glesne, 2006).

Grounded theory goes beyond speculation and presumption to underlying processes utilizing substantive theory to understand, intervene, and resolve main concerns. It has the potential to put vested social structures in jeopardy (Glaser, 1995). Grounded theory is a general practice used with any type or compilation of information, and is especially useful with qualitative data (Glaser, 1995). The purpose of grounded

theory is to empower the researcher with an open, generative emergent method. Honest approaches to the data allow logical structure and process to emerge, maximizing theoretical control (Glaser, 1995). Grounded theory produces an integrated set of conceptual hypotheses and a repositioning of certainties to resolve a concern (Glaser, 1995).

Grounded theory is conceptual and abstract of time, place, and person. All data collection, analysis, procedures, and pacing are sequential, subsequent, scheduled, and unforeseen. Conceptual hypotheses of grounded theory do not carry the burden of accuracy (Glaser, 2003).

Data Analysis

Analyzing data is the core of research (Gibbs, 2010). The collection of data is just a preliminary step in preparation. There are many different approaches to analyzing data—some general, others specific (Gibbs, 2010). For this study, data analysis was continuous, sometimes sequential, sometimes convergent, sometimes simultaneous, sometimes based on content, sometimes based on interactions (Gibbs, 2010).

Analysis implies transformation. It requires organization and a structured approach. It involves interpretation, imagination, and speculation (Gibbs, 2010). However, a good analysis is emergent, natural, logical, and meaningful (Glaser, 2003). One of the most important analytic strategies used in this study was constant targeted comparison.

Constant Targeted Comparison

All designs of qualitative studies involve the combination of data collection with data analysis (Bogdan & Biklen, 2007). Normally, the emerging themes guide data

collection, although formal analysis and theory development do not occur until after the data collection is near completion. In constant targeted comparison, the formal analysis begins early on and is complete by the end of the study (Bogdan & Biklen, 2007). Constant Targeted Comparison is the primary analytic device used for creating a research analysis of findings. It is the deliberate search for similarities and differences between target phenomena and extra-study phenomena to clarify the defining and overlapping attributes (Sandelowski & Barroso, 2007).

The steps of Constant Targeted Comparison, as described by Bogdan and Biklen (2007) and modified for this study are as follows:

1. Begin collecting the research through systematic review
2. Look for data, which will become the categories of focus
3. Initially, code the data being mindful of the dimensions for each category
4. Account for reoccurrences within the data while searching for new incidents
5. Organize the data to discover emerging processes and relationships
6. Engage in theoretical coding and analysis as the core categories emerge

Constant Targeted Comparison makes logical distinctions and comparisons at each level of the analytic work (Charmaz, 2006). Comparing data with information to find similarities and differences with which to make scientific sense sometimes challenges taken-for-granted understandings (Charmaz, 2006). It takes whole sets of findings as the target value for comparison (Sandelowski & Barroso, 2007).

Qualitative Data Analysis

In qualitative research, there are no hypotheses to test. Qualitative researchers prefer to collect their data through sustained connection with the community members in

settings where they typically spend their time (Bogdan & Biklen, 2007). Qualitative analysis is a matter of taking large amounts of data and processing it through analytic procedures into a clear, understandable, and trustworthy examination. It implies there will be data transformation (Gibbs, 2010). Operational values do not create the research questions in qualitative research. Investigating topics, in context, frame the research questions (Bogdan & Biklen, 2007).

Qualitative methods assume everyone has a story to tell (Bogdan & Biklen, 2007). Past research tells the stories that inform this study. Previous researchers told their stories through their studies. Qualitative data analysis practices the creation of classes and categories. In the current study, the replication of ideas was determined by attribute, structural, and in vivo coding. Descriptive, thematic, and initial coding were types of selective coding which took place during the qualitative analytic phase of the adapted methodological process (Saldana, 2009).

Data collection and data analysis began concurrently as coding and organization of the qualitative, quantitative, and mixed methods data took place. Themes and concepts developed utilizing a constant targeted comparative method. In addition, a computer program aided the qualitative data analysis—NVivo9, developed by QSR International (NVivo Qualitative Data Analysis Software, 2010).

First Cycle Coding. This study required various types of coding conducted sequentially (in the earlier stages) and concurrently throughout the data collection and data analysis processes. Codes codified and categorized the data from in vivo form to more general codes of descriptions and themes. Constant comparative methods were

necessary to establish analytic distinctions at every level of the work (Charmaz, 2006). See Appendix C for qualitative code lists and codebooks labeled by coding type.

***Attribute coding*.** The first coding completed for each study was attribute coding. Attribute coding is the essential information about the data—demographic characteristics, participant characteristics, and methods characteristics (Saldana, 2009). This coding became extremely useful when creating tables, such as the validity and methodological tables. See Appendix C for validity and methodological tables labeled "Study Validity Table" and "Methodology Table."

Structural coding. After coding the attributes from all 26 studies, the processes of lumping and splitting the data began, utilizing structural codes. Structural codes are representations of answers to the research questions (Saldana, 2009). Because the data studied addressed the same questions as this study, the existing codes within the studies were lumped and split accordingly. See Appendix C for a complete list of the structural codes labeled "Structural Codes."

***In vivo coding*.** In vivo codes are literal coding (Saldana, 2009) and were the next step in the coding process. This type of coding was a means to pay attention to the context of each study. Because of the wide range of geography and methodology, the importance of correctly interpreting terms and ideas became relevant. In vivo coding preserved the integrity of each study and allowed for the development of grounded theory based on empirical observation and vocabulary. See Appendix C for a complete list of the in vivo codes labeled "in vivo Codes."

Descriptive coding. Descriptive coding creates topics (Saldana, 2009). Descriptive codes categorized the large amounts of data created by in vivo coding. See Appendix C for a complete list of the descriptive codes labeled "Descriptive Coding."

Thematic coding. A theme is an outcome of coding (Saldana, 2009). After the descriptive coding was complete, the organization of the descriptive codes into themes took place. See Appendix C for a complete list of the thematic codes labeled "Initial Thematic Coding."

Quantitative Data Analysis

The analysis of accumulated research outcomes is a statistical specialization. Thirty years ago, the mechanics of integrating research involved only intuitive processes inside the heads of synthesists (Cooper, Hedges, & Valentine, 2009). Meta-analysis changed these processes, made them public, and based them on explicit statistical assumptions. The research community no longer accepts subjective observations and individual suppositions (Cooper, Hedges, & Valentine, 2009).

Quantitative analysis expresses relationships among pairs of variables (Bryman & Cramer, 2011). The quantitative analysis in this study was a multivariate analysis in that it explored the relationships between more than two variables (Bryman & Cramer, 2011). Tests of multiple regressions, which are a widely used method for conducting multivariate analysis when more than three variables are involved, were important to the quantitative analyses of this study to test the null hypotheses. All quantitative tests and data analyses involved the use of SPSS (statistical software) for this study.

Grounded Theory

As in qualitative research analysis, the conditions for grounded theory are stringent (Glesne, 2006). Constantly comparing existing theories for classification and grouping thereby modifying generated theory using other concepts as data is a fundamental tenant of grounded theory (Glaser, 2003). Second cycle coding helped to inform the resulting analysis and grounded theory for this study.

Second Cycle Coding. Second cycle coding is a re-coding of the initial, descriptive, and thematic codes developed during first cycle coding. Comparisons and hierarchies led to attribute tables and chronological comparisons. Theoretical models and relationships developed during second cycle coding (Saldana, 2009).

Theoretical coding. Once the descriptive codes became thematic codes, they split into two theoretical constructs of anthropological, sociological and two additional constructs of individual and group. The development of the theoretical constructs marked the end of first cycle coding, and the beginning of second cycle coding. See Appendix C for a complete list of theoretical codes labeled "Theoretical Coding."

***Axial coding*.** Axial coding showed the relationships between school culture domains, classes, categories, and elements according to the characteristics of school culture. Axial coding sorts, synthesizes, and organizes information. Axial coding fills the gap, where other coding techniques fracture (Saldana, 2009). Axial coding informed the taxonomy and grounded theory.

Rigor

The educational research community endures much criticism for lack of scientific rigor, methodological quality, and operational relevance (Torgerson, 2003). Utilizing

meta-analysis addressed this issue by triangulating the data and establishing generalizability and validity. Other efforts to maintain rigor included transparency based on the systematic review protocol, the appraisal table, and the qualitative validity table. See Appendix C for the data appraisal and qualitative validity tables labeled "Study Attribute Table" and "Study Validity Table."

Technological Data Analysis

To assure the discovery of as much gray literature as possible, two electronic retrieval databases, in addition to the Rowan Library electronic database retrieval system, exhibited indispensible technological research assistance. Retrieval databases provided access to academic databases, as well as a means for study documentation and storage. The retrieval databases were compatible with NVivo9 and SPSS, which ensured complete and reliable transfer of data, when necessary, for analysis.

NVivo9. NVivo9 (http://www.qsrinternational.com/products_nvivo.aspx) is the qualitative data collection and data analysis program used for this study. NVivo9 is a Windows based product. It is useful for coding and enables the development and the creation of node trees, forest plots, and other types of graphs and data analyses (NVivo Qualitative Data Analysis Software, 2010).

SPSS. SPSS (http://www-01.ibm.com/software/analytics/spss/) is a software program used for statistical data testing and data analysis. SPSS offers graphical methods and nongraphical methods to figure and display quantitative database statistics. SPSS is a Windows based computer program produced by IBM Corporation, business analytics (SPSS Inc., 1998). This program calculated all quantitative data testing and analyses for this study.

Conclusion of the Methodology

The adapted sequential mixed methods exploratory methodology utilized in this study began with a systematic review of the literature. Systematic review was the most comprehensive way to locate existing empirical research, which defined school culture and school culture characteristics for this study (Littell, Corcoran, & Pillai, 2008). Ascertainment of the data was through the utilization of EndNote X4, EndNote Web 3.0, Mendeley 9.0.9.2, Rowan University Library databases, journal searching, and bibliography review, which ensured a thorough and extensive research investigation. Once the primary research used for this study passed the criteria established in the systematic review protocol, NVivo9 housed the data for coding.

Throughout the coding process, a constant targeted comparative method united data collection and data analysis in a documented process. NVivo9 facilitated the first and second cycle coding of the data to determine the terminology each study used to define school culture and describe school culture characteristics. Theoretical and axial coding helped to develop taxonomy.

The data collected from the research studies, the research synthesis, the research analysis, and the taxonomic analysis were statistically tested. The meta-analysis validated the taxonomic variables and determined the collected information as generalizable, which informed grounded theory. Grounded theory emerged from the results of every phase of this methodological process. This adapted methodology encourages further quantitative analysis of qualitative research.

Chapter 4
Qualitative Research Synthesis and Analysis

The design of a qualitative research study is the logic, coherence, and manner in which the components of the study relate to each other (Maxwell, 2005). Since there is no required format, the design is audience specific (Maxwell, 2005). For this qualitative analysis, the design follows a format of sequentially answering each posited and applicable qualitative based research question. The first qualitative research question in this study addresses school characteristics. The second question addresses the characteristics of school culture. The third and last applicable question addresses the structural elements of school culture. Chapter 4 follows this format: the characteristics of schools, the characteristics of school culture, and the structural elements of school culture.

The qualitative structure of this study consists of the synthesized and analyzed components, ideas, and positions taken from the previously collected data. This qualitative synthesis and analysis begins with a description of the characteristics of schools.

The Characteristics of Schools

The first question posited in this study asks for a definition and description of the characteristics typical of schools because school is the "universal connector in the rites of passage between childhood and adulthood" (Freiberg, 1999, p. 3). Schools around the world are similar, with only slight variations (Freiberg, 1999).

While synthesizing and analyzing the data, a division emerged in regards to school characteristics—external characteristics and internal characteristics, which profoundly define and affect schools in various ways and degrees. To address the first

posited research question, investigating a school's external and internal environments was essential. Therefore, this qualitative synthesis and analysis begins with the external school environment.

The External School Environment

The external environment of a school may be exogenous (Pfeffer & Salancik, 1978). An exogenous environment describes the impact the outside surroundings have on an organization. However, when the environment is of an exogenous nature, the organization has no influence on the external environment (Pfeffer & Salancik, 1978).

Alternately, the external environment of a school may be endogenous. In an endogenous environment, an organization experiences shared influence with its surroundings (Pfeffer & Salancik, 1978). The external environment may affect the school, but space and time may limit those influences (Katz & Kahn, 1966). If the influence of the external environment is positive, then the influence will continue (Katz & Kahn, 1966). The influential range of the external environment may encompass the entire global milieu (Wheatley, 2006). On the contrary, the range of external environmental influence may be limited to only as much of the external surroundings as a school will allow (Wheatley, 2006; Fullan M. , 2007).

Some possible external environmental categories, which may affect culture, are resources, political forces, technology, and ethnic identity (Pfeffer & Salancik, 1978). While amalgamating the research data, the external environmental categories of schools appeared differently. Fourteen external environmental categories of schools emerged: society, the media, the federal government, the state government, the local government, the union, higher education, the business community, the local community, the school

board, policy, standards and accountability, programs and initiatives, and resources. These fourteen categories represent the external school environment as discussed in the collected data. They exist and influence from outside the internal school environment.

These 14 categories separate into four classes: society and the media, government entities, government or private entities, and means of influence and control. The 4 classes and 14 categories emerged from the qualitative coding conducted for this study, specific to schools according to the collected data. An explanation of each classification, category, and relationship follows, beginning with society and the media.

Society and the media. Society and the media is an extant classification of the school environment. Individually, society and the media are categories within the stated classification. The categories and classification emerged from the coding conducted from synthesizing and analyzing the 26 studies collected as data. Society and the media portrayed as individual categories follows.

Society. Subgroups, such as classes of organizations that influence schools, constitute society (Angelides, 1999; Campolina & Santos Lopes de Oliveira, 2007; Ridenour, Demmitt, & Lindsey-North, 1999). Students are a product of society (Colia, 2002; Ewen, 2004; Kent, 2006; Lance, 2010; Mertzig, 2008).

Schools also have a role to play in society (Campolina & Santos Lopes de Oliveira, 2007; Kent, 2006; Lewis, 1997; Montemurro, 2002) as they prepare students for societal membership (Wang, 1998). Therefore, schools have an endogenous relationship with society (Pfeffer & Salancik, 1978). One of the means schools use to communicate with society is through the media.

***The media*.** The media is part of the external environment of schools which allows shared communication to occur between schools and society (Ewen, 2004), indicating an endogenous relationship (Pfeffer & Salancik, 1978). In spite of this shared influence, the relationship between schools and the media is not always positive.

In the past, the media has strongly criticized schools (Angelides, 1999; Ewen, 2004) by representing public education as a failure (Colley, 1999). Because of this public description suggesting the poor way teachers do their jobs, the media coverage has contributed to an atmosphere of discontent among teachers (Ewen, 2004).

The media also influences students (Lewis, 1997). Attributable to its primarily patriarchal nature, the media promotes violence within schools by advocating constructs of masculinity that result in high male discipline rates (Lewis, 1997). In addition, female students learn self-esteem from mass media such as television shows, magazines, and newspapers, which tout the importance of notions such as being thin (Lewis, 1997). This has led to issues such as bulimia and anorexia in young females. In an espoused effort to improve schools, various governmental entities have attempted to intervene.

Governmental Entities. The classification of governmental entities includes national, state, and local governmentally run external entities, which have an effect on schools. The emergent categories from the coding conducted on the 26 studies collected, as data are the Federal government, the state government, the local government, and the union. Some may deem the union as nongovernmental, although governmental political monetary donations and affiliations maintained by administrative and teachers unions prove otherwise (Antonucci, 2010). The most far-reaching of these categories is the Federal government, as its influence stretches across nations.

The federal government. Mauritius is an exceedingly centralized, nationally (State) owned school system of public education (Ajaheb-Jahangeer & Jahangeer, 2004). Similar to Mauritius, China also possesses a long history under a highly centralized Federal government, which operates at various levels within the educational structure (Wang, 1998). In addition to the educational systems of Mauritius and China, the educational systems in Cyprus, Ireland, and Canada also bear highly centralized bureaucracies (Donnelly, 2000; Lewis, 1997; Angelides, 1999).

Federal governments have a record of imposing centralized and ineffective programs on schools (Lance, 2010). In the late 1970's, the development of the United States Department of Education established a means of directly imposing federal legislation, regulations, grants, and programs on local school districts (Schoen L. T., 2005). The United States Department of Education created a process of institutionalizing national control over local schools primarily through granting and restricting monetary resources (Schoen L. T., 2005).

In the 1980's, the United States Department of Education became more involved in whole school reform agendas, which affected school practice and school programs (Schoen L. T., 2005). Whole school reform created mass amounts of mandatory restructuring, and mandatory accountability for implementation by states and local school districts (Schoen L. T., 2005).

In the United Kingdom, Canada, and Ireland, the Ministries of Education have also pursued various goals and strategies for nationally supported educational reform plans in an effort to accelerate school improvement (Ewen, 2004; Donnelly, 2000; Lewis, 1997). As in the United States, the Ministries advocated policies such as zero tolerance,

career education, and accountability (Ewen, 2004; Donnelly, 2000; Lewis, 1997). Schools that followed mandated policies attained rewards and schools that did not follow these policies were subject to monetary sanctions (Ewen, 2004; Donnelly, 2000; Lewis, 1997).

Because of the highly centralized bureaucracies and the mandated reform agendas that subject schools to sanctions with essentially no recourse, the relationship between the Federal government and local schools is exogenous (Pfeffer & Salancik, 1978). Influence is not reciprocal between the two entities. Another governmental bureaucratic agency that has attempted to reform schools is the state or provincial government.

The state. American schools remain limited by states that make direct curricular decisions by mandate under the pretext of instructional improvement. The state bases high-stakes accountability tests on state-determined standards (Colley, 1999; Lance, 2010; Monrad, et al., 2008; Schoen & Teddlie, 2008). Schools in the United States, under increasing pressure of accountability from the state level, continue to limit their focus on outcomes measured by criterion referenced standardized tests (Colia, 2002; Schoen L. T., 2005).

Panayiotis Angelides's 1999 study, conducted in Cyprus, indicated schools readily accepted, and even depended on, the authority of the state rather than on themselves and their own initiative. In China, the provincial government provides qualified teachers, school buildings, textbooks, and supplies (Wang, 1998).

Although the relationship between schools and state governments is concerning at times, schools have a reciprocal rapport with the state. Schools are able to communicate more often and more directly with state governmental education agencies than federal

governmental education agencies. Therefore, the relationship between state and schools is comparatively endogenous (Pfeffer & Salancik, 1978). Unlike the state and Federal governments, schools usually work closely with their local government.

The local government. The county or local government may sometimes run its own schools (Colia, 2002), provide transportation, and assume fiduciary responsibilities. Schools and their local governments have an endogenous relationship (Pfeffer & Salancik, 1978). The state disperses resources and communications to the county or local government and, in turn, the county or local government distributes the resources and communications to local school districts (Colley, 1999). There are programs, initiatives, and services provided at the local level of government, which affect schools, such as the County Division of Youth and Family Services (DYFS), the County Recreation Department, and County Health Program (Colia, 2002). Some geographical areas have countywide calendar committees to ensure all schools within the county have the same days off (Colley, 1999). However, before the approval of any school calendar, school administration and personnel seek input from their local union.

The union. According to Ewan (2004), there is concern, in Canada, regarding the current infiltration of union activity in the school system. She believes the cause of this phenomenon is trust and suspects there is a lack of trust between administration and teachers (Ewen, 2004). In Ewan's district, the union galvanized to create, restore, and maintain trust in the schools (Ewen, 2004). The relationship between schools and unions is an endogenous relationship (Pfeffer & Salancik, 1978) because the entities influence each other.

The school community members may elect certain governmental and governmentally related officials such as mayors and union representatives in some countries however; those who serve in governmental agencies are usually hired or appointed. The influence a school has on a government agency is minimal. At the national level, individual school influence on an educational agency is nonexistent. The affect a school may have on a government agency increases with proximity and communicative availability. However, not all extant entities, which affect a school, are governmental.

Either government or private entities. The classification of either government or private entities contains four categories—higher education, the business community, the local community, and the school board. These four categories emerged from the collected data. Either these entities may operate privately or governmentally or as a combination of the two, but have a definite relationship to schools. The first category in this qualitative synthesis and analysis classification is higher education.

Higher education. Most teachers in China's schools are university graduates, although not all teachers in China are university graduates (Wang, 1998). In China, teachers' professional categories relate to the amount of college they have completed (Wang, 1998). A synthesis of the collected data reveals that within the 10 countries studied, higher education is a requirement for all teachers in most of the countries aside from the anomaly regarding China.

In the United States, students' future academic work consists of either college or vocational school (Colia, 2002). Some high schools offer the opportunity for students to take college prepatory work, or pursue college level work for advanced placement

(Dufour & Eaker, 1988). Universities often work within schools by offering conferences for teachers and workshops for students on topics such as collaborative partnerships and team-building (Colia, 2002). Because of this affiliation, higher education, as part of a local school's external environment, is endogenous (Pfeffer & Salancik, 1978). Universities and local schools share a goal to prepare students for productive citizenship.

The business community. Mutually beneficial relationships usually exist between schools and local businesses (Wang, 1998). In local school districts, community business leaders may be a part of various school councils and committees (Colia, 2002; Colley, 1999). Associations of local business owners will sometimes connect with schools to make supportive donations for various events and initiatives (Schoen L. T., 2005). Sometimes businesses will provide services to students and schools such as running activities or field trips (Mells, 1994). There is a worldwide movement toward school and business cooperation and involvement (Wang, 1998), which indicates the business community and schools have an endogenous relationship (Pfeffer & Salancik, 1978). Some consider schools as a sort of business, but there are as many differences between schools and businesses as there are similarities.

Business is more unstable than schools. Businesses will open and close according to public demand and the market sometimes, with very short notice (Wang, 1998). Schools are more likely to remain open for decades regardless of supply or demand. Schools look to be equitable and fair while business is purely competitive (Wang, 1998). Despite differences, the business community is an important component of schools (Colia, 2002), as parents of students may work in the local businesses (Angelides, 1999) and have influence on the business's interaction with the local school district.

As governments continue to cut public school funding schools seek other opportunities to supplement losses (Wang, 1998). Some schools have started their own school-run businesses (Wang, 1998). School-run businesses help to augment funding from governmental agencies, which in turn, helps to alleviate the financial burden of the local community.

The local community. Schools strive to have a strong association with the local community and its members (Colley, 1999; Ewen, 2004; Goslin, 1996). Local communities are bureaucracies (Lewis, 1997). They have resources, demand equity, and have members who protest when dissatisfied with the school system (Lewis, 1997). Local communities feel a responsibility and ownership toward the schools they fund (Wang, 1998). The relationship is endogenous (Pfeffer & Salancik, 1978). Some members of the regional community show their support of the area school district by volunteering to serve on the local school board.

The local school board. There are various types of school boards usually based on geographic areas such as the national school board, the state school board, the county school board, and the local school board (Colley, 1999; Ewen, 2004; Lewis, 1997; Monrad, et al., 2008; Schoen L. T., 2005; Wang, 1998). Each type of school board has a role to play regarding the operations of the local school districts that are part of its geographically relative area. However, by far, the most discussed and seemingly intrusive according to the collected data is the local school board.

The community may elect the local school board, or a government official may appoint the local school board members (Turner & Crang, 1996). How the school board is appointed makes a big difference in its endogenous relationship with the local school.

An appointed school board is less accountable to its constituents than an elected school board is. A school board may be centralized or decentralized, and is sometimes seen as a bureaucracy (Colley, 1999; Lewis, 1997). School boards must be strong, unified teams that work together in order to be effective (Ewen, 2004) but can sometimes usurp the power of administration to lead.

School boards usually define their main purpose as creating and enforcing policy (Colley, 1999). However, local school boards have various perceptions of what create and enforce policy means (Lewis, 1997). Generally, a school board that is involved in the day-to-day operations of a school is micro managing and may do more harm than good within a school district. District policies symbolize the board members' collective philosophy—their beliefs, commitments, values, and visions (Lewis, 1997) as a means of influence and control.

Means of Influence and Control. The classification of means of influence and control contains the categories: policy, standards and accountability, programs and initiatives, and resources. The classification of means of influence and control emerged from coding conducted on the 26 studies collected as data as part of this qualitative synthesis and analysis. The classification of means of influence and control represents how the included categories used by external entities affect schools. Influence usually begins under the pretext of reform and improvement efforts. Control is usually a prevention or response to resistance (Schoen L. T., 2005; Colia, 2002). Descriptions and explanations of the categories of means of influence and control follow, beginning with policy.

Policy. When there is a problem in a school, such as bullying, school boards are obliged to create or endorse a policy that gives supportive direction to school administration (Lewis, 1997). Most school policies are in place for the purpose of staff and student safety (Colley, 1999) such as fire drill and lockdown policies. Some policies are in place for organizational purposes, such as sick leave for teachers (Colley, 1999).

Some schools rely heavily on outside policy guidance assuming school improvement emanates from policy makers deciding what schools should do (Schoen L. T., 2005). Imposed policy from external sources ultimately defines the behavior within a school (Schoen & Teddlie, 2008) whether it is compliant or resistant. Considering schools are responsible for implementing policy, the relationship between policy and schools is endogenous (Pfeffer & Salancik, 1978). Some mandated school improvement policies emanate from a desire to increase educational standards and accountability.

Standards and accountability. Mauritius sets and maintains good academic standards (Ajaheb-Jahangeer & Jahangeer, 2004). All necessary remedial measures and student counseling involve the home in an effort to best support students (Ajaheb-Jahangeer & Jahangeer, 2004). Mauritius uses standards to determine grades or levels (Ajaheb-Jahangeer & Jahangeer, 2004). If a student does not achieve a certain standard, he or she does not move on to the next level. Standards, accountability, and schools have an endogenous relationship (Pfeffer & Salancik, 1978).

In the United States, the standards-based reform efforts of the 1990's and early 2000's were an outgrowth of the 1980's national push for more rigorous instruction and requirements for schools. The reform efforts were the beginning of revised competency testing requirements for high school graduation, and revised teacher certification

requirements for school employment (Schoen L. T., 2005). The goal of standards based reform was to attach key aspects of policy, curriculum, assessment, teacher education, and professional development to standardized statements of what students should know and be able to do (Schoen L. T., 2005). In the United States, if a student does not achieve a certain standard, unlike Mauritius, the school, not the student, reaps the consequences.

Schools, in the United States, are under increasing pressure for accountability at the county, state, and national levels (Colia, 2002). In addition to standardized curriculum and testing, schools in the United States are accountable for disciplinary rates, socioeconomic levels, vandalism rates, activity participation rates, graduation rates, attendance rates, expulsion rates, suspension rates, artistic achievement, ethnic diversity, and physical fitness achievement on national, state, and district levels (Colia, 2002; Colley, 1999; Monrad, et al., 2008).

In communist China, goal setting, monitoring, and accountability guide all national and thus local procedures (Wang, 1998). Schools and extant agencies use programs and initiatives to realize standards and accountability.

Programs and initiatives. Programs, mandated by entities in the extant environment, directly and indirectly affect schools. The studies showed dichotomous views regarding programs and initiatives. Some felt that supporting programs defines school greatness (Mells, 1994). Some programs, such as county health programs, may even operate at the school site (Colia, 2002). Other programs such as Federal, state, and regional academic, athletic, and performance programs allow schools to compete for recognition (DuFour, 1995). There are also leadership and career readiness programs (Ewen, 2004) for students, as well as, teachers that run during the school year and

summer (Lewis, 1997). Outside agency programs assert such things as students stay in school, stop drug abuse, study better, or resolve conflict more effectively (Lewis, 1997). Programs and initiatives have an endogenous relationship with schools (Pfeffer & Salancik, 1978) because schools implement them and are accountable for their success.

Some study results were more cautious regarding programs and initiatives stating that government programs for schools are usually part of a reform plan (Lewis, 1997) and that the authorization of multiple programs is usually simultaneous resulting in ineffective implementation (Schoen L. T., 2005).

One-size-fits-all or *cookbook* initiatives and programs sound good, but they do not work in every school (Colia, 2002) . Although programs and initiatives supposedly pertain to improving the teaching and learning process, they have the potential to change instructional practice (Cavanagh & Dellar, 2001) which is why proven strategies are a necessity. Additionally, there is a lapse of time between the implementation of an initiative and the demonstration of an effect, if there is an effect at all (Colia, 2002) simulating recurrent need that results in an incessant revolving door of new programs and initiatives.

From after-school childcare programs, to academic programs, to teacher development programs, almost everything in a school is a program (Colia, 2002; Colley, 1999). Even school assessments are part of assessment programs (Colia, 2002; Lewis, 1997). It is debatable whether most school programs are effective (Angelides, 1999). Our ability to improve schools requires more than embracing programs (Mells, 1994), especially since implementing programs and initiatives requires resources that many schools do not have.

Resources. Schools that obtain resources from only governmental centralized bureaucracies become overly dependent on the government (Wang, 1998). Boards of education have the ability to generate resources through entrepreneurial activity, partnerships, community involvement, and community relationships (Ewen, 2004). Circumstances have advanced growth in schools where competition replaces collaboration, and development of resources is an accepted way of life (Wang, 1998). Because schools have the ability to create resources and all schools use resources, the relationship is endogenous (Pfeffer & Salancik, 1978).

Those who control resources, such as the key to the supply closet influence decision-making (Colia, 2002). Some use resources for personal gain. Individuals look for benefits such as a lighter schedule or preferred lunchtime, which usually generates conflict, especially when sharing is involved (Angelides, 1999; Campolina & Santos Lopes de Oliveira, 2007; Colia, 2002). The distribution of instructional resources is unequal between teachers (Schoen L. T., 2005). As a result, school staffs find ways to use either existent or nonexistent resources to justify past actions and direct current activities (Schoen L. T., 2005). Interpersonal conflict between members of the school community increases when the external environment controls the internal resources.

Conclusion of the External Environment of Schools

The external environment of schools divides into fourteen categories: society, the media, the federal government, the state government, the local government, the union, higher education, the business community, the local community, the school board, policy, standards and accountability, programs and initiatives, and resources. The fourteen categories sort out into four classes: society and the media, government entities,

government or private entities, and means of influence and control. The four classes describe the categories they contain.

According to Pfeffer and Salancik (1978), the external environment may be divided into two categories—exogenous and endogenous. The terms represent whether or not there is reciprocal influence between an external entity and the school (Pfeffer & Salancik, 1978). The depicted environmental entities of schools, except for the federal government, possess an endogenous association. Individual schools and the federal government have an exogenous relationship because one local school does not influence federal educational mandates.

The first research question posited in this study asks for the definition and description of the characteristics of schools. The establishment of the classes and categories of schools' external environment provides a partial answer to this question. The classes and categories of the external environmental domain emerged from the qualitative coding executed during the qualitative synthesis and analysis conducted utilizing a constant comparative approach.

One school characteristic is the primarily endogenous connection schools have with their external environment. The next section of this qualitative synthesis and analysis discusses the internal environment of schools, and further describes school characteristics.

The Internal School Environment

The internal environmental domain of a school sorts out into eight categories and two classifications, which emerged from coding the 26 collected studies. The categories of the first classification, which is anthropological, are the school building, the structural context, procedures and processes, and curriculum and assessment. School community

members, discursive elements, social interactions, and relationships are the four categories of the internal school environment classified as sociological. Descriptions of the classifications and categories follow, beginning with the classification of anthropological.

Anthropological. A school's anthropological roots connect to the school's local history (Angelides, 1999; Colia, 2002; Colley, 1999). Each school's traditions support the school's local history (Angelides, 1999; Colley, 1999). Traditions create stability (Turner & Crang, 1996). On the other hand, there are some school traditions that pertain to only certain historical eras that not every school community member relates to (Campolina & Santos Lopes de Oliveira, 2007). Some teachers become angry with those who defend school traditions (Angelides, 1999) because non-traditionalists may feel they have no connection with the era of the historical event memorialized and therefore, should not have to participate in the memorial. Thus, events that happen in a school's historical background have a significant influence on individuals' current actions (Ajaheb-Jahangeer & Jahangeer, 2004). The historical significance of each school's traditions begins with the school building.

The school building. No single characteristic identified a building as a school according to the collected data. Some buildings studied were older, some newer; some in good repair, some in need of repair (Lance, 2010; Schoen L. T., 2005; Angelides, 1999; Ajaheb-Jahangeer & Jahangeer, 2004; Mells, 1994). Locations of the school buildings varied. Some locations studied were urban, some were suburban, and some were rural (Lance, 2010; Schoen L. T., 2005; Angelides, 1999; Ajaheb-Jahangeer & Jahangeer,

2004; Mells, 1994). There were no common characteristics found regarding the outside appearance of the school buildings studied.

The only common characteristic found, inside all school buildings studied, were classrooms (Lance, 2010; Schoen L. T., 2005; Angelides, 1999; Ajaheb-Jahangeer & Jahangeer, 2004; Mells, 1994). Classrooms group and separate students according to their age, and divide students by intellectual ability and activity (Campolina & Santos Lopes de Oliveira, 2007). According to some teachers, the arrangement of the classroom is a type of preventative discipline to keep the students from talking to each other during instruction (Angelides, 1999).

Some school buildings act as community centers and some are only for school purposes. According to Colley (1999), the staff created a room in the school she studied for the encouragement of all parents to socialize in the school during the school day. Some schools collaborate with town Parks and Recreation Departments, where the community uses the same fields or gym the children benefit from during the day. The community usually makes use of the gym on evenings and weekends (Colley, 1999). Whether a school coordinates with the local community and how involved this coordination is, represents the school's structural context.

The structural context. Schools assist students in the learning of intellectual skills, moral skills, and physical skills (Campolina & Santos Lopes de Oliveira, 2007). Schools not only advocate, but also legitimize a unique set of individual and group values and knowledge through the services they provide (Campolina & Santos Lopes de Oliveira, 2007). The structure and content of these school services also represents the cohesion of a school (Ajaheb-Jahangeer & Jahangeer, 2004). Some schools provide more

services than others do. Some bureaucratic organizational structures are not helpful or appropriate to provide certain services to the school or community (Angelides, 1999). The school schedule is one of the longest standing representations of a school's structural context.

Most everything in schools is scheduled. The basic American school schedule has not changed in over 155 years (Schoen L. T., 2005). Scheduled services and the time allotted to services and curricular areas represent each school's unique structural context. Schedules organize parent meetings, volunteer work, faculty meetings, task establishment, student assessments, staff collaboration, and public events (Colia, 2002; Schoen L. T., 2005). Schools normally run on bell schedules (Colia, 2002). Strict scheduling approaches may hinder the ability of school staff to be innovative or creatively accommodate individual instructional approaches (Mells, 1994). However, not all schools adhere to strict time schedules (Angelides, 1999).

The construction of some schedules prepares students for their next level of education, such as preparing middle school students for high school (Colia, 2002). In Colia's 2002 study, parents and staff adopted a schedule that mirrored the high school's schedule. This schedule helped students become familiar with the four 90-minute periods in use at the high school level. Besides structural context, procedures and processes are important contributors to the anthropological internal environment of a school.

Procedures and processes. Procedures and processes are related to the structural context and service structure of the school (Ajaheb-Jahangeer & Jahangeer, 2004; Campolina & Santos Lopes de Oliveira, 2007) in that sometimes they are put in place to implement unique services. Usually, schools have written procedures (Wang, 1998), but

sometimes procedures and processes are based on normal patterns of behavior, such as the appropriate times for lunch. School procedures and processes are supposed to contribute to the achievement of goals (Ewen, 2004). However, some procedures or processes limit school and student development (Campolina & Santos Lopes de Oliveira, 2007) by producing fragmented, distorted or short-lived learning (Angelides, 1999). Sometimes various procedures and processes are put in place to specifically implement the school's academic goals and curriculum.

Curriculum and Assessment. Free, universal, and compulsory education is a societal standard of progress—free textbooks, free high school, and a wide range of higher education opportunities (Ajaheb-Jahangeer & Jahangeer, 2004). In some nations, such as Mauritius, each school plans its curriculum according to the level of the students—not a national or state curriculum (Ajaheb-Jahangeer & Jahangeer, 2004). Still, some subjects are compulsory such as English, French, math, science, and social studies (Ajaheb-Jahangeer & Jahangeer, 2004). An education in Mauritius involves the home, school, and religious missionaries along with counseling for students who require remedial assistance (Ajaheb-Jahangeer & Jahangeer, 2004).

Other nations, such as Cyprus and China, have a nationally centralized curriculum (Angelides, 1999; Wang, 1998). In Cyprus, curriculum priorities involve the exploration of academic theories, methodological approaches, and educational practice, especially in the area of mathematics (Angelides, 1999). The United States also has a relatively centralized academic curriculum (Schoen L. T., 2005). In the late 1990's, individual states and local districts adapted and implemented state mandated curricular standards based on

national academic standards (Schoen L. T., 2005) still; local school districts and school community members retain primary control of academics and curriculum internally.

Conclusion of the Anthropological School Environment. The classification of the anthropological internal school environment includes the categories of the school building, the structural context, procedures and processes, and academics and curriculum. The anthropological aspects of schools are historical in framework, and vary only slightly between schools usually regarding specific implementation.

The historical practice of holding school in a building with classrooms is an anthropological aspect of schools that only varies by school location and building description (Lance, 2010; Schoen L. T., 2005; Angelides, 1999; Ajaheb-Jahangeer & Jahangeer, 2004; Mells, 1994).

The structural context of a school historically involves a school schedule that implements services particular to a school's history. The school schedule usually varies only slightly, even though scheduling may limit innovation and creativity (Mells, 1994).

The historical procedures and processes of a school may also limit student and school development rather than achieve academic goals (Campolina & Santos Lopes de Oliveira, 2007). Historical school procedures and processes may fragment and reduce student learning, yet they remain intact (Angelides, 1999).

Compulsory academics and centralized curriculum remain a part of education. This is without the consideration of student interests or learning differences (Ajaheb-Jahangeer & Jahangeer, 2004; Angelides, 1999). Even though educators are aware that students have different interests and learn differently, the historical and determined practice of having every student learn the same thing at the same time largely remains.

The anthropological categories of the internal school environment are the historical aspects of schools that do not change, in any transformational fashion, against all knowledge and reason. They are historical in nature rather than human in nature, even though the school community members keep them in place. Alternately, the sociological aspects of schools are human in nature.

Sociological. The educational function of a school manifests through social practices (Campolina & Santos Lopes de Oliveira, 2007). Many of these social practices appeared in the collected data such as sharing knowledge.

Sharing knowledge is the primary purpose and primary sociological function of a school. Sharing knowledge elevates academic performance (Celik, 2010) and impacts student learning (Ajaheb-Jahangeer & Jahangeer, 2004). Sharing knowledge is a vital discursive element in a school, especially when the knowledge is personally constructed (Ridenour, Demmitt, & Lindsey-North, 1999). Personal knowledge is a form of social validation and human development (Campolina & Santos Lopes de Oliveira, 2007). In an effort to share knowledge with each other, teachers stay beyond their scheduled work time to collaborate with staff members they do not have the opportunity to see during the day (Colia, 2002; Mells, 1994; Ridenour, Demmitt, & Lindsey-North, 1999).

In the United Kingdom, students feel pressure to succeed because of the social expectation that academic success automatically means a student will attend university (Kent, 2006). The majority of time students in the United Kingdom spend at school is in class receiving instruction from teachers and interacting with peers (Cavanagh & Dellar, 2001). While in the classroom, students pay attention to their surroundings, the school

staff becomes a model of social interaction and school activities provide a venue for discursive elements and relationship building (Angelides, 1999).

In Cavanagh and Dellar's 2001 study, students in the United Kingdom characterized their classrooms as having strong, traditional, teacher-centered behavior focused on cognitive outcomes rather than social development. Students determined that the traditional classroom, which focuses less on social development, was better than a non-traditional more social classroom (Cavanagh & Dellar, 2001).

The utilization of language in discourse is a common social practice (Schoen L. T., 2005).The discussion of events is an important form of discourse in schools (Colley, 1999). Another form of communication is through icons or symbols such as banners, trophies, and displays (Turner & Crang, 1996). Ironically, not all school constituents understand the meaning behind various school icons and symbols. They have no connection to the era or event memorialized; therefore, this type of discursive elements is lost to them (Turner & Crang, 1996).

Social discourse is a form of social interaction. In some schools there is too much, or too little, social interaction (Angelides, 1999). Schools are the place where generations prepare their young for social life (Campolina & Santos Lopes de Oliveira, 2007). School community members use many techniques, such as stories, to build social relationships (Celik, 2010).

The school community members. Parents, administration, staff, and students influence how a school operates (Ajaheb-Jahangeer & Jahangeer, 2004). The data collected for this study produced many examples of school community member-based information relative to school characteristics. The people who occupy the internal

environment of a school were the primary subjects discussed, interviewed, and observed within the collected data to determine a school's culture. A discussion of the school community members follows.

Parents. Parents unite with schools to support students academically, and assist in school activities to support students socially. They attend school celebrations and events (Ajaheb-Jahangeer & Jahangeer, 2004). They volunteer in classrooms, on field trips, and within groups such as the PTA or Parent-Teacher Association, to help provide resources for students (Colley, 1999). The PTA/PTO or Parent-Teacher Organization is an essential group whenever school-based decision-making occurs (Colley, 1999). Parents use their influence within the school if they have a tie or connection (Angelides, 1999). The usual issues where parents have input are afterschool programs, recreational programs, school safety programs, and instructional programs for their own children (Colley, 1999). School Leadership is the determiner of how much influence parents have regarding the school.

Leadership. The functionalist leader recognizes constraints come from others' actions and the leader's influence (Martin, 2002). Others' actions and the leader's influence determine the organizational environment (Pfeffer & Salancik, 1978).

The Principal of a school often contends with competing, sometimes hostile, constituents (Colia, 2002). When controlling conflict, the principal of a school should be firm in decision making, as well as open to suggestions from staff, parents, and students (Ajaheb-Jahangeer & Jahangeer, 2004).The principal should be a central figure in the school and should help everyone to feel secure (Ajaheb-Jahangeer & Jahangeer, 2004).

The management of individuals within a school manifests as student discipline, teacher evaluation, procedures, and processes (Angelides, 1999; Campolina & Santos

Lopes de Oliveira, 2007; Donnelly, 2000; Lance, 2010). Part of what determines a school's structural context depends on the choices the principal makes to manage individuals.

The principal of a school is especially important to the structure of how a school functions (Ajaheb-Jahangeer & Jahangeer, 2004). The principal of a school should be supportive of staff and students and motivate staff and students to give the best of themselves (Ajaheb-Jahangeer & Jahangeer, 2004). None of what school leadership should accomplish is achievable single-handedly. It is essential that other school community members, such as the school secretary, competently support school leaders.

The school secretary. Not every school has a secretary. In Cyprus, a school secretary is a luxury (Angelides, 1999). The school secretary, if she exists, usually intervenes in most school matters, accumulates details about everyone connected to the school, and is the school's general director (Colley, 1999). The school secretary usually has a strong grasp on the processes through which decisions come about; therefore, she is invaluable to her school's productivity (Colley, 1999). Another valuable person in the school community is the school custodian.

The custodian. Colley's 1999 study included an interview with the school custodian who discussed how leadership from the school principal trickles down to the staff. The custodian called this phenomenon *leadership from experience* (Colley, 1999). Custodians and maintenance workers are sometimes included in roundtable discussions (Ewen, 2004) as school community members who have knowledge of the school building others do not have. School custodians also have a unique knowledge of the teachers who work in the school building.

Teachers. Teachers work hard (Angelides, 1999). They take extra time for preparation to produce valuable lessons for students (Angelides, 1999). The impossible expectation that every student will be proficient in every subject is stressful. According to Angelides's 1999 study, in order to meet the prospect of student proficiency, some teachers respond to students' needs by maintaining standards and some by lowering expectations in order for students to pass.

Teachers who are under stress rarely go to the staffroom during breaks and social interaction. They stay in their classroom preparing for the next lesson, acquiring materials, knowledge, and skills (Angelides, 1999). Teachers often take extra university courses to study and apply new methods to help their students learn. Although some teachers look miserable and have other primary interests, alongside other part-time jobs, they are usually still effective teachers. (Angelides, 1999).

Students. Students' behaviors, feelings, aspirations, and senses develop in the context of the school (Campolina & Santos Lopes de Oliveira, 2007). Students learn to make sense of their world and reflect in different ways according to the school's structural context (Angelides, 1999). Some students receive academic support from home and school because of good communication between parents and teachers (Ajaheb-Jahangeer & Jahangeer, 2004).

Discursive elements. Language has the potential to generate both understanding and misunderstanding (Angelides, 1999). Education has a shared language filled with acronyms, which serves to unify educators and results in the alienation of parents (Colley, 1999). Communication assists in the development of relationships. It is the spirit of the content, discussed and shared, that determines whether a constructive relationship

emerges (Cavanagh & Dellar, 2001). Relationships may also emerge through stories (Celik, 2010).

Stories are a means of social control because they help to develop certain feelings whether consciously or unconsciously. Stories are a way of informal learning that teaches important lessons (Celik, 2010). Written and verbal translated discursive elements, in various familiar languages for the school community members also aid in understanding (Colia, 2002). Angelides described decision-making in her 1999 study as a language of confrontation, another discursive element.

Physical representations or symbols, such as rewards, are a frequent and obvious way of communicating in schools (Ajaheb-Jahangeer & Jahangeer, 2004). Some symbols help to sustain order (Celik, 2010) such as the wall prominent in schools in Chinese architecture. In China, walls surround most public buildings to symbolize security and control (Wang, 1998). All forms of communication foster social interaction.

Social Interaction. Individuals in schools create bonds through continuous interactions in millions of intricate ways (Angelides, 1999). Social interaction supports procedures and processes within a school (Campolina & Santos Lopes de Oliveira, 2007) that persist over time. Social interactions provide order and continuity for the school and community. They may be routines, hardly noticed or even taken for granted (Angelides, 1999). Sometimes school leadership will impose various types of social control by mitigating or encouraging certain social interactions (Angelides, 1999).

A committee is a form of social interaction that is common in schools. Committees form for many reasons such as the promotion of activities or curriculum. Committees form at any time during the year, including the summer months. On

occasion, school social committees form to design and implement celebrations such as birthdays or baby showers (Colley, 1999). Active parents often participate in committee work within the school (Colia, 2002). According to Colley's 1999 study of Castle Elementary School, a shared decision-making committee formed which included local parents, business representatives, and grade level representatives. The existence of this shared decision-making committee helped parents to feel there was a forum for their voice.

When schools use too many committees, the result is disharmony because of overlapping responsibilities (Ewen, 2004). School community members, not chosen for certain committee membership, may become resentful and balk at the committee's decisions (Schoen L. T., 2005).

Activities are another form of social interaction within a school which allow the teachers and students to work together in a more informal and creative atmosphere (Ajaheb-Jahangeer & Jahangeer, 2004). Student participation in co-curricular and extracurricular activities is a commonly used indicator of student performance (Colia, 2002).

Recreation, play, and amusement are forms of social interaction that occur naturally in a workplace or social situation. They help to define existing and supporting relationships (Colley, 1999). Colleagues, who have not formed a strong relationship may use play as a format for acknowledging each other in a positive way (Colley, 1999). Students and teachers must be able to freely experiment and welcome the messy work of recreational play and social amusement that leads to solutions and relationships (Colley, 1999).

Relationships. The long-term social relationships that develop through every day school activity contribute to the psychological mindset and identity of the participants (Campolina & Santos Lopes de Oliveira, 2007). Rational thought influences the perceptions of human behavior and human relationships. Feelings that develop due to relationships are the way group members stay connected (Montemurro, 2002).

Relationships between teachers, students, and parents are essential for the attainment of educational outcomes (Cavanagh & Dellar, 2001). School relationships play an important role in the social construction of the meaning of childhood (Campolina & Santos Lopes de Oliveira, 2007). Supportive interpersonal relationships, accommodative of personal dispositions, provide community cohesion and community resilience to fragmentary pressures (Cavanagh & Dellar, 2001). Social relationships that develop are deeper than collaborative partnerships (Cavanagh & Dellar, 2001). Following are some common relationships that may develop in schools.

The principal-principal relationship. Principal leaders and various levels of administration develop relationships based on the similarities of their roles (Ewen, 2004). Professional competitiveness, and professional discourse related to the academic preparation of students often develops between principals and administration of different school districts and those who work within the same school or district setting (Colia, 2002).

The principal-parent relationship. Sometimes parents will approach the principal with requests for certain teachers to instruct their child (Angelides, 1999). Sometimes a denied request will prompt parents to threaten or complain to a higher authority, especially if they are used to appeasement (Angelides, 1999). This type of parental

pressure and manipulation was abundant throughout descriptions within the collected data. Principals will go out of their way to avoid parental pressure, sometimes bypassing logical solutions to problems (Angelides, 1999). Strictly managed parental input in a school is necessary to maintain a good learning environment. Principals who maintain strict quality control over the learning environment will appear to others as if they have difficulty with sharing power (Colia, 2002).

The principal-teacher relationship. As teachers reflect on their relationships with administration, a lack of empathy for the position of principal is evident (Ridenour, Demmitt, & Lindsey-North, 1999). Principals delicately handle teachers who react publicly and loudly when faced with a contentious situation (Angelides, 1999). Teachers learn the way the principal works; and then press the right buttons to create conflict (Angelides, 1999). Principals ally with teachers who are helpful to them. They also ally with those who react against them in order to avoid conflict. The principal will ask favors of teachers to avoid parental difficulties or student discipline problems (Angelides, 1999).

The principal-student relationship. In reviewing all 26 studies, the principal-student relationship was not mentioned save for one comment on the principal's responsibility to motivate students (Angelides, 1999). Although most likely mitigated, the affiliation exists. More research is necessary regarding the principal-student relationship and the culture of a school to understand the impact of this association and its influence.

The teacher-teacher relationship. Teachers help each other in a genuinely caring manner (Colley, 1999). Good relationships between teachers provide school cohesion (Cavanagh & Dellar, 2001). Professionally, teachers share materials, exchange handouts, and help whenever needed (Angelides, 1999). Teachers collaborate by sharing

information regarding school operations, including the instructional program (Cavanagh & Dellar, 2001).

The teacher-parent relationship. According to Cavanagh and Dellar (2001) parents do not believe teachers communicate nearly enough with parents. Teachers do not go out of their way to communicate with parents, although teachers are generally positive when responding to parent initiated communication (Cavanagh & Dellar, 2001). Teachers try to be helpful when parents are involved with a school project. They find display areas for student work, and release time for students to work on projects with parents (Colia, 2002). However, parent-teacher relationships require more than parental confidence in the teachers ability to instruct their children. Teachers need to communicate with parents and encourage parental participation in the instructional program (Cavanagh & Dellar, 2001).

Some teachers are negatively preoccupied with parents (Angelides, 1999). For these teachers, when parents intervene in the school, it is a sign of disrespect (Angelides, 1999). Teachers who avoid parental involvement usually attempt to create a personal, internal school environment void of parental and community influence (Angelides, 1999).

Teachers are generally proud of having students whose parents are doctors, businesspersons, or senior government officials (Angelides, 1999). Students of distinguished parents are usually treated with favor (Angelides, 1999).When parents assist teachers in attaining things they want, such as better classes, by intervening on the teacher's behalf to the principal, the student of the influential parent receives special treatment (Angelides, 1999). Likewise, if a parent works collaboratively with a teacher,

the teacher will go out of their way to help that parent's child, even if the student is a discipline problem (Angelides, 1999).

When parents complain to their child's teacher, it is usually about the quantity of homework (Angelides, 1999). When students board their busses, or prepare to walk home, students usually have homework in at least two or three subjects (Schoen L. T., 2005).

Homework is a contentious subject between parents and teachers. Parents usually complain that there is not enough information explaining the homework (Cavanagh & Dellar, 2001). Moreover, teachers do not devote a lot of class time listening to student excuses about why a homework assignment is not completed (Schoen L. T., 2005).

The teacher-student relationship. Cavanagh and Dellar's 2001 study posited that teacher-student relationships are generally positive, yet insignificant. However, Angelides's 1999 study suggests that teachers single certain students out from others. She suggests that most teachers want to help all students, but only on the teacher's terms. Consciously, or unconsciously, teachers use students to make statements against the school system (Angelides, 1999).

Teachers behave differently toward certain students depending upon the student's social or academic status. Students who are academically successful, or whose parents will quickly intervene on their behalf, are less likely to face teacher confrontation (Angelides, 1999).

When students disobey, some teachers feel there are some students they are not able to discipline because of their parents (Angelides, 1999). Parents who argue are difficult to deal with. Teachers consider the children of difficult parents as spoilt

(Angelides, 1999). Therefore, principals and teachers may let some disciplinary violations pass without commenting to avoid parental confrontation (Angelides, 1999). Instead, teachers will attempt to establish a positive relationship with those students hoping to control problems better (Angelides, 1999). In contrast, educators in China consider it their responsibility to rectify students' familial dysfunctions (Wang, 1998).

When a teacher clashes with a student the teacher may give less punishment to the student if he or she is favored (Angelides, 1999). Students do not always agree that teacher punishment is fair or deserved. If a teacher is not fair in their discipline, the students notice. When a teacher shows favor toward certain students, any student who is out of favor begins to dislike the teacher (Angelides, 1999).

Just as teachers have favorite students, students also have favorite teachers; but will usually exploit a teacher who goes out of his or her way to please (Angelides, 1999). Some teachers feel being honest with students, no matter what the circumstances, is the best approach to the student-teacher relationship (Angelides, 1999). It takes time for students and teachers to become familiar with each other and interact comfortably. When a new classroom comes into being, there are usually problems (Angelides, 1999).

Some teachers feel as long as they are able to move through a lesson, the students' attitudes do not matter (Angelides, 1999). When a teacher dislikes a student in response to a negative attitude, it also affects the student's peer relationships (Angelides, 1999), and the teacher's support from that student's parents.

The parent-student relationship. The nature of the parent-student relationship is particularly important in the school (Cavanagh & Dellar, 2001). Parents generally consider their family supportive of their student's learning process. Parents generally

believe their student is willing to seek assistance with homework, and honestly communicates classroom and school activities to them (Cavanagh & Dellar, 2001). If a parent feels a teacher has upset their student, he or she may reassure the student by going to the school to verbally or physically confront the teacher (Angelides, 1999). This type of behavior directly damages the student. It not only creates a negative parent-teacher relationship; it creates a negative student-teacher relationship; and negative student-student relationships (Angelides, 1999).

The student-student relationship. Student-student relationships vary dramatically. Sometimes older or more advanced students will help other, younger students who may need assistance (Ajaheb-Jahangeer & Jahangeer, 2004). This voluntary action helps to create a strong bond between students within a school (Ajaheb-Jahangeer & Jahangeer, 2004). On the other hand, sometimes students may intentionally cause each other trouble (Angelides, 1999).

Conclusion of the Internal Sociological School Environment. The internal, social school environment contains four categories: the school community members, discursive elements, social interactions, and relationships. Educating students is an interactive form of sharing knowledge through discursive elements (Ridenour, Demmitt, & Lindsey-North, 1999). Sharing personal knowledge helps to form relationships. When relationships form between the school community members, social validation, and human-development, takes place (Campolina & Santos Lopes de Oliveira, 2007).

Conclusion of the Internal School Environment

The internal school environment has two classes—anthropological and sociological. The four categories of the anthropological class are the school building, the

structural context, procedures and processes, and curriculum and assessment. The four categories of the sociological class are the school community members, discursive elements, social interactions, and relationships. The eight categories and two classes combine to create the internal characteristics of schools.

Conclusion of School Characteristics

There have been few efforts to study schools as entities (Goodlad, 1984). Studying all of a school at once is nearly impossible. Inevitably, one has to look at all of the pieces and put them together (Goodlad, 1984). That is exactly what this study accomplished, looking at all of the pieces discussed within the 26 pieces of collected data, and putting them together. The first pieces were the two domains of a school—the external environment and the internal environment.

Two classifications exist within the internal environment—the anthropological characteristics of schools and the sociological characteristics of schools. The anthropological characteristics of schools are not human in disposition, but perpetuated by people. They are historical in nature and not readily changed.

The sociological characteristics of schools are human in nature and require the school community members. Everything the school community members do involving discursive elements, social interactions, and relationships are sociological characteristics of the internal school environment.

To answer the research question regarding the description of school characteristics, twenty-two categories emerged from the collected data that exist within the external and internal environmental domains of a school. The categories revealed the characteristics of schools as exhibiting primarily endogenous external environmental

relationships. The categories of the internal environment revealed their anthropological and sociological distinctions and connections. Therefore, school characteristics are internally anthropological and sociological, and primarily endogenous regarding the external environment. Figure 4.1 is a list of the 2 domains, 6 classes, and 22 categories.

School Characteristics, Classes, and Categories

- **The External School Environment**
  - *Society and The Media*
    - Society
    - The Media
  - *Government Entities*
    - The Federal Government
    - The state Government
    - The Local Government
    - The Union
  - *Either Government or Private Entities*
    - Higher Education
    - The Business Community
    - The Local Community
    - The School Board
  - *Means of Influence and Control*
    - Policy
    - Standards and Accountability
    - Programs and Initiatives
    - Resources
- **The Internal School Environment**
  - *Anthropological*
    - The School Building
    - The Structural Context
    - Procedures and Processes
    - Curriculum and Assessment
  - *Sociological*
    - The School community members
    - Discursive elements
    - Social Interaction
    - Relationships

Figure 4.1: School Characteristics, Classes, and Categories: A list of the twenty-two school characteristics identified in the qualitative synthesis and analysis. The characteristics divide into the six classifications identified in the qualitative synthesis and analysis. The six Classifications separate into the two domains of Internal and External environments as described by the qualitative synthesis and analysis.

School Culture Characteristics

The second research question posed for this study asks for a definition of the characteristics of school culture. Hofstede and Hofstede posited the characteristics of culture are symbols, heroes, rituals, and values (Hofstede & Hofstede, 2005). Schein (2004) states "definitions of culture which deal with values must specify culture consists of nonnegotiable values, which I am calling assumptions" (p. 16). The qualitative synthesis and analysis of the empirical data of this study revealed only two characteristics of school culture: The characterization of school culture pertained either to an individual person, or to a collective within a school. The characteristics of school culture are as follows, beginning with the individual.

Individual

Angelides (1999) stated school culture is individualistic and linked to critical incidents and reflection. These incidents combine to create personal biographies. According to Prosser (1992), personal biographies are the determinants of a school's culture (Prosser, 1992), and individual school participants define and limit school culture (Lewis, 1997).

Colley (1999) believes that school culture is comprised of individual staff personalities. Each person is able to choose a construct of conditions suitable for personal discovery (Colley, 1999) by supporting individual decision-making and individual responsibility (Lewis, 1997).

The individual social aspect of school culture is one of argument (Lance, 2010) involving individual differences (Celik, 2010). How someone perceives the social aspect of school culture affects his or her individual sense of empowerment (Colley, 1999) as

each individual has their own position within the social structure of a school (Angelides, 1999).

The individual social aspect of school culture is in each teacher's mind and directs individual human action (Angelides, 1999; Mells, 1994). Teachers give various levels of freedoms to students within the walls of their classrooms (Angelides, 1999). Classes of students as well as combinations of students require different types and amounts of discipline (Angelides, 1999). Parents criticize discipline programs, academic programs, and educational programs for special populations (DuFour, 1995) with individual needs even if they are unfamiliar with the program goals (Colia, 2002). Some parents prefer a standard school policy, which avoids uncertainty (Angelides, 1999) and creates mandates in advance (Goslin, 1996). However, some parents feel the implementation of policy should involve the consideration of individual circumstances (Colley, 1999).

Some students are more academically successful than other students in school (Angelides, 1999). Numerous significant studies such as Coleman (1966) and Jencks (1972) have concluded supplementary resources do not compensate for educational inequalities (Colia, 2002). Funding disparities do not explain the difference in achievement gaps and test scores. Arthur Jencks's (1972) study concludes that genetic issues were the only characteristic useful to explain student success or failure, and the sum of resources had no influence (Colia, 2002) meaning schools cannot rectify or assimilate individual academic differences into a collective through resource allocation.

Even schools have an individual aspect to their overall character, usually represented in the individual structural context. Some schools operate autonomously regardless of their district's philosophy. Autonomous operations influence policy and

dilute or mitigate it at the individual site (Colia, 2002). Nevertheless, the increasing government direction of school policy has made some schools less autonomous and less individual (Kent, 2006).

In Ireland, Caitlin Donnelly's 2000 study exposed a double standard, which presented among the Catholic school staff she interviewed. Donnelly (2000) posits Catholic school staff must appear more Catholic than they actually are. Generally, the governors (principals), teachers, and parents she spoke with convinced her of a disparity between individual ways of observing Catholic tradition and the ways of observing Catholic tradition imposed on them by the school and Church (Donnelly, 2000). One characteristic of school culture such as in the case of Catholic schools is that individuality must sometimes concede to the will of others or the collective.

Collective

Each person in a school, from leadership to the students, including the teaching and nonteaching staff, considers themselves members of a big family. Every person works together for the honor of being a part of this esteemed environment (Ajaheb-Jahangeer & Jahangeer, 2004).

Language is an important part of a school's social discourse, especially when words such as “community” and “family” are in frequent use (Ridenour, Demmitt, & Lindsey-North, 1999). Stories cultivate and perpetuate a seemingly collective memory of individuals regarding experiences within a school as an information store (Celik, 2010).

Individual perception of a collective experience forms by social interaction (Celik, 2010). Social consensus and social interaction lead to an enhancement of

collegiality (Colia, 2002). Bonding happens between individuals based on convictions, standards, perceptions, and expectations (Cavanagh & Dellar, 2001; Colia, 2002).

However, according to Çelik (2010), the social collective characteristic of school culture sometimes manifests in schools in a negative fashion. The social collective is the basis of problems encountered in schools such as poor moral values, safety risks, and violence issues (Celik, 2010). When there is disagreement upon an aspect of the school culture, conflict may arise which adds other facets to the existing social collective culture (Celik, 2010) such as negative attitudes or ego-based competition (Ajaheb-Jahangeer & Jahangeer, 2004). Conflict within the social collective of a school may limit or deny possibilities, such as collaborative or team decision making, to its participants (Lewis, 1997). For example, students, parents, and teachers participate in developing programs, yet continue to criticize the programs (Colia, 2002; Colley, 1999; Lewis, 1997) usually resulting in less collaborative decision making. Students' social collective culture and teachers' social collective culture influence each other (Angelides, 1999; Cavanagh & Dellar, 2001) in positive and negative ways. This collective influence helps to create a school cultural personality (Lewis, 1997; Mells, 1994).

Conclusion of School Culture Characteristics

The second research question for the qualitative synthesis and analysis phase of this study asks to identify the characteristics of school culture. The synthesized data collected for this study found two characteristics: school culture is an individual phenomenon, and school culture is a collective phenomenon.

When researching the conceptual framework for this study, the two depictions of culture were that of the functionalist researcher and the ideationalist researcher (Martin,

2002). These different illustrations of culture lend themselves to the emergent, diverse camps of school culture depictions—individual and collective.

Some researchers such as Prosser (1992), Mells (1994), Angelides (1999), and Colley (1999) tout the individual nature of school culture. Others, such as Cavanagh and Dellar (2001), Ajaheb-Jahangeer and Jahangeer (2004), and Çelik, (2010) support a collective view of school culture.

When analyzing this phenomenon, it is obvious that the earlier studies lean toward an individual viewpoint when depicting school culture; and the later trend in research encourages a collective view when illustrating school culture characteristics. In addition, those researchers who assert school culture as a collective phenomenon tended to work in groups (Ajaheb-Jahangeer and Jahangeer, 2004; Cavanagh and Dellar, 2001) or focus on the social aspects of school culture (Celik, 2010).

Whether school culture is an individual phenomenon or a collective phenomenon is a point of contention. In fact, Lewis specifically states, in her 1997 study, that the individualistic nature of school culture is arguable.

Further evidence and analysis was required to resolve this discussion. Whether or not school culture is an individual phenomenon or a collective phenomenon was not answerable by using qualitative descriptions and characteristics alone. Discovering the structural elements of school culture was necessary.

The Elements of School Culture

The third research question addressed in this qualitative synthesis and analysis asks for the identification of the structural elements of school culture. The answer to this

question is particularly important to developing and determining the definition of school culture and resolving the issue of its individual and collective natures.

Through synthesis and analysis, the elements of school culture emerged from the 26 studies collected as data for this research inquiry. These elements of school culture are social preferences, perceptions, experiences, and expectations. Individually, the elements gather to form a collective school culture, which may sometimes appear as a single school culture, yet never is. Each individual element exists in each individual participant within the school community. The discussion of these elements and findings follow.

Social Preferences

The social aspect of schools is central. The study of school culture primarily lies in the discipline of social sciences (Angelides, 1999). Some researchers posit school culture and school culture characteristics are purely sociological (Colia, 2002; Campolina & Santos Lopes de Oliveira, 2007). This viewpoint of school culture and its characteristics also contributes to the collective interpretation these researchers posit. However, the social aspect of school culture has individual *and* group facets (Schoen & Teddlie, 2008). Social discursive elements, social interactions, and social relationships develop from individual preferences (Celik, 2010).

One individual social preference is the use of stories. Stories help to develop the social aspects of school culture. They perpetuate lessons that communicate experiences, perceptions, and expectations. Some stories take the form of dialogue between members of the school community. Dialogue reduces social distance between school members enabling relationships to form (Colia, 2002; Peterson & Deal, 2009). Verbal

communication, in some schools, manifests in announcements, in meetings, and in interactions among the school community members (Colia, 2002).

Another individual social preference is sharing information in types of written format. Parent complaints usually take place in written form (Angelides, 1999; Colley, 1999). Faculty and staff share written information at faculty meetings and via mailboxes to notify groups and individuals of ideas, issues, and events (Colley, 1999).

Social preferences manifest in many forms. Some individuals prefer an active social agenda outside of the historically normal academic requirements of schools; they feel schools have a social purpose (Angelides, 1999). Some prefer to interact professionally and socially with staff members who hold common interests with them (Colley, 1999). Teachers will voluntarily group together to attend conferences or presentations based on social preferences. Socially, some teachers may stay after school and engage in book studies, participate in dinners, or other various activities (Colia, 2002). As Colley (1999) describes, even helping colleagues is a type of social relationship, and therefore a preference, which forms between teachers to support each other in difficult times.

To illustrate further that the social aspect of schools rests on individual social preferences, school leadership actually has to create programs to force some collective social initiatives. Usually, the initiative is to promote learning and sharing or collaboration between staff members (Angelides, 1999) where the individual preference to collaborate does not exist. Ironically, the primary criticism of these programs is their lack of social awareness (Colia, 2002). A school program facilitator who is unfamiliar

with the individual social preferences of the collective will have a difficult time navigating the existing social structure.

Subgroups, an outward illustration of individual social preferences, emerge as the result of social interactions and social relationships. Some relationships and social interactions develop due to circumstances inside the school, and some relationships and social interactions develop due to circumstances outside of the school (Kent, 2006).

Sometimes the majority or vocal minority have a social predilection to sharing, inclusion, cooperation, collaboration, or equity (Celik, 2010; Lewis, 1997; Turner & Crang, 1996; Colley, 1999; Ajaheb-Jahangeer & Jahangeer, 2004). On the other hand, a social preference to gathering is still an individual social preference. Often, the gathering of a group results in conflict—the other side of social preference and human nature (Mells, 1994).

Social conflict is also partially the result of each person's individual social preferences, individual ritualistic habits, individual language use, and individual nonverbal communication (Angelides, 1999). Conflicts may result when individuals perceive these social aspects in different ways based on their experiences. Individual social preferences and individual experiences are linked (Campolina & Santos Lopes de Oliveira, 2007). Students' social preferences begin outside of the school with the experiences, perceptions, and expectations taught to them by their parents (Turner & Crang, 1996).

Perception

Schools struggle to make sure their reputation within the community and the local community's reputation is positive (Ewen, 2004). Yet, schools have good and bad reputations based on various individuals' perceptions within that same community (Angelides, 1999).

When new members of a school are learning about the operations and the personalities they work with, it is through memorable stories. From this, perception develops (Celik, 2010), especially regarding parental relationships. Sometimes teachers perceive parents as being against them therefore; they purposively avoid parents, in order to avoid conflict (Angelides, 1999).

The individual choices teachers make in the classroom are the result of how teachers perceive the subject matter in relation to how teachers perceive their students' abilities (Angelides, 1999). Teachers often disagree as to which students are cooperative and which students are disruptive (Angelides, 1999). Teachers generally accept that students who have difficulty achieving, usually exhibit poor behavior—that is their perception (Angelides, 1999). However, students often behave poorly to avoid embarrassment in front of peers or avoid disappointing the teacher, especially if the teacher admonished the student earlier (Angelides, 1999). Students' actions may be an indication of their self-perceptions of inferiority (Angelides, 1999).

Experience

Another structural element of school culture is the varying experiences of its participants (Colley, 1999; Lewis, 1997). Historically, curriculum developments, alongside having a rigorous comprehensive curriculum, were important issues based on

the experiences of individual participants regarding academic freedom and equality (Colia, 2002). Both are still important issues, as are academic freedom and equality. Teachers base patterns of problem resolution to similar matters on previous involvement with the school and colleagues. Earlier solutions to similar problems shape a teacher's reaction to current problems (Angelides, 1999). However, even when similar problems in schools are seemingly resolved in different ways, the solutions are usually inherited and historical (Angelides, 1999). Some school issues may be new and recent to the participants. New ideas that may be necessary to solve new problems are not going to be successful based on institutionalized, inherited, and historical experiences.

Everyone in the classroom enables learning by sharing experiences through discussion (Cavanagh & Dellar, 2001). Academic theory, pedagogical theory, personal experiences, student achievements, and student characteristics influence teachers, which they communicate through a stream of shared stories (Angelides, 1999).

Teachers acquire knowledge and develop relationships based on experiences (Angelides, 1999). Teachers will share past difficulties they have had with parents and students as a type of warning to new teachers (Angelides, 1999). As a result, teachers' previous experiences with parents and students influence the disciplinary attitude applied by a student's current teacher (Angelides, 1999).

Students interpret situations based on their earlier experiences with a teacher and that teacher's habits (Angelides, 1999). Students remember experiences with previous teachers who were strict, sometimes resulting in student fear (Angelides, 1999). Students know the consequences for not following instructions depends on the teacher's

personality, the teacher's mood, the teacher's experiences, and the teacher's expectations (Angelides, 1999).

Expectations

Expectations of others, and the successful fulfillment of those expectations, determine the number and strength of a person's social bonds (Colia, 2002). Although social expectations are important in schools, leadership, staff, and students also have educational expectations. Each school expects to maintain a good academic standard while providing the best possibility for each child to develop their potential and ability in a specific area of interest (Ajaheb-Jahangeer & Jahangeer, 2004). School staffs hold mutually high expectations for academic achievement (Colia, 2002). The student's weight of importance in regards to education positively correlates with a student's individual expectations to be well educated and successful (Cavanagh & Dellar, 2001).

School boards expect their policies will guide activities at the school level (Lewis, 1997). Principals and teachers usually communicate academic expectations and behavioral expectations, which sometimes are the result of school board policies (Colia, 2002).

Teachers share some common expectations. They understand the importance of knowledge that historically identifies their profession as having a significant purpose to improve student learning, although teachers do not always recognize collective professional values (Cavanagh & Dellar, 2001). Previous generations of teachers pass down certain indigenous truths. For example, in Angelides's 1999 study, students with high academic achievement expect to receive more favorable treatment than students with low academic achievement receive.

Sometimes, the principal will treat teachers differently based on expected reactions (Angelides, 1999). Even when hiring new teachers, the knowledge of certain generally accepted past procedures and processes such as classroom management, professional mentoring, and professional evaluation are expected (Ewen, 2004).

A major focus in Brazil is on behavioral standards (Campolina & Santos Lopes de Oliveira, 2007). Child development expectations such as a student's ability of moral assessment and risk assessment guide the school's rules and standards (Campolina & Santos Lopes de Oliveira, 2007). Schools articulate behavioral expectations and academic expectations through teaching, standards, curriculum, and testing (Colia, 2002). Teachers set goals for their students (Angelides, 1999) and expect students to meet those goals.

The expectation of parents to assist their child with homework affects the parents' confidence and ability to play an active role in their child's education. In addition, the expectation of parents to assist with homework affects the nature of the relationship between the parent and the teacher (Cavanagh & Dellar, 2001; Monrad, et al., 2008).

Students will treat teachers differently based on the teacher's expectations (Angelides, 1999). In addition, students come to school with their own expectations. Students expect to learn math in one room during a designated time and language in another room at another designated time, just as their grandparents did (Schoen L. T., 2005).

Conclusion of School Culture Elements

Through qualitative synthesis and analysis, the elements, which constitute school culture, emerged as social preferences, perceptions, experiences, and expectations. Each school cultural structural element resides in the individual.

Each of these elements affects one another. Social preferences begin with, and link to, experiences (Turner & Crang, 1996; Campolina & Santos Lopes de Oliveira, 2007). A person's social bonds, which are the result of social preferences, depend on the fulfillment of his or her expectations (Colia, 2002). Perception develops by way of experiences and social interaction. Social interaction is a result of social preferences. Each element exists in every individual within the school community. When individuals gather in the internal environment of a school, the elements of school culture collect and influence each other.

Chapter 5
Taxonomic Analysis of School Culture

A research question posited in this study asks how qualitative research synthesis and analysis informs a taxonomic analysis. It is through a research synthesis and analysis that categories emerge which inform taxonomy. Through thematic and axial coding, taxonomy developed using these emergent categories. Although past research is not rich in its abundance of school culture taxonomies, there has been some taxonomy created framing the concepts of culture.

In 1971, Edward Stewart developed a taxonomy that addressed culture in four domains: activities, social relations, the self, and the world. In 1976, Hall focused on cultural discourse divided into two domains. The first consisted of high linguistic, contextual cultures. The second domain consisted of low linguistic, contextual cultures. Hall (1966), along with Brislin (1993), and Hofstede (1983) studied time and space as it relates to individual and collective values (Trumball, Rothestein-Fisch, Greenfield, & Quiroz, 2001).

Kymlicka (1989) considers cultural structure a "context of choice" or the "character of a historical community" (p. 168). According to Hofstede and Hofstede (2005), the divisions of culture are national, regional, gender, generational, social class, and organizational. Putnam (2009) states there are levels of culture. The cultural levels are the physical environment, social environment, values, goals, and theories (Putnam, Gunnings-Moton, & Sharp, 2009).

Past taxonomies such as Edward's (1971) focuses on the individual social aspects of culture. Hall's (1976) taxonomy divides culture into two domains. Hofstede (1983) and Brislin (1993) unite individual and collective culture; and Putnam's (2009) addition of the

physical environment to culture creates a framework for the taxonomy that follows. This current taxonomy developed as an outcome of the qualitative research synthesis and analysis previously conducted for this study.

The taxonomy developed for this study (shown in Figure 5.1) begins with the domain of the external school environment. The four boxes with italicized writing represent the classes that contain the fourteen representative categories found within these classes. The connectors show a relatively sparse relationship between the categories and classifications within the external environmental domain. The external environment has a primarily, but not exclusively, endogenous relationship with the internal school environment.

The second domain, the internal school environment, shows two classes. These split into eight categories. The connectors show a more dense relationship between the internal school characteristics. Parallel to the classes and categories is the individual, which constitutes the internal school environment either by constructing the anthropological categories or by sociologically subsisting as a characteristic itself. Below the individual are the four structural elements, possessed by each individual, which are the structural elements of school culture. The connectors between the internal school environment and the individual are extremely dense showing a close relationship. Parallel to the individual and the elements of school culture is the collective. The collective includes all individuals within the internal school environment and has some connection to the elements of school culture, as shown by the connectors.

The taxonomy was created with Edraw (http://www.edrawsoft.com/).This software creates flow charts and business diagrams. It also assisted in the creation of figure 7.1 in this study's chapter on grounded theory.

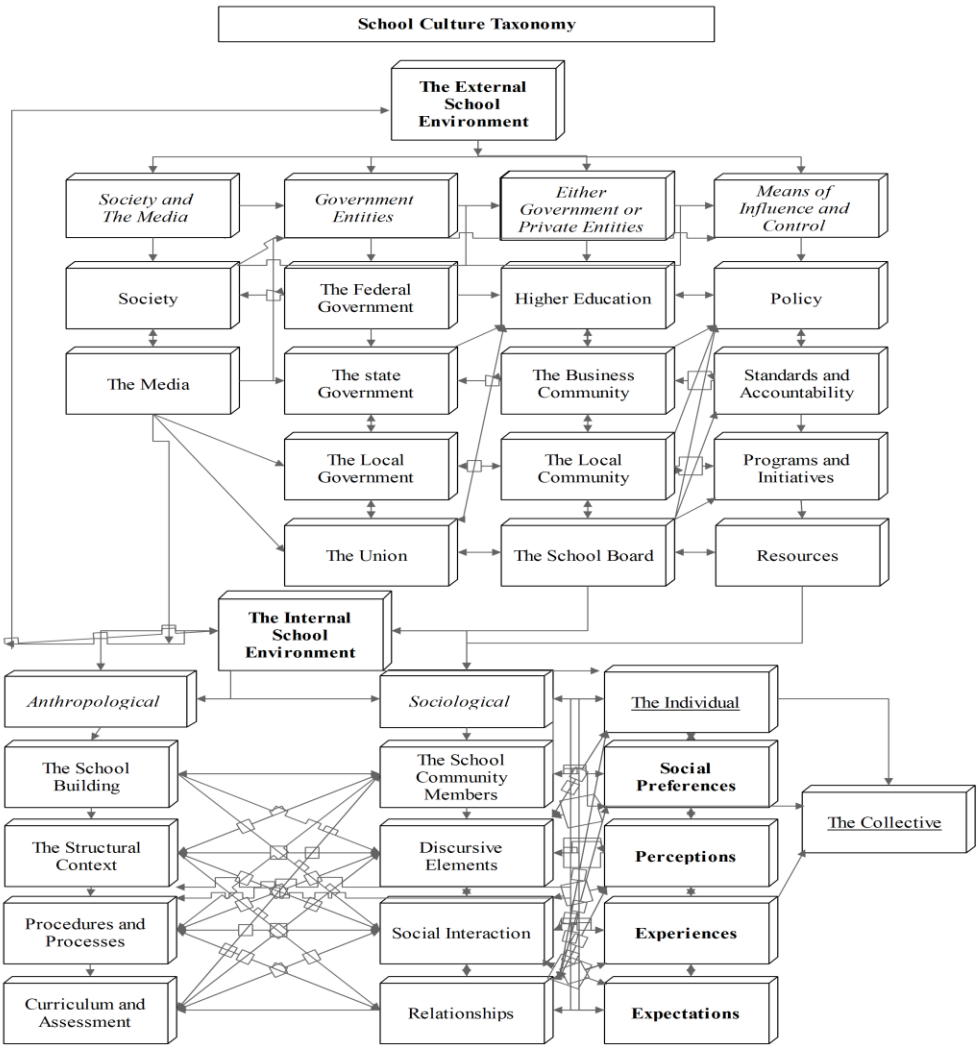

Figure 5.1. Taxonomy of school culture. The domains of the internal and external environment are in bold. The classes within the domains are in italics. All other categories are in Times New Roman font. School culture Elements are in bold. The characteristics of school culture are underlined. Lines depict categories that influence each other.

Chapter 6
Meta-Analysis

The goal of a research synthesis is to determine the known and unknown according to the status of the research literature; it does not provide a definitive answer to theoretical or practical questions (Wood & Eagley, 2009). As it is favorable to present findings or definitively contribute to the canon of scientific knowledge by more than just calling for further research, it is preferable that research not be limited to a synthesis (Wood & Eagley, 2009).

Meta-Analysis is the attitude of data analysis applicable to summaries of individual experiments (Glass, McGraw, & Smith, 1981). It is not a technique, but a perspective to record the study properties and findings in quantitative terms (Glass, McGraw, & Smith, 1981). "The essential characteristic of meta-analysis is: the statistical analysis of summary findings of many empirical studies" (Glass, McGraw, & Smith, 1981, p. 21). Research review in the social sciences, such as education, has largely become a matter of private judgment. If educational inquiry and review is nothing but private judgment, then it is inconsistent with scientific research (Glass, McGraw, & Smith, 1981). If meta-analysis offers any improvement over traditional research, it is in the area of "removing… sources of arbitrariness—to arrive at an impartial and representative view of *what the research says*" (Glass, McGraw, & Smith, 1981, pp. 67-68).

Meta-analysis provides an alternative path to single study research (Taras & Steel, 2007). Many subsequent school culture studies used single schools as data (30.8%), usually based on previous theoretical models of school culture. Aggregating all these studies provided more comprehensive answers than any single school culture study.

Moreover, these studies came from different geographical locations over the past 17 years. Meta-analytically summarizing these studies allowed for the aggregation of empirical cultural elements from different time-periods and different geographical areas.

The purpose of the meta-analysis phase of this study was two-fold. Providing the needed statistical information to inform the proposed grounded theory was the first purpose and establishing validity and generalization by rejecting the null hypotheses listed below was the second.

H_0: The number of schools studied determines school characteristics.
H_1: The number of schools studied does not determine school characteristics.

H_0: The number of schools studied determines school culture characteristics.
H_1: The number of schools studied does not determine school culture characteristics.

H_0: The number of schools studied determines school cultural elements.
H_1: The number of schools studied does not determine school cultural elements.

A research question of this study inquires how qualitative synthesis and analysis, and taxonomy inform meta-analysis. The coding employed during the qualitative phase of this study informed taxonomy by establishing domains, classifications, characteristics, categories, and elements. The organized terms from the taxonomy became the variables used in this meta-analysis. The meta-analysis quantitatively validated the findings of the qualitative analysis and taxonomy by rejecting the null hypotheses. The rejection of the null hypotheses showed that the elements of school culture exist in every study regardless of how many schools each study employed.

The definition of a meta-analysis is the statistical analysis of a large collection of analysis results in order to integrate findings (DeCoster, 2004). The purpose of this meta-analysis was to provide the same methodological rigor to qualitative research that is

required from experimental research. This meta-analysis extensively utilized the assistance of SPSS statistical software.

There were five steps to performing this meta-analysis (adapted from DeCoster, 2004):

1. Define the theoretical relationship of interest
2. Collect data on the relationship
3. Compute effect sizes
4. Examine the distribution of effect sizes
5. Interpret and report the results

For the quantitative phase of this mixed methods study, meta-analysis statistically showed the relationship between the continuous dependent variables (i.e. school culture elements) and the continuous independent variables (number of studies) that described school culture. Sometimes the number of studies became an independent nominal variable through weighting depending on the statistical test. Understanding the relationship between the proposed school culture variables and the number of schools in each study was a targeted conceptual relationship of this meta-analysis. This determination established the universal nature of the school culture variables. Besides establishing generalizability and validity, the results informed the posited grounded theory phase of this study.

Methods

The purpose of the meta-analysis was to test the statistical significance of the combined results across the collected studies. There are a number of available statistical tests for meta-analysis, and their results tend to be consistent with each other (Wolf, 1986 as cited in Yang, 2002). The choice of which tests are used is up to the researcher.

For this study, the population of the 26 studies gathered during the systematic review phase (the number of schools) added together to become the sample population for the meta-analysis or N. According to Colia's (2002) study, the most proper and smallest N to measure school culture is a single school. In keeping with the spirit of the gathered studies, a single school was the basis of the meta-analytic measurements.

The total number of schools used in all 26 studies was 1,614. The majority of studies (30.8%) used only one school for analysis. The next largest percentage representing the number of schools used as a research sample was two schools (15.4%). The largest number of schools used in a single study was 987 indicating conflicting ideas as to how many schools were necessary to determine school culture.

Coding and Common Metric

The key variables coded for the meta-analysis were the number of schools in each study, the school characteristics, the school culture characteristics, and the school culture elements exhibited in the taxonomy. NVivo9 assisted with the coding of all studies. Coding of the studies, organized into the taxonomy provided a foundation for the analysis (Taras & Steel, 2007). Each code or continuous variable was equal to a score of one, which had the weight of one occurrence, otherwise known as a *common metric*. When the studies assumed the role of categorical variables with no numeric meaning (for some statistical tests) weighting of the studies occurred by number of schools.

Raw Data

The meta-analysis began with tests of normality, which calculated the basic data elements. The population of schools used in the 26 studies was 1,614 with a mean of 62.08 and a standard of deviation of 203.6 (M = 62.08 and SD = 203.6). The raw data

database in SPSS utilized each study, the number of codes, and the number of references to the corresponding code. The codes emerged from the qualitative synthesis and analysis and the resulting taxonomy. They were the school characteristics, the school culture characteristics, and the school culture elements. The number of references was adapted from the word count provided by NVivo9 illustrating the number of occurrences of each code within each study. There were 26 studies, 31 codes, and 257,792 references in total. All raw data is in Appendix D specified as "Raw Case," "Raw Variable," and "Case Summary" data.

Random Effects Model

Fixed effects and random effects are the two main approaches in meta-analyses for estimating mean effect sizes (Littell, Corcoran, & Pillai, 2008)**.** The difference in these models manifests in how weighting applies to the effect sizes and how the mean is calculated. Applying a random effects model was the best choice for this study.

Random effects models assume that true effects vary across samples and studies (Littell, Corcoran, & Pillai, 2008). Because the data accumulated from the 26 studies was recorded by independent researchers, it was highly unlikely all of the studies were functionally equivalent (Borenstein, Hedges, Higgins, & Rothstein, 2009). The mean effect in a random effects model takes into consideration the influence of variation between studies in addition to possible study sampling error. Weighting at the source of the variance and at the measure of between study variance occurs. A random effects model was appropriate for this meta-analysis because the studies collected as data were not functionally equivalent due to the purposeful mixed methods approach taken during data collection.

Effect Size

Differing results between studies are common simply because of variation among study methods and samples. Perfect measurement equivalence is not a necessary precondition for meta-analyses (Taras & Steel, 2007). The study purpose, study design, and data format always influences the choice of effect size measure (Littell, Corcoran, & Pillai, 2008). Calculating an effect size was not necessary for this study's normality or meta-analytic testing because when studies use instruments such as NVivo9 to assess outcomes, the mean difference is comparable across studies (Borenstein, Hedges, Higgins, & Rothstein, 2009)**.**

Unlike many meta-analyses**,** the compared and observed sample mean for this study was not against a control group, but against zero and the mean was already standardized. An effect size is a measure of the magnitude and the direction of a relationship between variables (Littell, Corcoran, & Pillai, 2008). Continuous variables such as the words and the amount of times each word appeared within each study became the point estimates that represented the magnitude and direction (Littell, Corcoran, & Pillai, 2008) for this study.

The assumption was that the number of schools in each study would affect the magnitude or direction of the continuous dependent variables. For most tests, the un-weighted studies were independent continuous variables. SPSS automatically weighted the studies when they became non-numerical variables. Table 6.1 shows this calculation.

Table 6.1: Weighting of Schools

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Study Weighting Summary

Number of schools	Count	Percent
1	8	.5%
2	8	.5%
3	6	.4%
4	4	.2%
5	5	.3%
6	12	.7%
8	8	.5%
10	10	.6%
11	11	.7%
13	13	.8%
30	30	1.9%
134	134	8.3%
378	378	23.4%
987	987	61.2%
Overall	**1614**	**100.0%**
Number of Cases	Included	26

The Literature Search

The systematic review used for the meta-analysis is in chapter 3 of this study. The literature search occurred before the qualitative synthesis and analysis and the taxonomic analysis, which provided the variables for this meta-analysis. The systematic review was adopted from Littell, Corcoran, and Pillai (2008), echoed by Chalmers (1999) and Petticrew and Roberts (2006). The search using the most sensitive keywords within large databases began first, narrowing to references deemed potentially relevant and difficult to acquire. Data searching began with databases supplied by retrieval and storage software

and ended with bibliographic references. See Appendix B for all database searches and results labeled according to documentation type.

Sample Description

Culture tends to be significantly more homogeneous within an industry such as education than within geographical locations (Chatman & Jehn, 1994 as cited in Taras & Steel, 2007). This meta-analysis does not account for geographical culture because organizational culture is so strong that national culture traits are overshadowed (Taras & Steel, 2007). A large data set used for meta-analysis reduces the confounding effects of error, particularly method variance (Kenny & Zautra, 2001; Steyer *et al.*, 1992 as cited inTaras & Steel, 2007). This study uses a relatively large sample.

The sample gathered for the current inquiry was previously conducted empirical studies. The final 26 studies collected were by 26 different authors utilizing unique data sets. The date of data collection for each study varied between, and was inclusive of 1985 and 2008—23 years. The published studies held publication dates spanning between 1990 and 2010—20 years. Dr. Kent Peterson confirmed "There wasn't much written about 'school culture' before 1990" (Personal communication, Dr. Kent Peterson, 1 June 2011). The only known outlier was a study that used a piece of empirical datum, copyrighted in 1968, as an historical artifact.

Four of the studies showed practices of quantitative data analysis techniques and quantitative data collection techniques such as surveys, psychometrics, and archived data. Four studies indicated mixed methods—sequential and congruent. One study was an action research project. There were 17 types of qualitative research. There were six case

studies, four multicase studies, one interactions study, one story analysis, two information analysis studies, one content analysis study, and two critical incident studies.

The studies indicated the use of nine experimental research forms (tools) for data collection. To accommodate individual research applications, researchers personally refined six of the nine tools. Five other researchers collected data utilizing verified research forms. Added to the nine experimental research tools, this indicates 14 research forms used within the collected data of this study.

The categories of information retrieved for this study included 10 journal articles, five conference papers, and one research paper in brief. There were five doctoral dissertations, four theses, and one unpublished paper.

The geographical areas of study outside of the United States included Port-Louis, Mauritius; Nicosia, Cyprus; Brasilia, Brazil; Bentley, Australia; Elâzığ, Turkey; Northern Ireland; Ontario, Canada; Alberta, Canada; British Columbia, Canada; the University of Calgary, Canada; Southern Ontario, Canada; West Midlands, UK; England, UK; Northern England, UK; Beijing, Hebei, and Guangdong, China. The culminating total was 10 different nations inclusive of the United States.

The geographical areas studied within the United States included Colorado, USA; Blacksburg, Virginia, USA; Washington, D.C., USA; Lincolnshire, Illinois, USA; Des Moines, Iowa, USA; Menomonie, Northern Wisconsin, USA; South Carolina, USA (state study); Pennsylvania and New York, USA (same study); Louisiana, USA (state study); and two United States national studies. The culmination of these studies encompassed the United States entirely.

The geographical areas where the studies took place represented 11 investigations in the United States. There were seven US states represented including the District of Columbia. There were two US national studies included in this data collection sample.

Outside of the United States, there were five studies conducted in Canada, one in China, one in Australia, one in Ireland, one in Turkey, one in Mauritius, one in Cyprus, one in Brazil, and three studies from the United Kingdom. See Appendix C for a table representation of the sample data labeled "Study Attribute Data."

Sometimes the specifics of sampling regarding the collected studies were elusive. For example, one study indicated 30 schools as its sample; however, it did not identify how many schools were in the district leaving the reader to conclude 30 schools were comprehensive of the entire population (Ewen, 2004). One researcher reported 100 participants from various schools, but did not determine how the 100 participants divided between the schools (Turner & Crang, 1996). Another researcher studied 152 schools, although he did not identify what grade levels (Jones, 1996). A third researcher mentioned five various types of schools without any additional sampling information (DuFour, 1995). Without specific identification of a study's research participants, it became necessary to deduce the participants' classifications through the utilization of each study's content.

There were 291 high schools, 234 middle schools, and 1,089 elementary schools identified. Inclusive of the aforementioned studies, the entire sample for this study was 1,614 schools. This number includes elementary, middle, and high schools, an all-girls private school, 14 Catholic schools, one alternative school, and various schools, although definitely not entities of higher education, whose orientation was unidentified.

The cumulative number of participants sampled was 159 administrators; 39,758 parents; 84,744 school staff; 143,744 students; 100 unidentified adult participants and 20 school alumni. The entire sample population was 268,525 individual participants.

Meta-Analytic Testing and Results

During the course of this meta-analysis, there were many quantitative tests conducted. All conducted tests and their results are in Appendix D. Not all of the testing and results could appear in the body of this study due to length constraints. The testing conducted that was applicable to the posited hypotheses is in this chapter—chapter 6. Results and discussions of the tests used to support grounded theory are in chapter 7—Grounded Theory.

Though the assumption is that error is random, it is still important to rule out unexpected effects. To this end, using a common metric standardized the data and prevented scale differences (Taras & Steel, 2007). The possibility of demographics affecting the results associated with the variables of school characteristics, school culture characteristics, and school culture elements was a concern. Assessments that took place during this meta-analysis showed that sample differences, at a national level, had a non-significant effect. Following are the results and tests of normality and meta-regression that were most applicable to the presented hypotheses.

Homogeneity

The random effects model suggests that true effect size will vary from study to study. Statistical tests of Homogeneity show how much variation exists within each of the effect size distributions and whether or not the variation is attributable to sampling error or chance (Littell, Corcoran, & Pillai, 2008).

There are several statistical tests for homogeneity of effect size. For this study, The Q statistic was obligatory because a random effects model was used (Cooper, Hedges, & Valentine, 2009). Like the random effects model, the Q-statistic signifies that true effects vary. It is a probability plot for comparing distribution quantiles against standards of deviation and variances (Littell, Corcoran, & Pillai, 2008). This test for homogeneity has a x^2 distribution with N-1 degrees of freedom, and N is the number of effect sizes (Littell, Corcoran, & Pillai, 2008). For this study, variation between the effect size distributions was not significant.

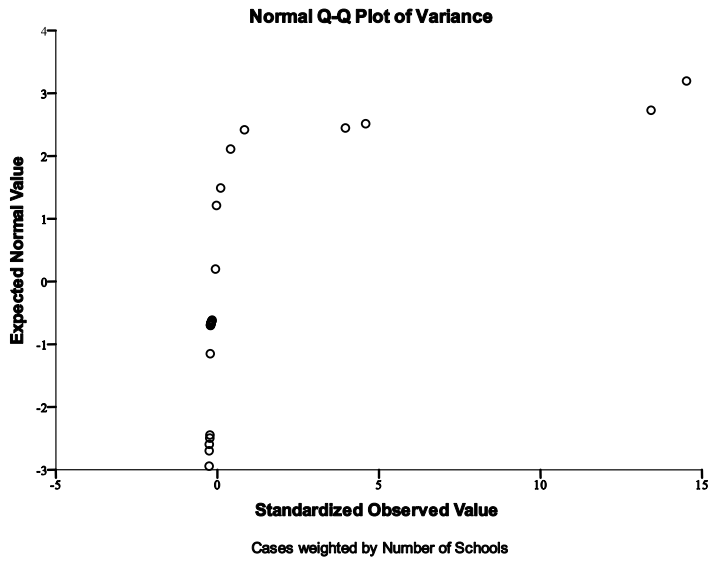


Figure 6.1. Variance Q-Plot (Qualitative Categories)

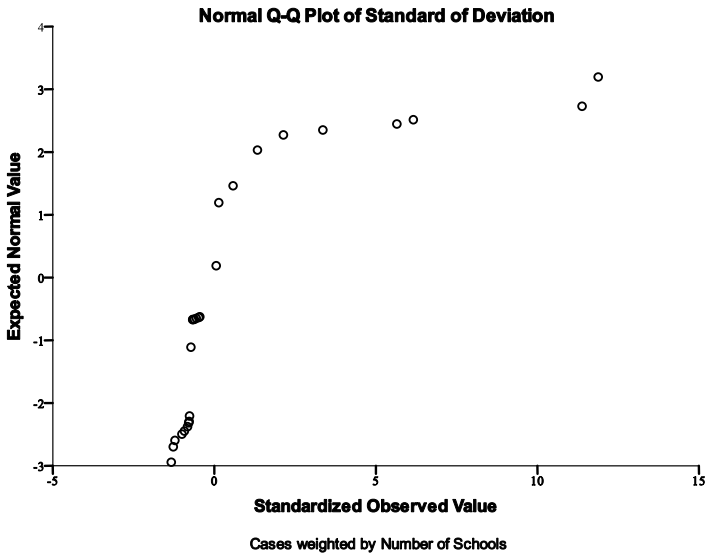


Figure 6.2. Standard of Deviation Q-Plot (Qualitative Categories)

Chronbach's Alpha

Probability theory states that if data from multiple samples is collected, the point estimates from the samples will distribute around the population (Littell, Corcoran, & Pillai, 2008). Meta-analysis uses this idea and relies on multiple point estimates from various studies to develop a better picture of the distribution effects and better estimates of parameter. However, all estimates are approximate and express only some level of certainty (Littell, Corcoran, & Pillai, 2008). Chronbach's Alpha indicates the reliability of estimates. It is different from variable to variable and gives assurance that the statistical model is correct (Cooper, Hedges, & Valentine, 2009).

Cronbach's reliability statistics showed good-excellent internal consistency for all variables. There were no null values in this calculation.

Table 6.2. Cronbach's Alpha Reliability Statistics and Scale
Note: Scale adopted from George, D., and Mallery, P. (2003). SPSS for Windows step by step: "A simple guide and reference." (Fourth Ed.). Boston: Allyn and Bacon.

Cronbach's Alpha	**Cronbach's Alpha Based on Standardized Items**
.894	.953

Cronbach's alpha	**Internal consistency**
$\alpha \geq .9$	Excellent
$.9 > \alpha \geq .8$	Good
$.8 > \alpha \geq .7$	Acceptable
$.7 > \alpha \geq .6$	Questionable
$.6 > \alpha \geq .5$	Poor
$.5 > \alpha$	Unacceptable

Meta-Regression

Meta-regression provides several advantages (Taras & Steel, 2007). It assesses the potential impact of one or more continuous variables. The dependent variables (references) become the effect size, the independent variables (codes) become moderators, and the studies become the units of analysis (weighted). To perform a meta-regression there must be at least 10 studies for each variable (Borenstein, Hedges, Higgins, & Rothstein, 2009). This is the reason that most meta-analyses require at least 10 studies; otherwise, conducting a valid meta-regression test is nearly impossible.

The meta-regression using the study variables was not significant. There was a higher Bayesian information criterion (BIC) in relation to the Akaike information criterion (AIC). This is normal because BIC produces fewer significant covariates, and therefore, higher rates of parsimonious models (Littell, Corcoran, & Pillai, 2008). All

testing statistics, tables, and charts are in Appendix D labeled "Linear and Modeling and Regression."

Power Analysis

The power analysis is the probability of a null hypothesis rejection when the null hypothesis is actually true (Borenstein, Hedges, Higgins, & Rothstein, 2009). The power analysis confirmed that no type II errors occurred.

Discussion of Meta-Analysis and Theory Building

Although meta-analysis has been widely recognized as a powerful empirical research method, its acknowledgement as a valuable tool for theory building is absent (Yang, 2002). A meta-analytic process of theory building consists of five steps:

(a) Review existing theory and identify variables of interest

(b) Search existing empirical studies and code variables of interest

(c) Examine codes for the variables of interest

(d) Conduct appropriate statistical test(s)

(e) Confirm and disconfirm current theory and/or search for alternative theory

Process adapted from (Yang, 2002).

The first step of using meta-analysis to build grounded theory for this study was to review existing theory—or theories—on the topic of school culture and identify the variables of interest. The previously conducted systematic review, qualitative synthesis and analysis, and taxonomy assisted in the completion of this step. The hypotheses that formed during this stage served as a guide for theory refining and building. This step in the process corresponds to the conceptual development phase of the general method of theory building in applied disciplines research (Lynham, 2002 as cited in Yang, 2002).

Specifically, this meta-analysis stemmed from a multitude of empirical theories describing and explaining school culture. Some theories described school culture as the result of a collective. Others based their descriptions on school culture as an individual phenomenon possibly because culture and individual personality show high correlations at aggregated levels of analysis and overlap in operationalization (Taras & Steel, 2007). Schein's 2004 theory states that culture is the result of various collective characteristics. Some of the collected empirical data echoed this idea. In order to test these theories of individual and collective school culture, hypotheses emerged.

The second step of meta-analytic theory building is to search existing empirical studies in the literature and to code the variables of interest (Yang, 2002). The main purpose of this theory-building phase is to link abstract theoretical ideas to observable indicators at the empirical level. This step in the process occurred during the systematic review, qualitative synthesis and analysis, and taxonomy. The systematic review is a common form of data collection for meta-analysis. The qualitative research synthesis and analysis, although an independent process in its own right, assisted in coding and formulating the taxonomy that informed the meta-analysis. These processes were effective, used to extract only empirical evidence and not taint the results of any phase of the study with unsubstantiated theories. In sum, the second step of meta-analytic theory building enabled the gathering of substantive empirical ideas for appropriate testing and analysis.

The third step of theory building using meta-analysis is to examine the variability of effect sizes based on conceptualized characteristics of existing empirical studies (Yang, 2002). For this study, the coding that took place during the qualitative synthesis

and analysis, resulting in taxonomy, enabled a common metric to be established negating the need for the use of an effect size measure.

The fourth step of theory building in meta-analysis is to conduct the appropriate statistical tests and analyses (Yang, 2002). Although there were many tests conducted, there were four most applicable to testing the emergent hypotheses. The first was a weighting summary produced by SPSS to convert continuous variables representing the number of schools per study to non- numeric variables (when necessary). The homogeneity test followed, and was not statistically significant. The third test conducted was a meta-regression analysis that was not significant and the fourth test was a power analysis that showed a type II error did not occur.

The fifth step of theory building using meta-analysis is to draw theoretical implications based on the statistical analyses conducted in the previous step (Yang, 2002). When using the combined tests to examine the overall impact of several exploratory variables, the results can be either significant or non-significant. A non-significant result suggests that the variables included in current theory do not adequately explain the variability of the dependent variables (Yang, 2002). For this study, the number of schools does not explain the variability of school characteristics, school culture characteristics, or the defined school culture elements. The results of all tests were not significant. The results support the theory that school culture variables are valid and generalizable to all schools, rejecting the null hypotheses.

Sometimes the purpose of meta-analytic testing is to identify significant moderators to be included in the existing theory (Yang, 2002). However, for this study, the overall non-significant results of the analytic tests suggest that moderators did not

contribute to the variability across existing empirical studies. This result rejects the null hypotheses and negates the necessity to include additional explanatory variables in the existing theoretical framework.

A result of statistical significance provides positive evidence to confirm the theoretical ideas tested (Yang, 2002). This study attempted to confirm that the number of schools studied or by default, the population number has an impact on the quantity or density of school characteristics, school culture characteristics, or school culture elements. All results were not significant rejecting the null hypotheses. The number of schools studied or by default, the population number has no impact on the quantity or density of school characteristics, school culture characteristics, or school culture elements.

Conclusion of the Meta-Analysis

The meta-analysis phase of this study began with 26 studies. Of the 26 studies, 46.2% used sample sizes of one or two schools; the largest sample size was 987 schools used in one study. The chosen random effects model indicated true effects vary across samples (Borenstein, Hedges, Higgins, & Rothstein, 2009). The large variance results found within the descriptive statistics regarding each study and categorical variable confirmed this assumption. See Appendix D for all descriptive statistics labeled "Descriptive Statistics." Tests of homogeneity were not significant. Cronbach's Alpha resulted in a model of good fit.

Meta-regression statistics showed the continuous variables were not dependent on the number of schools per study and rejected the null hypotheses. A power analysis showed that a type II error did not occur. The school characteristics, school culture

characteristics, and school cultural elements remained intact, regardless of the number of schools in each study. The proposed theoretical construct is valid and generalizable. There were three hypotheses posited:

> H_0: The number of schools studied determines school characteristics.
> H_1: The number of schools studied does not determine school characteristics.
>
> H_0: The number of schools studied determines school culture characteristics.
> H_1: The number of schools studied does not determine school culture characteristics.
>
> H_0: The number of schools studied determines school cultural elements.
> H_1: The number of schools studied does not determine school cultural elements.

The meta-analytic results rejected all three of the null hypotheses. School characteristics, school culture characteristics, and school culture elements are self-supporting in relation to the number of schools. The implication of these results is the generalizability of school characteristics, school culture characteristics, and school culture elements to all schools regardless of size or population. All schools in this study were of various sizes, locations, and populations. The number of schools, size of a school, location of a school, or population of a school does not determine the school's characteristics, school culture characteristics, or school culture elements.

Chapter 7
Grounded Theory

The objective of grounded theory is to either generate or discover theory (Dey, 1999). This study revealed the definition of school culture by synthesizing and analyzing others' empirically based theories. Grounded theory must emerge from the data. It must focus on how the data interacts as well as the relationships between concepts (Dey, 1999).

One of the research questions for this study inquires as to how qualitative synthesis and analysis, taxonomy, and meta-analysis inform grounded theory. It was necessary to heed the warnings of other researchers while answering this question.

Atkinson and Delamont (2005) assert that a reevaluation of analytic strategies needs to take place before defining culture to avoid fragmented reductionism. This warning was a consideration in the adapted methodological development of this study. The coding, which emerged from the qualitative synthesis and analysis helped to form the taxonomy. The domains, classifications, categories, characteristics, and elements from the taxonomy became the variables for the meta-analysis, which confirmed conceptual generalizability and validity through statistical testing and the rejection of the null hypotheses. The variables and their relationships that emerged from theoretical and axial coding, alongside the results of the previous three phases, became the basis of grounded theory. No fragmented reductionism exists within this study of school culture.

The theory, discovered from the data, reflects the emergent evidence within the data, and answers the proposed research questions (Dey, 1999). Grounding of this emergent data occurred throughout this study, documented within this chapter, and utilized the qualitative research synthesis and analysis, the meta-analytic data and

historical cultural theories from the conceptual framework as a foundation. The empirical data, theories from the conceptual framework and meta-analysis results combine with psychological construct theory, self-efficacy theory, and social learning theory for further grounding, explanation and understanding. Finding a consensual definition of school culture was the purpose and result of inquiry for this study.

School Culture

School Culture is a recent field of study (Muhammad, 2009). Some definitions of culture emphasize certain aspects of culture, such as arts, artifacts, traditional dress, culinary practices, rituals, ceremonies, and norms of social interactions (Trumball, Rothestein-Fisch, Greenfield, & Quiroz, 2001). For example, Wheatley (2006) maintains that culture is reoccurring patterns of behavior. These examples of definitions that focus on material elements, observable patterns of behaviors, and customs represent a functionalist point of view (Martin, 2002).

Using a functionalist approach entirely to define school culture, raises the same perspective concerns as trying to organize culture or society (Atkinson & Delamont, 2005). The purpose of defining school culture was not to organize it. This would be an exercise in futility considering culture not only affects everything, but also affects everything we do (Peterson & Deal, 2009). In addition, most constituents of a school consider their culture unique (Martin, 2002), which means a functionalist definition would not transfer between schools.

Another approach to defining school culture is to focus on its ideational aspects—the ideas, beliefs, and understandings of groups passed on to others. This approach to understanding culture is an abstract approach (Trumball, Rothestein-Fisch, Greenfield, &

Quiroz, 2001). Schein (2004) takes this approach when he affirms culture as a theory of strong forces. Bradford, Gary, and Wallach (2000) continue this ideationalist view of culture when they describe culture as a force linking communities to the larger society.

Using a completely ideational definition to explain or describe school culture is irresponsible. Doing so leaves interpretation up to the purpose and agenda of the determiner (Atkinson & Delamont, 2005), which then has the potential to become a means for control and submission to social and political agendas (Bradford, Gary, & Wallach, 2000). Therefore, this study aligns itself with Trumball, Rothstein-Fisch, Greenfield, and Quiroz (2001); it is disingenuous to separate the two types of definitions—functionalist and ideational.

General Descriptions of School Culture

The data illustrates that the anthropological aspect of school culture is determined by, and is as old as, a school's history (Prosser, 1992); and generations influence and sustain a school's culture (Ewen, 2004). However, this anthropological aspect of school culture becomes weaker as some cultural traditions do not carry the same level of meaning to all its participants. Further removed, the meaning and purpose of the tradition is lost on its participants (Lewis, 1997). Other general descriptions of school culture, emergent from the data, follow.

School culture is Unique

Some researchers, such as Martin (2002), warn against describing any culture as unique. Educational psychologists argue whether schools have a unique culture (Peterson & Deal, 2009; Sarason, 1996; Waller, 1967). Nonetheless, the most agreed upon observation, emergent from the data, was school culture *is* unique (Colia, 2002; Colley,

1999; Goslin, 1996; Peterson & Deal, 2009; Evans, 2001; Fullan M. , 2007; Sarason, 1996). In addition, each specific school has unique cultural characteristics unto itself (Montemurro, 2002). When describing school culture as unique, it means no two schools are alike (Colley, 1999); schools have cultures specific to themselves (Celik, 2010).

Jon Prosser, in his 1992 study, further separates school culture characteristics into "generic" uniqueness or characteristics that separate schools from hospitals, businesses, and public charities and what he deems *unique* uniqueness, which are characteristics that make each school individual. He believes culture is developed and changed through an evolutionary relationship between these divisions of school cultural characteristics (Prosser, 1992).

School Culture is Complex

Another general observation of school culture is its complexity (Colia, 2002; Lewis, 1997). Generally, definitions of school culture are vague (Sarason, 1996). Mells (1994) posits a functionalist view of the complexity describing school culture. He takes the position that school culture is a sequence of shared behavior patterns, which produces other complex patterns of behavior. Other researchers use an ideationalist viewpoint by stating that school culture is a contradictory, complex force hidden from view (Lewis, 1997; Kent, 2006; Montemurro, 2002).

The complex nature of school culture is concerning because "what is one person's cultural exchange is another person's imperialism; what is one person's educational frill raises another's test scores" (Bradford, Gary, & Wallach, 2000, p. 11). Such an implication that the contradictory nature and complexity of school culture could lead to imperialism is alarming. The lack of a precise definition of school culture has resulted in

intellectual confusion (Van Houtte & Van Meale, 2011) which has lent itself to the exploitation of the seemingly complex nature of school culture.

School Culture is Intangible

In concurrence with an ideational view, Schoen (2005) specifically declares school culture intangible. Turner and Crang (1996) posit that school culture is a vision with intangible characteristics. One researcher describes school culture as a feel in the air (Lance, 2010), which later, upon analysis, turned out to be school ethos as described by Donnelly's 2000 study.

Authors refer to school culture as underlying (Colia, 2002) enabling the ability to reflect (Angelides, 1999). Without concrete descriptive characteristics of school culture, researchers resorted to personification.

Some studies personified school culture as caring, nurturing, warm, and welcoming, attempting to meet everyone's needs; a child-centered approach (Turner & Crang, 1996). Other studies depict school culture as accountability at work establishing the rules and standards of moral assessment (Campolina & Santos Lopes de Oliveira, 2007; Turner & Crang, 1996). Yet other descriptions tout that school culture has power, assets, resources, and influence (Lewis, 1997; Angelides, 1999; Celik, 2010).

School culture, depicted as intangible, correlates with the description of an intangible societal culture. Culture is described as an ability (Hofstede, 2001), a practice, a language and bias assumptions and values (Hofstede & Hofstede, 2005; Bryant & Charmaz, 2007; Triandis, 2004).

This study sought to not only describe school culture, but also define it. In order to define school culture, the elements that constitute school culture had to emerge from

within the collected data. The elements also had to be validated, generalizable, and grounded in existing theory. They also had to be unique, complex, and intangible.

School Culture Explanation

A posited research question in this study is how qualitative research synthesis and analysis, taxonomic analysis, and meta-analysis inform grounded theory. The qualitative research synthesis and analysis provided the emerging categories and classifications that enabled taxonomic analysis. The variables from the taxonomy informed the meta-analysis to establish validity and generalizability and reject the null hypotheses posited in chapter 6. The results from these sequential phases showed an emergent theory of school culture. Through axial coding, using a constant targeted comparative method of analysis, the relationships of the cultural elements emerged. The theoretical position of the school culture characteristics and school culture elements follows.

Individual

At its root, school culture is individual. If an individual's cultural behavior aligns with his own private construct, but does not align with the public construct, there are social consequences (Kelly, 1963). This explains Hofstede's 2001 definition of culture as "the ability of people who think differently to work together" (p. xv). If the public construct aligns with an individual's personal construct, then there is validation on the part of the individual (Kelly, 1963). If constructs do not align, it does not necessarily mean the individual will drop his paradigmatic expectations. More likely, the individual will look for another group to validate his or her personal construct (Kelly, 1963). It is the fact that individuals can leave a group in search of another that explains Redfield and

Malinowski's (1948) description of culture as partly independent and partly coordinated (Redfield & Malinowski, 1948).

Psychology distinguishes individuals according to group characteristics; the psychology of individual differences is actually a psychology of group differences (Kelly, 1963). This is why Chokkar, Brodbeck, and House (2008) describe culture as the practice of entities—based on groups, rather than individuals. This dichotomy, of individual and group differences is also why educational leadership is able to determine which students will fail, or even which students are most likely to fail, yet is not able to determine better ways to reduce individual failure rates, improve instruction, or maintain morale. In reality, groups are still quantities of individuals (Kelly, 1963).

Individuals do not always react according to group countenance (Kelly, 1963). It is a problem regarding how researchers understand the relationship between private and public fields of influence (Kelly, 1963). It is the reason Peterson and Deal (2009) conclude that culture is an "unwritten tablet of social expectations" (p. 9). It is individuals' actions, motivations, and capabilities, which predict the outcome of situations (Pfeffer & Salancik, 1978).

Angelides (1999) determines school culture is individualistic and linked to critical incidents and reflection. Prosser (1992) adds an anthropological aspect by claiming that personal biographies determine the culture of a school. Lewis (1997) shows the influence of individuals by positing that individual school participants define and limit school culture. Colley (1999) who asserts individual personalities make up school culture yields the most compelling argument for the emergent theory of this study.

As confirmation to the validity of the individual's influence in schools, the variance of the school characteristic *curriculum and assessment* in statistical testing was nearly the same as the variance of the school culture characteristic of *individual*. See Appendix D for descriptive statistics labeled “Descriptive Statistics.” This is an indication of the individual control each teacher has within each classroom regarding instruction despite curricular mandates. Although the foundation of school culture emerged as based on the individual, there were collective aspects that also emerged regarding school culture.

Collective

When living in a community, or working in a school in which the commonality of personal constructs is extensive, the public will behave similarly. Those who have a commonality of construct have the same expectations. Group expectancies validate individual constructs (Kelly, 1963). One of the characteristics of working in a school is the benefit of similar individual constructs and expectations, which connect to form a collective. Nearly every teacher has had the experience of attending school since age five, and since, has returned, with expectations based on anthropological and sociological experiences (Turner & Crang, 1996). Each teacher is aware, based on experience and expectations, of the dominant constructs within a school (Kelly, 1963; Turner & Crang, 1996).

Although each school culture is unique, school characteristics remain vastly similar, even across states and countries as shown in this study and somewhat validated by Jon Prosser (1992) as the relationship between generic and unique culture. Sarason (1996) states that "We come [to school] with images, expectations, and implicit and

explicit attitudes" (p. 14). For most teachers, these expectations begin forming when they personally enter school in kindergarten.

Bruner (1990) claims individualistic culture is impossible. He argues culture is something in which humans participate. Culture makes it impossible to construct psychology on an individual basis. He maintains culture connects individuals to shared meanings, shared concepts, and shared modes of communication (Bruner, 1990). To somewhat corroborate, Schein (2004) posits natural interaction, in a structured or unstructured group, forms culture. This interaction leads to the behavior patterns and behavior norms of a group's culture. However, this study did not find any empirical evidence of the impossibilities regarding the individualistic foundations of school culture.

Some theories of the definition of culture are subjective without utilizing statistical method or empirical evidence (Sergiovanni & Corbally, 1986). The theory that school culture is one, unified group phenomenon, or that there is only one, unified school culture per school was not evident in the empirical research of this study. In fact, the researchers explain and describe the collective aspect of school culture quite differently.

When describing the collective aspect of school culture, one must remember the collective is a grouping of individual members (Colley, 1999; Turner & Crang, 1996) which underlies multiple relationship perceptions (Lewis, 1997; Cross & Cavazos, 1990). Multiple relationship perceptions help to create the social collective aspect of school culture (Ajaheb-Jahangeer & Jahangeer, 2004; Mells, 1994).

When there is agreement as to an aspect of school culture, it means the majority or vocal minority of the school community members have the same perceptions, which influence other school community members (Angelides, 1999; Colley, 1999; Celik,

2010), and are usually overtly expressed (Colia, 2002) and cultivated at meetings (Colley, 1999). The involvement of perception in school culture is why Greenfield (1986) describes culture as a "self-created web of meaning" (p. 154). This is also concurrent with the idea that culture exists in an individual's psyche and influences his or her behavior (Trompenaars & Hampden-Turner, 1998).

Statistical validation of the emergent theory of individual perceptions influencing the collective occurred when the school culture characteristic of the *school community members* and the school culture element of *perception* showed very similar variances within studies: 10,865.14 (school community members) and 10,483.92 (perception). See Appendix D for descriptive statistics labeled “Descriptive Statistics.” This indicated that perceptions vary by individual at an almost equal rate within all schools. Perception is an individual phenomenon (Kelly, 1963).

This study shows individual experiences, individual expectations, individual perceptions, and individual social preferences form a school's culture; and with similar personal constructs, school community members may form a collective regardless of the size, location, or population of a school. Conversely, if an individual's construct is dissimilar to the majority of the school community members’ constructs, or ill-perceived by the majority of the school community members, the individual may become isolated or feel that he or she does not have the same opportunities as others for various types of social interaction (Kelly, 1963). Perception of a collective experience forms by social interaction (Celik, 2010). Descriptions of the individual structural elements of school culture follow.

Social Preferences

One researcher posited that school culture and school culture characteristics are purely sociological (Colia, 2002). The social aspect of school culture has individual and group facets (Schoen & Teddlie, 2008). Social discursive elements, social interactions, and social relationships develop from individual social preferences (Celik, 2010). According to the descriptive statistics resulting from statistical testing, the second highest variances were *social interaction* and *discursive elements*. See Appendix D for all descriptive statistics labeled "Descriptive statistics." The categories of social interaction and discursive elements are dependent upon the social preferences of the individual, according to scenarios within the qualitative data.

Bryant and Charmaz (2007) define social life as ordinary individuals acting on their own common sense and common understanding. People create beneficial environments, which allow them to exercise some amount of control over others they meet on a daily basis (Bandura, 1994). Culture is collective experiences shared with individuals existing within the same social environment (Hofstede & Hofstede, 2005). Because individual social preferences are rooted in experiences, meanings and perceptions can result from social interactions, discursive styles, and types of relationships (Celik, 2010).

Analyzing discursive elements is different from analyzing perceptions (Celik, 2010). One individual may understand another person better than others understand that individual (Kelly, 1963). As one person correctly interprets the social preferences of another, he or she may play a substantive role in the social interaction of the collective (Kelly, 1963).

If the social preferences of a person are opposite of many others, he or she may become isolated, perceiving inequitable treatment by the collective (Kelly, 1963). Similar individual social preferences are partially responsible for collective constructs (Celik, 2010; Kelly, 1963). This explains Trompenaars and Hampden-Turner's 1998 assertion that "culture is the shared ways groups of people understand and interpret the world" (p. 3). It also explains the idea of culture as shared meanings and collective practices and values (Redfield & Malinowski, 1948; Triandis, 2004).

Perception

According to cumulative predictive statistical tests within the meta-analysis, a trend toward *perception* and *experiences* being of more importance than the social elements of school culture, emerged. See Appendix D for predictive analyses testing labeled “Forecasting Time Series Modeler” and “Linear Modeling and Regression.” This trend explains social interaction as not only involving experiences but also resulting in experiences, which form perception. When new members of a school are learning about the operations and the personalities they work with, it is through memorable stories of others' experiences from which perception develops (Celik, 2010). In addition, the individual choices teachers make in the classroom are the result of how teachers perceive the subject matter in relation to how they perceive their students and themselves (Angelides, 1999).

Most of the 26 collected studies posit that individuals perceive and recognize school culture differently (Goslin, 1996; Lewis, 1997; Kent, 2006; Turner & Crang, 1996; Cavanagh & Dellar, 2001; Colia, 2002; Celik, 2010; Angelides, 1999). Individually perceived self-efficacy is the beliefs regarding one’s capabilities, which influence a

person's performance (Bandura, 1994). Individual student performance influences how the teacher perceives him or her. Even so, some researchers such as Colia (2002), Angelides (1999), and Lewis (1997) dwell on group perception.

Researchers such as Cavanagh and Dellar (2001), Colia (2002) and Çelik (2010) connected school culture perception with social processes such as relationships, mediation of behavior patterns, and participation; yet, perception is an individual process (Kelly, 1963). Social persuasion better explains this phenomenon. People may verbally, or through modeling, persuade others' perception of self-efficacy through encouragement or creating self-doubt (Bandura, 1994). Perception results as an interpretation that erects a structure within a framework, which takes shape and assumes meaning (Kelly, 1963). Individual perception is rooted in individual experiences. The amount of success a person experiences directly effects how he or she manages failure (Bandura, 1994). Perception is an element of school culture, meaning perception is a contributor to the creation of school culture, and only an individual can construct perception, therefore, only an individual can construct school culture.

Experience

All individual behavior, without exception, is determined by and relevant to the unique experiences of the individual (Kelly, 1963). One element of school culture is its participants with their varying, personal experiences (Colley, 1999; Lewis, 1997). Experience is the individual's successive interpreting and reinterpreting of events as they happen (Kelly, 1963). Having similar experiences allows us to predict how others will interpret their own experiences (Kelly, 1963). Seeing others overcome obstacles increases effort and raises beliefs and expectations of success (Bandura, 1994).

Experience and expectations influence each individual teacher's work (Angelides, 1999). Individuals interpret feelings according to their own experiences, which are the basis of relationships (Colia, 2002; Celik, 2010). Teachers acquire knowledge and develop relationships through experience (Angelides, 1999). They often find themselves reflecting on their experiences in an effort to make sense of their environment (Angelides, 1999). Individuals develop the concept of self through experience, and experience themselves in the same way they experience other personalities with whom they interact (Angelides, 1999).

Students interpret classroom situations based on their earlier experiences with a teacher, and that teacher's habits (Angelides, 1999). Even students' social preferences begin outside of the school with the experiences, perceptions, and expectations shared between themselves and their parents (Turner & Crang, 1996). Students use experiences to answer questions and achieve what they want (Angelides, 1999).

Experience provides a context for social preferences and relationships. It, therefore, creates perception (Campolina & Santos Lopes de Oliveira, 2007). Individual social preferences and individual experiences are linked (Campolina & Santos Lopes de Oliveira, 2007). Individual experiences lead to individual expectations. All school cultural elements intertwine within each individual.

Expectations

Subgroup analysis proved that the kurtosis for all subgroups was peaked at .013, except for the subgroup of expectations that peaked at .122 indicating slightly more extreme observations or heavier tails. This shows that expectations are an extremely

important element of school culture illustrating many observations within the collected studies. See Appendix D labeled “Descriptive Statistics” and “OLAP Cubes.”

Kelly (1963) affirms culture as the similarity in what individual school community members expect of each other or perceive what each other expects. Members of the school community, including parents, students, and staff, have the expectation their psychosocial, developmental, and educational needs will be taken care of (Colia, 2002; Ewen, 2004; Kent, 2006). Schools have high expectations for behavior and student learning. They expect positive student citizenship, maintenance of cohesion in the school community, partnerships with parents, and that all children have academic ability and will learn (Colia, 2002; Ewen, 2004; Kent, 2006).

Individuals have expectations regarding their professional lives in respect to their personal lives (Colley, 1999). Expectations of others and the successful fulfillment of those expectations determine the number and strength of a person's social bonds (Colia, 2002). For example, some schools expect their students will take part time jobs and the school will make adjustments in its processes to assist students' situations (Kent, 2006). There are individual and group expectations regarding various roles in society certain individuals fulfill (Lewis, 1997).

Figure 7.1 is an illustration of the four structural elements previously discussed that combine to create school culture. These elements are forms of personal, individual knowledge. This knowledge combines to create an individual's construct or personality (Colley, 1999). The construct of each individual within the internal environment of a school gathers to create a school's unique culture.

Each of these elements affects one another. Social preferences begin with, and link to, experiences (Turner & Crang, 1996; Campolina & Santos Lopes de Oliveira, 2007). A person's social bonds, which are the result of social preferences, depend on the fulfillment of his or her expectations (Colia, 2002). Perception develops by way of experiences and social interaction. Social interaction is a result of social preferences. Each element exists in every individual within the school community. When individuals gather in the internal environment of a school, the elements of school culture collect and influence each other.

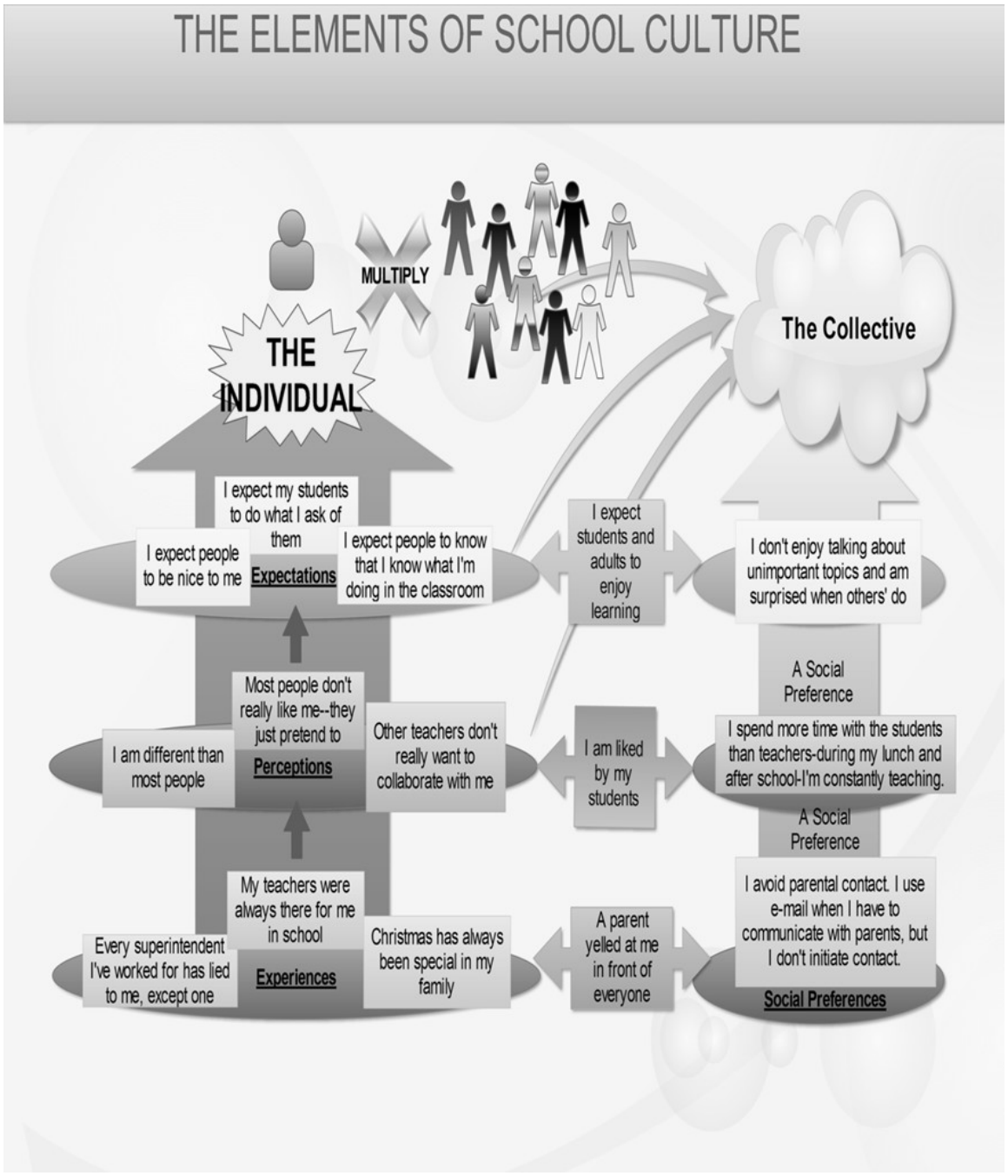


Figure 7.1. A pictorial representation of the school culture elements: These elements combine to create school culture. Individual experiences, individual perceptions, and individual expectations lead to individual social preferences, which influence others. Individual cultural elements multiplied by the school community members form the collective.

Conclusion of Grounded Theory

Studies of school culture typify "theoretical pluralism," or multiple theories leading to multiple interpretations of similar data (Westoby, 1990, p. x). These multiple definitions are vague definitions of school culture involving descriptions of alternative realities and perceptions of what is, and what should be (Sarason, 1996). Researchers have called for a consensual definition of school culture (Van Houtte & Van Meale, 2011) because culture has an impact on instruction, responsibility, collaboration, school improvement, student achievement, and teacher support (Killon, 2006).

School culture is a determinant of student and leadership success; it has the ability to influence and explain resistance to change (Fullan M. , 2007; Evans, 2001). Successful school leaders must advance systemic, transformational change, which requires leadership to change a school's culture (Evans, 2001).

The Definition of School Culture

The number of schools, size of a school, location of a school, or population of a school does not determine the school's characteristics, school culture characteristics, or school culture elements as shown in this study's meta-analysis. Rejecting the null hypotheses, the existence of school characteristics, school culture characteristics, and school culture structural elements are not dependent on the number of schools per study.

According to Nagelkerke's formula, the school culture theory presented in this study has a fit of 98.3%. According to McFadden's calculations, the theoretical model has a fit of 93.3%. See Appendix D for model fit labeled “Forecasting Time Series Modeler.”

In 1971, Edward Stewart knew there was a social component to culture, as did Putnam in 2009 (Putnam, Gunnings-Moton, & Sharp, 2009; Trumball, Rothestein-Fisch, Greenfield, & Quiroz, 2001). Hall (1966), along with Brislin (1993), and Hofstede (1983)

knew that the individual and the collective had a role to play in the definition of culture (Trumball, Rothestein-Fisch, Greenfield, & Quiroz, 2001). Kymlicka (1989), who considers cultural structure a "context of choice" or the "character of a historical community" (p. 168), knew that culture had to do with individual preferences and had an anthropological aspect. Bandura (1994) connected individual self-efficacy with levels of performance and influence over events linking the individual, experiences, and perception.

Schools are groups of individuals with common interests and goals, as are communities (Putnam, Gunnings-Moton, & Sharp, 2009). Schools are communities, or at least reflections of the area in which they operate (Bradford, Gary, & Wallach, 2000). To define an abstract concept, one has to think of it with an "evolutionary perspective" (Schein, 2004, p. 2). In other words, a person has to know where culture comes from, and how culture has evolved in order to explain it. This is the aspect of school culture that this study addresses—its elements.

Culture pertains to anthropological and sociological structures (House & Javidan, 2004; Hofstede, 2001). Each school is unique, regardless of the building type, geographical location, or number of schools. The large variances resulting from tests of normality and the results of meta-regression testing depicted in chapter 6 and Appendix D indicate the individual nature of school culture. If the number of schools determined aspects of the continuous variables, a pattern would have emerged. Considering there was no observable pattern and testing was not significant, the number of schools did not determine or affect the continuous variables of school culture.

School culture is the distinct individual social preferences, experiences, perceptions, and expectations of each school community member that forms the collective internal school environment.

School culture exists collectively, although it does not exist as an undivided whole. If the majority of individual social preferences within the internal environment of a school lean toward gathering, then a collective school structure will be more apparent, but individual social preferences do not combine to create one. School culture is the gathered total of each individual's experiences and perceptions, which affect each individual's expectations and social preferences. The multiple personal cultures, personalities, or constructs populate and fill a school to create a collective (but not a unified collective) school culture.

The definition of school culture focuses on the experiences and perceptions of the individual, which assist in the formation and directly connect to individual social preferences and expectations. However, individuals do not attend school in isolation, thus the confusion between individual and collective school culture. If learning were purely the result of one's own actions, it would be extremely difficult (Bandura, 1977). Observation and modeling of others assists in the formation of ideas that result in new behaviors (Bandura, 1977) which is the reason teachers incorporate modeling in their instruction. These observed behaviors become patterns of behavior (Bandura, 1977). When people observe others, it is a form of experience (Turner & Crang, 1996). The observation of others may be an individual or collective experience, but only leads to individual perception, because all perception is individual (Kelly, 1963). An individual's perception influences his or her social preferences (Campolina & Santos Lopes de

Oliveira, 2007; Colia, 2002). Observations or experiences that lead to a desired outcome become behaviors that others are more likely to adopt (Bandura, 1977). Sometimes a person may observe, or experience, a behavior modeled by someone of an admired status, which is a perception. These behaviors are accepted and adopted more readily than those behaviors observed or experienced which someone of perceived inferior status models (Bandura, 1977).

The final research question for this study asked to discover the emergent definition of school culture. Through qualitative research synthesis and analysis, taxonomic analysis, and meta-analysis, a valid and generalizable definition was attainable. *School culture is the distinct individual social preferences, experiences, perceptions, and expectations of each school community member that forms the collective internal school environment.*

Significance of the Findings

The purpose of discovering the definition of school culture and its characteristics was to inform school policy makers, school leadership, and the educational research community. *School culture is the distinct individual social preferences, experiences, perceptions, and expectations of each school community member that forms the collective internal school environment.* This definition places the focus of school culture on each distinct individual. Therefore, school change occurs individually, rather than as a collective.

Educational Policy

Policy does not have the ability to reform a school (Colley, 1999). No previous policy has ever created systemic transformational change (Lewis, 1997). Typically,

policy compliance at a school is superficial (Schoen L. T., 2005). Knowing that school culture is rooted in distinct individuals—their experiences, perceptions, expectations, and social preferences should change the way educational policymakers write school policy. For example, with this knowledge, ideas of school-wide reform initiatives that mandate simultaneous and complete change for every member of the school community within a certain time frame is knowingly futile. Every member of the school community does not experience, or perceive change at the same rate. Further, individual experiences, social preferences, and expectations may mitigate individual reactions to policy initiatives.

Educational Leadership

Educational leadership has the task of creating systemic transformational school change (Fullan M. J., 1992). To accomplish this, a change in school culture must occur. When attempting to create school change, leadership usually experiences resistance (Evans, 2001). This resistance primarily comes from subgroups or cliques that have formed within the internal environment of the school. This study found subgroups emerge as a normal forming of social relationships between those with similar personal constructs (Kelly, 1963). Individuals with similar experiences, similar social preferences, similar perceptions, or similar expectations within the internal environment of a school unsurprisingly form stronger bonds and relationships. These groups have the ability to resist change.

Cliques, Balkanization, and Subculture. Bonding happens between individuals based on convictions, standards, perceptions, and expectations (Cavanagh & Dellar, 2001; Colia, 2002). Subgroups, such as classes, dominated by organizations that have influenced schools, are normal and constitute society (Angelides, 1999; Campolina &

Santos Lopes de Oliveira, 2007; Ridenour, Demmitt, & Lindsey-North, 1999). Students become a product of society (Colia, 2002; Ewen, 2004; Kent, 2006; Lance, 2010; Mertzig, 2008) and schools also have a role to play in society (Campolina & Santos Lopes de Oliveira, 2007; Kent, 2006; Lewis, 1997; Montemurro, 2002) as they prepare students for societal membership (Wang, 1998).

Sub cultures, also called cliques and balkanization, are a part of the inner workings of society and a school (Colley, 1999). Subgroups develop when certain individuals within a school become more influential (Prosser, 1992). Subcultures may develop in response to the strength of a prevailing group and the group's insistence upon conformity (Kent, 2006). Subgroups emerge because of social interactions and social relationships, whether relationships and interactions relate to circumstances inside or outside the school (Kent, 2006). Sometimes the majority or vocal minority have a social predilection to sharing, inclusion, cooperation, collaboration, or equity (Celik, 2010; Lewis, 1997; Turner & Crang, 1996; Colley, 1999; Ajaheb-Jahangeer & Jahangeer, 2004).

Commonalities inspire relationships. A smaller group's relationship is stronger than the relationship between one individual and the entire staff (Angelides, 1999). The reason for the formation of subgroups is the desire not to conform (Kent, 2006). Members of a subgroup have as clear and positive a view of the way things should happen as the followers of the mainstream (Kent, 2006).

Some subcultures bring conflict, unproductive behavior, or tension, and clash with other subcultures within a school (Wang, 1998; Goslin, 1996; Turner & Crang, 1996). Balkanization results from various natural divisions such as age, interest, familial

situation, and background (Kent, 2006). Sometimes cliques are a threat to important communication (Colley, 1999; Schoen L. T., 2005).

Rather than making a negative comment about the standards of the mainstream, subgroups emerge to endorse a separate or adjacent set of standards held by subgroup members (Kent, 2006). No single cause leads to the formation of subgroups, which seem to emerge from a multiplicity of influences, reflecting the complexity of social interactions and relationships (Kent, 2006). These subgroups may socially resist school leadership and school change if the change does not meet their expectations, align with their experiences, complement their social preferences or if they perceive the change to be detrimental.

School Culture Change. Throughout all studies, even though none primarily focused on school change, school change was nearly always an issue discussed. School leadership must create systemic, transformational change, which means changing the culture of a school. The definition of school culture resulting from this study can help school leadership change the culture of a school.

Kymlicka (1989) states, "The cultural community continues to exist for the purpose of change" (pp. 168-169). Nearly all authors of the 26 studies collected agree that society is continuously developing and changing in some way, and the changes outside of schools pose challenges inside of schools (Colia, 2002; Ewen, 2004; Kent, 2006; Ridenour, Demmitt, & Lindsey-North, 1999; Schoen L. T., 2005; Wang, 1998). Besides school leadership and the external environment, teachers, parents, and students also initiate school change (Schoen L. T., 2005). To change a situation, simply change the action or the person (Pfeffer & Salancik, 1978). However, according to Bandura

(1994), the best way to create change is by altering a person's experiences. The results and analysis of this study concurs with that assessment.

Schools are in a continual condition of change (Goslin, 1996); they are fluid and willing to change (Lewis, 1997; Turner & Crang, 1996). Change is inevitable in a school; the school community members consistently change (Colley, 1999; Turner & Crang, 1996; Goslin, 1996). With changes in the school community members come changes in the sociological (not necessarily anthropological) aspects of school culture. Sometimes individuals leave a school or come into a school as new students, new parents, and new teachers, which may create a school sociological cultural change (Turner & Crang, 1996). Individuals influence change in a school's culture through interactive social processes (Cavanagh & Dellar, 2001). A change in school community members is a natural, evolutionary school change.

If a change occurring in a school is not a natural, evolutionary social change then the anthropological aspects of school culture will work against the change (Campolina & Santos Lopes de Oliveira, 2007). Just like the members of a school who create school culture, school culture is never perfect (Colley, 1999). School culture is not a problem that must alter according to a specialized agenda and time (Colley, 1999). One person cannot transform school culture (Kent, 2006). Even though the sociological part of a school's culture and characteristics may be fluid, the anthropological aspect of a school's culture and characteristics works to sustain school culture.

School culture is strong (Ajaheb-Jahangeer & Jahangeer, 2004; Jones, 1996). It may take a long time to establish or may be well established when it is new (Kent, 2006; Colley, 1999). The anthropological aspects of school culture are perpetuated, developed,

and sustained (Lewis, 1997; Ajaheb-Jahangeer & Jahangeer, 2004). These aspects of school culture are rooted in individual constructs that are resistant to change (Mells, 1994; Prosser, 1992). Anthropological aspects of school culture stifle growth and reject what does not fit (Colley, 1999). Changing the anthropological aspects of school culture means changing multiple individual's experiences, perceptions, and expectations.

The anthropological part of school culture is what creates stability (Colley, 1999). It becomes consistent over time as long as the historical linkages are sustained (Colia, 2002; Mells, 1994). The anthropological aspects of school culture are contrary and parallel to the ever-changing sociological part of school culture. Each unique school history obligates affiliated persons to assimilate certain meanings about life within a particular school (Ridenour, Demmitt, & Lindsey-North, 1999). Members believe that if they build the school culture properly, it will be sustained (Turner & Crang, 1996).

Once one recognizes school culture is at the individual level, balkanization makes sense. Individuals who share the same experiences and social preferences develop stronger bonds. The difficulty of creating positive transformational change in schools is, therefore, also understandable. Individual experiences, individual social preferences, individual perceptions, and individual expectations must alter in order to change a school's culture. An individual's experiences do not have the ability to change, they can only transform through the introduction of new experiences. Augmenting individual experiences may change a person's perceptions. If perceptions change, then perhaps expectations and eventually social preferences may change.

This process of changing a school's culture is slow, difficult, risky, and in no way guaranteed. Educational leadership must have each member successfully experience a

process to change a school's culture (Bandura, 1994). This is the transformational school culture change educational leaders expect to accomplish.

School culture is not dependent upon the number of schools in a district or the number of persons in a school. The culture of a school is the individual social preferences, the individual experiences, the individual perceptions, and the individual expectations of each member of the internal school community.

Educational Research

As asserted in the adapted methodology of this study, there was no differentiation between school culture, school climate, and school ethos made during the data collection process. This differentiation occurred during the course of this study. Because of this study, a distinct clarification between the terms emerged which will undoubtedly, inform educational research and address the call made by the research community (Van Houtte & Van Meale, 2011).

School climate. School culture relates to school climate (vanHorn, 2003; Schoen L. T., 2005). School climate is a result of school culture and is the best way to evaluate school culture (Colia, 2002; Schoen L. T., 2005). If an individual perceives a school culture as positive or negative, then the individual's perception of school climate will correspond (Colia, 2002). The characteristics of school climate are cohesion, collegiality, participation, safety, and trust (Colia, 2002). Brief explanations of the characteristics of school climate follow.

Cohesion. Cohesion is the level of agreement within a school (Colia, 2002). A lack of cohesion may result from poor communication or poor school structural context (Angelides, 1999). Cohesion is deeper than collegiality as it develops from formed

relationships and resists fragmentary pressures (Colia, 2002). Individuals create cohesion and cohesive practices (Cavanagh & Dellar, 2001).

Collegiality. Collegiality is the level of isolation within a group (Colia, 2002). Collegial is a description of how teachers work together (Angelides, 1999), whether or not they are supportive of each other. Collegiality is not a part of school culture, it is a by-product of the similarity of individual social preferences, experiences, perceptions, and expectations held by the school community members.

Participation. Participative decision-making is a positive aspect of a school (Ajaheb-Jahangeer & Jahangeer, 2004) and indicates a positive collaborative environment (Angelides, 1999). Collaboration requires participation in schools. Whether school community members are collaborative or encourage participation from one another is a by-product of the school's culture.

Safety. Parents are just as interested in a safe school environment as they are interested in high-test scores (Colia, 2002). School safety is a common expectation the school community members hold (Colia, 2002; Lewis, 1997). Parents are concerned with a school providing a safe and orderly environment (Colia, 2002). A student's opportunity for learning increases in a safe environment (Ewen, 2004). A negative perception of safety may be the result of a rise in school violence (Celik, 2010). Whether a school is safe is an example of an individual perception. The perception of safety is a derivative of school culture. It is part of a school's climate.

Trust. Trust is the perception that individuals will not act in a way that is detrimental to the professional and personal needs of others. School relationships built on trust are more likely to develop cohesion (Colia, 2002). Trust is the result of an

individual's experiences and perceptions. The perceived level of trust in a school is not a part of the school's culture—it is a part of a school's climate.

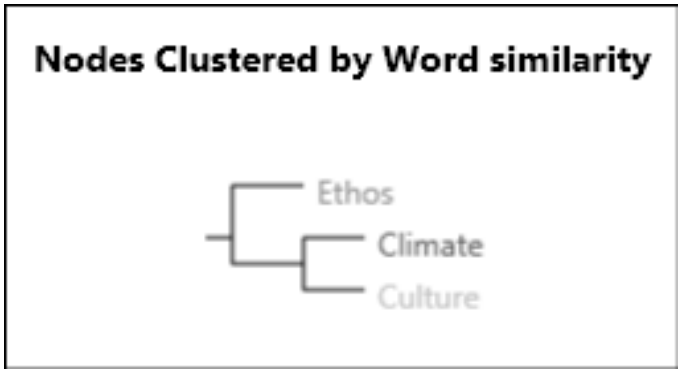
Conclusion of School Climate. School climate is a by-product of school culture. It assesses with less difficulty than school culture (Colia, 2002). A positive school climate indicates a positive school culture. School culture and school climate are different from school ethos (Donnelly, 2000).

School Ethos. School ethos is unique and not only has a relationship with school culture, but also is inclusive of school culture and the way school culture is individually experienced (Ajaheb-Jahangeer & Jahangeer, 2004). School ethos is the perceptive reaction an individual gets when they enter the school environment (Donnelly, 2000). School ethos is an individual feeling—the result of the combination of school culture and school climate.

School Culture, School Climate, and School Ethos. Sometimes school culture is confused with the terms school climate and school ethos (Peterson & Deal, 2009). To complicate matters further, there is inconsistency in research when explaining school culture, school ethos, and school climate, which contributes to the tension and confusion (Van Houtte & Van Meale, 2011).

An illustration of the relationship between school ethos, school climate, and school culture follows in Figure 7.2, with the adjoining Pearson correlation analysis of word similarity from NVivo9. All three variables—school culture, school climate, and school ethos—were positively, linearly associated with each other. School climate and School culture were strongly, positively associated with school ethos and school climate. School ethos and school culture were nearly the same, but exhibit a weaker positive

relationship. This pictorial correlation substantiates the theory that school climate is the result of school culture and school ethos is the result of school culture and school climate combined.



Culture	**Climate**	**0.737353**
Ethos	**Climate**	**0.67599**
Ethos	**Culture**	**0.661293**

Figure 7.2: The Relationship between School Culture, School Climate, and School Ethos: an NVivo9 Pearson Word Correlation Matrix shows that culture and climate combine to form ethos.

Conclusion of the Significance of the Findings

School culture is rooted in the individual. *School culture is the distinct individual social preferences, experiences, perceptions, and expectations of each school community member that forms the collective internal school environment.* This knowledge will inform educational policy makers, leadership, and researchers. The definition explains balkanization, subgroups, and cliques as social preferences and experience based relationships. This definition and the described school culture characteristics of anthropological and sociological explain resistance to school change and the need for

change initiatives to focus on the individual rather than the collective to be successful. Additionally, this definition establishes the distinction between school culture, school climate, and school ethos.

The 26 studies collected by systematic review as the first step in this adapted sequential mixed methods exploratory meta-analytic process, when synthesized and analyzed, provided important and necessary information for educational policymakers, educational leadership, and educational researchers. It is crucial that educational research continue with this method of inquiry.

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* Studies used as data retrieved from systematic review

Appendix A: IRB Approval

Rowan
University

January 26, 2011

Cynthia Pritchett 6909 Harding Highway Mays Landing, NJ 08330

Dear Cynthia Pritchett:

In accordance with the University's IRB policies and 45 CFR 46, the Federal Policy for the Protection of Human Subjects, I am pleased to inform you which the Rowan University Institutional Review Board (IRB) has exempted your project:

IRB application number: 2011-069

Project Title: In Search of a Definition of School Culture

If you need to make significant modifications to your study, you must notify the IRB immediately. Please reference the above-cited IRB application number in any future communications with our office regarding this research.

If, during your research, you encounter any unanticipated problems involving risks to subjects, you must report this immediately to Dr. Harriet Hartman (hartman@rowan.edu or call 856-256-4500, ext. 3787) or contact Dr. Gautam Pillay, Associate Provost for Research (pillay@rowan.edu or call 856-256-5150).

If you have any administrative questions, please contact Karen Heiser (heiser@rowan.edu or 856-256- 5150).

Sincerely,

Harriet Hartman

Harriet Hartman, Ph.D. Chair, Rowan University IRB

c: Ane Turner Johnson, Educational Leadership, Education Hall

Office of Research
Bole Hall Annex 201 Mullica Hill Road Glassboro, NJ 08028-1701
856-256-5150 856-256-4425 fax

Appendix B: Systematic Review Data Documentation and Supplemental Material

Name	Description	Hyperlink to Data
Systematic Review Protocol	Describes the processes and methods applied during the systematic review including eligibility and validity questions	Protocol
EndNote3.0 Web Databases	A list of all the EndNote3.0 Web Databases which were searched	Web
EndNoteX4 Desktop Databases	A list of all EndNote X4 Desktop Databases which were searched	Desktop
Database Keyword Examples and Documentation	An Example of the Keywords and placements used during the search process	Keywords
All EndNote Search Results Reference Documentation	A list of all References collected from EndNote DesktopX4 and Web 3.0 Databases	All
All EndNote Duplicate Documentation	A list of all the Duplicate References from EndNote Databases	Duplicates
All EndNote Documentation Eliminated By Title	A list of all the references from EndNote Databases which were eliminated by Title alone	Title
All EndNote Documentation Eliminated By Abstract	A list of all the EndNote Database references which were eliminated after reading the abstracts	Abstract
All EndNote Documentation Eliminated By Full Text	A list of all the EndNote references which were eliminated by reading the full text	Full Text
Potential Data References Transferred from EndNote X4 to Mendeley9.0.9.2	The 7 Pieces of potential data which were transferred from EndNoteX4 to Mendeley 9.0.9.2	Transferred
Rowan University Database Search Documentation	A list of Rowan Databases which were searched and the numeric results of the search	Rowan University
Orphan Database Search Documentation	A list of the Orphan databases which were searched and the numeric results of the search	Orphan
Journal Search Documentation	A list of the Journals from Rowan University which were searched and the numeric results of the search	Journal
Book Search Documentation	A list of the Books which were requested through ILLiad	Book
Bibliography Search Documentation	A list of the Bibliographic References which were taken from Books and Data and their numeric results	Bibliography
ILLiad Search Documentation	A list of ILLiad requests and results	ILLiad
Systematic Review Commentary and Correspondence	Documentation and commentary regarding the e-mails received during the dissertation process	Commentary
Data Extraction Sheet	Organizational statistics from the 17 studies kept as data for the continuation of the study	Data

Appendix C: Qualitative Data Documentation and Supplemental Material

Name	Description	Hyperlink to Data
Source Codes	A list of the sources, number of codes and number of references within each source	Sources
Attribute Codes	A list of the study attributes, number of sources, and number of references within the sources	Attributes
Structural Codes	A list of the first set of codes used for lumping and splitting, number of sources, and number of references within the sources	Structural
In Vivo Codes	In Vivo codes	In Vivo
Descriptive Coding	Descriptive codes, including Emotion and Value coding, number of sources and number of references within the sources	Descriptive
Initial Thematic Coding	Initial Coding organized in themes	Thematic
Theoretical Coding	Coding organized into theoretical attributes	Theoretical
Study Attribute Table	A table representation of the attribute data collected for each study	Attribute Table
Methodology Table	A table representation of the methodological process used in each study	Methodology Table
Study Validity Table	A qualitative validity analysis of the studies	Validity Table

Appendix D: Meta-Analysis Documentation and Supplemental Material

Data Collection	Test	Results	Hyperlink
Raw Case Data	N/A (Collection)	List and statistics by study case	Raw Case
Raw Data	N/A (Collection)	List and statistics by categorical variable	Raw Variable
Case Summaries	N/A (Collection)	Dates, codes, references, type of study, population, sample size	Case Summary
Missing Value Analysis	MVA variables, T-test, dpattern, listwise, pairwise, (tolerance, convergence, iterations	Univariate statistics, summary of estimated means, data patterns, listwise statistics, pairwise statistics	Missing
OLAP Cubes	Std. error mean, range, variance, kurtosis, skew, mean, median, percentages, sum, percentage of differences	Case summary and OLAP cubes	OLAP
Descriptive Statistics	Bootstrap, std. dev, variance, range, kurtosis, skew, Kolmogrov-Smirnov, Shapiro-Wilk	Descriptive statistics, percentiles, frequency, extreme values, tests of normality (histograms, Q-Q plots, box plots, stem and leaf plots)	Descriptive
Quantitative Codebook	Statistics count, percent, mean, std. dev., quartiles	Grouped variables, descriptors, elements; separate variables-values, counts, and percent	Codebook
Multiple Response	Digit grouping, data validation	Data validation, identifier checks, data passed all checks	Validity
Statistics	Mean, std. of err., median, mode, std. dev., variance, skew, kurtosis, range, percentiles	Frequency tables of statistics for all variables	Frequency
Ratio Tests and Data	Mean, median, std. dev, min. and max coverage, weighted mean	Case processing summary, ratio statistics, P-P plots, model descriptions	Ratio
Bootstrap Means	Bootstrap, simple sampling method, mean, count, std.dev., SE mean, median, G median, sum, min/max, Statistics ANOVA Linearity, T-Test, Variance Homogeneity Tests	Case processing summary, statistics reports on all cases and variables, statistics, bias, std. of error, CI, One sample t-test, t-test groups ANOVA. means plots of categories	Mean
Reliability Analysis	F-Test, Inter item correlation and covariance, summary of covariance, correlations, means, and variances, Tukey's Test of additive	Item statistics, inter item correlation matrix, inter-item covariance matrix, summary of item statistics, ANOVA with Tukey's test for nonadditivity	Reliability
Univariate Analysis	Unianova, M-Matrix, SSCP Matrix, Estimates, Spread vs. Level Plot	Univariate Analysis of Variance, Between Subject Factors, General Estimable Function, Parameter Estimates,	Linear

Appendix D: Meta-Analysis Documentation and Supplemental Material (continued)

Factor Analysis Data	Factor analysis, Principal component analysis, Statistics, Correlation Matrix, KMO and Bartlett's test of sphericity, Chi-square	Correlation matrix, commonalities, variance explained, component plot, correlation between number of schools and date and number of schools and culture elements	Factor
Non Parametric Tests and Data	One Sample Kolmogrov-Smirnov Test, One Sample Chi-Square Test, One sample Binomial Test, Independent samples Kruskal-Wallis Test, Friedman's two-way analysis of variance, N Par tests	Asymptotic significances Reject the null hypotheses	Parametric
Descriptive Cross Tabulations	Variance, descriptive statistics, odds ratio, Pearson chi-square, likelihood ratio, linear-by linear, association, spearman correlation, Z score	Symmetric measures, cross tabulations of statistics of all categorical values- linear and directional	Cross-Tab
Bootstrap Correlations	Bi-variate Pearson, Kendall's tau-b, Spearman, Partial correlation, distances between variables	Measuring correlations, partial correlations controlled for by the number of schools and proximity differences testing	Correlation
Cluster Analysis	2- step cluster, K means, hierarchical tree, discriminate, classification, nearest neighbor	Predictor space, hierarchical classification tree, number of clusters, ANOVA	Cluster
Linear Modeling and Regression	Automatic linear, linear, Dubin-Watson Collinearity stats, model fit, curve fit	Model summary, Regression descriptive stats, correlations, ANOVA, coefficients, case diagnostics, residuals, Histogram	Regression
Forecasting Time Series Modeler	Model Statistics, Spectral analysis, Turkey-Hamming, Bartlett, and Danzell (unit), cross- correlations, and timelines	Model description, Model fit, period gram by frequency, quadrature, amplitude, cospectral, gain, phase, and coherency charts for variables	Forecasting
ROC Curve	Weighted by number of schools, area, std. error, asymptotic sig., CI	Charts based on culture elements for positive and negative ties	ROC