Data Driven Decision Making for School Improvement Planning: Toward a Model and Process for Distributive Leadership and Shared Decision Making

By

Alfred Parham

A dissertation submitted to the Graduate Faculty of
Auburn University
in partial fulfillment of the
requirements for the Degree of
Doctor of Philosophy

Auburn, Alabama
May 9, 2015

Approved by

James Kaminsky, Chair, Mildred Cheshire Fraley Distinguished Professor of Educational Foundations Leadership and Technology
Carey Andrzejewski, Associate Professor of Educational Foundations Leadership and Technology
Ellen Reames, Associate Professor of Educational Foundations Leadership and Technology
Paris Strom, Professor of Educational Foundations Leadership and Technology

Abstract

Many school leaders may not have adequate decision-making tools or skills to respond to the reporting requirements of accountability mandates such as No Child Left Behind (NCLB) and Race To the Top (RTTT) (Flowers & Carpenter, 2009; Halverson et al., 2005; Hess & Mehta, 2013; Kensler, Reames, Murray & Patrick, 2011; Park & Datnow 2009; Spring, 2010; US Department of Education, 2002; USDOE, 2009). Educators may have to conduct research outside the field of education and learn from other organizations how to develop better decision-making tools (Kaniuka, 2009). Very little empirical research exists to provide school leaders with descriptions and interpretations as to how other learning organizations practice decision making (Cousins, Goh, & Clark, 2006; Datnow, 2011; Davison, 2008; Ingram, Seashore Louis, & Schroeder, 2004; Kaniuka, 2009; Paparone, 2001; Park & Datnow, 2009; Shen & Cooley, 2008;; Fullan, 2011; Fox, 2013).

This qualitative field study explored and compared the decision-making practices of a U.S. school district located in the Southeastern region of the United States of America to the decision-making practices of a U.S. Military unit located in the Southeastern region of the United States of America. Ethnographic descriptions and interpretations of their cultural practices during decision making were made to see if what actually happens during their decision-making process is consistent with what each group espouses as to how they practice decision making. Data was collected for this ethnographic field study in the forms of participant observation, interviews, material culture, and field notes (Denzin & Lincoln, 2013; Fetterman, 2010; LeCompte & Schensul, 2010; Miles, Huberman, & Saldana, 2014).

The findings suggest that the U.S. Army has developed decision-making models that are more sophisticated than current education decision-making models and informs a decision-making process that incorporates collaborative data analysis, shared leadership, and decision making that is data driven (U.S. Army Doctrinal Publication 2-0, 2012; U.S. Army, ATTP No. 5-0.1. 2011).

My intent is that the results of the compared findings of this field study will contribute to the growing body of research concerning decision making for educators; inform educational professional practices concerning school accountability, the development or improvement of educational decision-making tools, and the development of a culture that values the use of data for decision making.

Acknowledgements

I am grateful to both of my deceased parents Reverend Frank Parham and Alvenia Parham for the legacy and support they provided me. I am especially grateful to my mother for challenging me to complete this dissertation in honor of my father.

I am extremely grateful and forever indebted to my loving wife Sheila Pitchford Parham, for being a constant source of love and inspiration. She has shared in this experience with me and has felt all of the good and bad emotions that come along with completing a dissertation, especially a lengthy field study such as this project required.

I am also grateful to my committee chair Dr. James Kaminsky (Mildred Cheshire Fraley Distinguished Professor), for his wisdom and continuous efforts to help me achieve this life-long dream. Throughout this journey, Dr. Kaminsky has been the kind friend and mentor that rarely comes along during the lifetime of a person and I plan to continue the friendship beyond the completion of this dissertation.

I would also like to thank my committee members Dr. Carey Andrzejewski, Dr. Ellen Reames, and Dr. Paris Strom for being very kind and supportive when delivering their comments on this dissertation and cooperating with Dr. Kaminsky to help me complete this dissertation. Dr. William Sauser served as the University Reader and I am grateful to him for his hard work and encouragement.

Table of Contents

Chapter I. Introduction of the Study

Background of the Problem

The comprehensive process to make decisions based on school demographics, student learning, perceptions, and school process data is referred to as data-driven decision-making (Bernhardt, 2004; Halverson, Grigg, Pritchett, & Thomas 2005; Mandinach, 2012; Park & Datnow, 2009; Spillane, 2012). Hess & Mehta (2013) referred to the same process as data based decision-making, and that human expertise for decision-making exists along with structures to support data use, such as management information systems to facilitate easy access to school data. The concept of data driven decision-making is relatively new to the practice of school leadership. The current literature in the field of school leadership states that data driven decisions are best made when a culture of distributed leadership and shared decision-making exists in the school (Flowers & Carpenter, 2009; Halverson et al., 2005; Hess & Mehta, 2013; Lange, Range, & Welsh, 2012; Mandinach, 2012; Park & Datnow, 2009).

No Child Left Behind

The No Child Left Behind (NCLB) act of 2001 increases the external accountability requirements for school improvement, and requires schools to collect and report data that reflects their ability to meet Adequate Yearly Progress (AYP) (Gray & Lewis, 2013; Park & Datnow, 2009; Reeves, 2004; Spring, 2010; Trolian & Fouts, 2011; US Department of Education, 2002**)**. Meeting AYP is meeting the minimum levels of academic progress set by individual states to

show improvement as mandated by NCLB (Bernhardt, 2004; Gray & Lewis, 2013; Nelson, Palonsky, & McCarthy 2004; Trolian & Fouts, 2011). In regards to increased accountability and AYP, the United States Department of Education NCLB Executive Summary (2002) stated:

> The NCLB Act will strengthen Title I accountability by requiring States to implement statewide accountability systems covering all public schools and students. These systems must be based on challenging State standards in reading and mathematics, annual testing for all students in grades 3-8, and annual statewide progress objectives ensuring that all groups of students reach proficiency within 12 years. Assessment results and State progress objectives must be broken out by poverty, race, ethnicity, disability, and limited English proficiency to ensure that no group is left behind. School districts and schools that fail to make adequate yearly progress (AYP) toward statewide proficiency goals will, over time, be subject to improvement, corrective action, and restructuring measures aimed at getting them back on course to meet State standards. Schools that meet or exceed AYP objectives or close achievement gaps will be eligible for State Academic Achievement Awards (p.1).

Race To The Top

As newly elected President Barack Obama entered office in 2009, NCLB continued to be the most significant national policy addressing educational reform in the United States of America (Spring, 2010). President Obama referred to NCLB as being a "flawed law" and signed the American Recovery and Reinvestment Act (ARRA) to stimulate the economy and provide financial investments for many national programs, to include education (USDOE, 2010a). The ARRA provided $4.35 billion dollars for a competitive grant program, named as the Race To

The Top (RTTT) Fund, to support national educational improvement (Boser, 2012; McGuinn, 2011; USDOE, 2009; USDOE, 2010a). According to (USDOE, 2009):

> The Race to the Top program is authorized under sections 14005 and 14006 of the American Recovery and Reinvestment Act of 2009 (ARRA). Race to the Top is a competitive grant program to encourage and reward States that are implementing significant reforms in the four education areas described in the ARRA: enhancing standards and assessments, improving the collection and use of data, increasing teacher effectiveness and achieving equity in teacher distribution, and turning around struggling schools (p. 3).

According to Boser (2012):

> Forty states and the District of Columbia eventually applied for funding, and the U.S. Department of Education announced the winners of Phase 1—Delaware and Tennessee—in March 2010. The Department of Education released the names of the Phase 2 winners in August 2010 and they included the District of Columbia, Florida, Georgia, Hawaii, Maryland, Massachusetts, New York, North Carolina, Ohio and Rhode Island (p.1).

A significant part of the RTTT competitive grant is the requirement for the states to use data systems to analyze student achievement data and report the results to the grant-approving agency (USDOE, 2009; USDOE, 2010; White, 2011). According to (USDOE, 2009), The RTTT fund will encourage states to focus on the following four core educational reform areas:

- Adopting standards and assessments that prepare students to succeed in college and the workplace and to compete in the global economy;

- Building data systems that measure student growth and success, and inform teachers and principals about how they can improve instruction;
- Recruiting, developing, rewarding, and retaining effective teachers and principals, especially where they are needed most;
- Turning around our lowest-achieving schools (p. 2).

According to (USDOE 2009), the states were selected and funded according to how their application and subsequent data accurately responded towards the following five part criteria and six priorities of the program:

Selection Criteria
A. State Success Factors *(125 points)*
(A)(1) Articulating State's education reform agenda and LEAs' participation in it *(65 points)*
(A)(2) Building strong statewide capacity to implement, scale up, and sustain proposed plans *(30 points)*
(A)(3) Demonstrating significant progress in raising achievement and closing gaps *(30 points)*
B. Standards and Assessments *(70 points)*
(B)(1) Developing and adopting common standards *(40 points)*
(B)(2) Developing and implementing common, high-quality assessments *(10 points)*
(B)(3) Supporting the transition to enhanced standards and high-quality assessments *(20 points)*
C. Data Systems to Support Instruction *(47 points)*
(C)(1) Fully implementing a statewide longitudinal data system *(24 points)*
(C)(2) Accessing and using State data *(5 points)*
(C)(3) Using data to improve instruction *(18 points)*
D. Great Teachers and Leaders *(138 points)*
(D)(1) Providing high-quality pathways for aspiring teachers and principals *(21 points)*
(D)(2) Improving teacher and principal effectiveness based on performance *(58 points)*
(D)(3) Ensuring equitable distribution of effective teachers and principals *(25 points)*
(D)(4) Improving the effectiveness of teacher and principal preparation programs *(14 points)*
(D)(5) Providing effective support to teachers and principals *(20 points)*
E. Turning Around the Lowest-Achieving Schools *(50 points)*
(E)(1) Intervening in the lowest-achieving schools and LEAs *(10 points)*
(E)(2) Turning around the lowest- achieving schools *(40 points)*
F. General Selection Criteria *(55 points)*
(F)(1) Making education funding a priority *(10 points)*
(F)(2) Ensuring successful conditions for high-performing charters and other innovative schools *(40 points)*

(F)(3) Demonstrating other significant reform conditions *(5 points)*

Priorities
Priority 1: Absolute Priority – Comprehensive Approach to Education Reform
Priority 2: Competitive Preference Priority – Emphasis on Science, Technology, Engineering, and Mathematics (STEM) *(15 points, all or nothing)*
Priority 3: Invitational Priority – Innovations for Improving Early Learning Outcomes
Priority 4: Invitational Priority – Expansion and Adaptation of Statewide Longitudinal Data Systems
Priority 5: Invitational Priority – P-20 Coordination, Vertical and Horizontal Alignment
Priority 6: Invitational Priority – School-Level Conditions for Reform, Innovation, and Learning (pg.3).

As seen in this 2009 report on the RTTT initiative from the USDOE, the collection and use of data as seen listed in Criteria (C) and Priority (4) is continued from NCLB to RTTT (Spring, 2010; USDOE, 2009).

Republican and Democratic Bipartisan Support for NCLB and RTTT

Although NCLB and RTTT may appear to be completely separate Republican and Democratic education reform initiatives, the genesis of both policies can be traced back to the Presidential administration of President George Herbert Walker Bush, along with the Gubernatorial and Presidential Administrations of President William Jefferson Clinton (Spring, 2010). According to Spring (2010):

> Encouraged by his public image of "education governor", Clinton turned his attention to national politics. In 1986, he was elected vice chairperson of the National Governors Association. The chairperson of the organization was Lamar Alexander of Tennessee. In 1989, Republican President G.H.W. Bush asked the National Governors' Association to develop what would become Goals 2000. Embodied in President G.H.W. Bush's Goals 2000 were the principles of testing and educational standards that were the backbone of Clinton's political career as governor of Arkansas. Referring to Bush's Goals 2000,

> Clinton gave this reminder to readers of his 1996 campaign book: "In 1989, I and the rest of the nation's governors…were convinced that the more you expect of students, the more they expect of themselves and the more they achieve". World-class standards and test, according to this argument, would help to achieve equality of educational opportunity and increase student achievement and help American workers compete in the global labor market. These principles would be shared by Republicans and Democrats, which would lead to their bipartisan support of No Child Left Behind (p. 36).

The bipartisan support for accountability as a part of national education reform between Republicans and Democrats during Goals 2000 can still be seen in current federal education legislation. Both parties agree that education accountability reform initiatives serve to support economic growth, and generate usable data to inform decision making for school improvement (Deville, 2011; Goren, 2012; Spring, 2010). More importantly, accountability reform initiatives that inform data driven decision-making are also projected to be part of future federal education reform initiatives (Mandinach, 2012; USDOE, 2010). According to President Barack Obama's Blueprint for Education Reform (USDOE, 2010):

> All students will be included in an accountability system that builds on college- and career-ready standards, rewards progress and success, and requires rigorous interventions in the lowest-performing schools. We will celebrate and reward states, districts, and schools that do the most to improve outcomes for their students and to close achievement gaps, as well as those who are on the path to have all students graduating or on track to graduate ready for college and a career by 2020. All schools will be aiming to do their part to help us reach that ambitious goal, and for most schools, leaders at the state,

district, and school level will enjoy broad flexibility to determine how to get there. But in the lowest-performing schools that have not made progress over time, we will ask for dramatic change. To ensure that responsibility for improving student outcomes no longer falls solely at the door of schools, we will also promote accountability for states and districts that are not providing their schools, principals, and teachers with the support they need to succeed (p. 5).

The data collection and reporting requirements of NCLB and RTTT are critical education issues and bring data-driven decision-making to the forefront of school improvement. It was a wrong assumption of the policy makers that school leaders possessed the acumen and decision-making tools to comply with the reporting mandates (Datnow, 2011; Nelson et al., 2004; Wayman, 2005; White, 2011). Many school leaders are unprepared to make data driven decisions or respond to the reporting requirements of recent accountability policies; such as, NCLB and RTTT (Cooley, Ma, Reeves, Burt, Rainey & Yuan, 2012; Kensler, Reames, Murray & Patrick, 2011). Many school leaders have become accustomed to using intuition, personal experience, and other forms of unreliable information to make decisions. School leaders also may not have adequate decision-making models or processes to inform and support their decision-making process (Flowers & Carpenter, 2009; Halverson et al., 2005; Hess & Mehta, 2013; Park & Datnow 2009). In order for public schools to sustain comprehensive improvements, they must become learning organizations that use data driven decision-making and a systems thinking approach when seeking to address critical and complex school issues such as change, school culture, accountability and data analysis (Fullan, 2011; Fullan,

Hill, & Crevola 2006, Reeves 2009; Levin and Schrum, 2013; Senge et al, 2012; Ugurlu, 2013).

Systems Thinking

The thought process by which general social systems theory is applied to the analysis of the individual parts or separate actors of a system and how these multi-layered and interconnected parts communicate and function asymmetrically and bi-directionally to sustain and grow the system is referred to as systems thinking (Blockley, 2010; Levin & Schrum, 2013; Stichweh, 2000; Watson & Lee, 2013). Systems theory applies systems thinking as a framework to facilitate leaders in identifying and understanding complex patterns and relationships within an organization (Watson & Lee, 2013). According to Stichweh (2000), communications theory would be the best social systems approach to frame systems thinking. A Communications theory approach best serves systems thinking because the most fundamental and significant aspect of systems thinking is the asymmetrical and bidirectional transfer of information between the interrelated and interconnected parts of a system. It is communication between and within the various parts of the system that allows the system to operate at multiple levels, provide feedback and input that is also iterative and bidirectional; thus, giving the system life and allowing the system to learn and grow.

According to Blockley (2010), systems thinking also has at its heart the three ideas of thinking in layers, thinking in connected loops and thinking about new processes. The idea of thinking in layers consists of thinking in terms of scope, such as whether you are thinking at the national, state, or local level. The second idea of connected loops consists of looking for connections, providing feed-back and looking forward to provide input into the life cycle of

thought, product, or program. The third idea consists of seeing everything as a new process that is developed from all that we know into something new and significantly different from an input being transformed into an output through networks or flow charts (pp. 190-191). Systems thinking on the part of school leaders could lead to the better analysis of school data by identifying the current reality of the school and the distribution of leadership through data teams (Senge et al., 2012; Levin & Schrum, 2013).

A systems thinking approach to the analysis of the school data for decision-making could provide data teams and individual school leaders with collaborative information from different parts of the system for continuous organizational improvement (Levin & Schrum, 2013; Peery, 2011; Senge et al., 2012; White, 2011). A systems thinking approach to analyze the school data could also assist educators in better defining their current reality, reflection on school issues, and the reframing of complex issues as needed for continuous decision making and school improvement planning (Bolman & Deal, 2004; Fullan, 2011; Senge et al., 2012). The driving force behind data driven decision-making as it pertains to continuous school improvement is the school's principal. The principal must articulate a vision of developing the school into a professional learning community that establishes and cultivates a culture for data use, distributes school leadership, and provides professional development for faculty to increase their capacity to make decisions that are data-driven (Lange, Range, & Welsh, 2012; Levine & Schrum, 2013). Flowers & Carpenter (2009) stated that what many school leaders and teachers are operating on today is often based upon "experience and anecdotal information." This type of information does not clearly give them a valid and reliable assessment of their learning community, as would a thorough analysis of their school data (p. 64).

School Data Collection and Analysis

Many teachers and school leaders are often reluctant to collect and collaborate on school data because they often try to collect and analyze a large amount of data. Analyzing large amounts of data either overwhelms school leaders or paralyzes them when they first attempt to make sense of the large quantities of school data (Reeves 2009; Reeves & Flach, 2012; Shen & Cooley, 2008; Wayman, 2005).

When schools store large quantities of student information in various software information systems that are capable of disaggregating the data for useful analysis, it is referred to as data warehousing (Bernhardt, 2004; Lange et al., 2012; Rudner & Boston, 2003). A data warehouse is a significant tool for school improvement planning those educators can use to facilitate systemic data driven decision-making. However, it is a complex process that usually requires specially trained people to input and query data from it (Bernhardt, 2004; Lange et al., 2012).

According to DeLisio (2009), specific locations in a school for the display or presentation of school data within a room or along the walls of a room are referred to as a data rooms or "war rooms" (p.1). Unfortunately, a data warehouse only serves to store data from which information can be gathered and then it is left up to the individual or school to interpret the data. A significant problem that we face today is that much of the data is left in folders or on the shelves of the school leaders and is never displayed or disseminated to allow for it to be used in the decision-making process for school improvement (DeLisio, 2009; Lange et al., 2012; Shen & Cooley, 2008).

Military War Room

The Intelligence Preparation of the Battlefield (IPB) of a military Area of Operations (AO) is very similar to the data analysis of a schools Learning Community (DeLisio, 2009; U.S. Army Tactics, Techniques, and Procedures Manual 5-0.1, 2011; U.S. Army Doctrinal Publication 2-0, 2012; U.S. Army Doctrinal Publication 5-0, 2012). The gathering and analysis of data for use in a war room or Tactical Operations Center (TOC) concerning the mission and AO is IBP. Where an IPB is primarily an analysis of the enemy, obstacles, and problems concerning the military mission; similarly, the analysis of the school learning community should also analyze structural institutional obstacles, personnel problems, and political opponents related to school improvement. An intelligence officer is specifically trained to interpret the war room/TOC data as it relates to the AO and is responsible for the final analysis of that particular data to be presented to the chain of command and leadership team. The intelligence officer is also part of the leadership team/staff, and is referred in his staff position as the S-2 (U.S. Army Tactics, Techniques, and Procedures Manual 5-0.1, 2011; U.S. Army Doctrinal Publication 2-0, 2012; U.S. Army Doctrinal Publication 5-0, 2012).

A military war room has many different types of data that are collaboratively collected, and analyzed, such as enemy locations, friendly unit locations, personnel strengths, available weapon systems, political activities, cultural events, cultural beliefs, local terrain, geographical borders, and a weather report posted along walls and/or placed on staff section tables. The war room participants create a current reality of both the enemy and friendly forces situation using information from their data collection and analysis process (U.S. Army Tactics, Techniques, and Procedures Manual 5-0.1, 2011; U.S. Army Doctrinal Publication 2-0, 2012; U.S. Army

Doctrinal Publication 5-0, 2012). The walls and tables of a military war room may display maps, strategic data, and battle plans, however, the existence and significance of the military war room is not in the displaying of the data. The significance of the army war room is its historical and present day function, to serve as a forum for military staff to focus on the analysis of data and sharing of data. Additionally, to create knowledge that drives data-driven decision-making (Klien, 2001; Pars, 2013; Traxler, 1961; U.S. Army Field Manual 3-21-20, 2006; U.S. Army Tactics, Techniques, and Procedures Manual 5-0.1, 2011; U.S. Army Doctrinal Publication 2-0, 2012; U.S. Army Doctrinal Publication 5-0, 2012).

The historical evolution of the military "war room" has its beginnings not as a special room where individual military staff members contemplated on war, but simply as a room where special minds of military genius in the Prussian army of the early nineteenth century collectively collaborated on the administrative planning, management, and controlling of war. To put it simply, the Prusso-German General staff was quite possibly the first military organization to successfully invest in and develop leaders to conduct shared decision-making in a war room to gain a strategic advantage; rather than developing armaments of war (Klien, 2001; Pars, 2013; Traxler, 1961). According to Klien (2001):

> The first traces of a general staff can be seen in the army of Electoral Brandenburg. Thus, under King Frederick II, the great, during the war of the Austrian Succession the general staff service of the Prussian army took on a new dimension. Until that time, army commanders were their own staff officers, from time to time seeking advice from those generals who happened to be present at headquarters and using their quartermaster general only for tactical or logistical tasks. But King Frederick II began to assign his

> adjutant generals not only the supervision of headquarters personnel but strategic and operational matters as well. As his closest advisors on what would later become general staff members, the adjutant generals became the King's primary assistants in war and peacetime. Several of Frederick's writings deal with these matters, such as, for instance, his " General Principles of War-their Use for Tactics and Discipline of Prussian troops", written in 1748, or his "Thoughts and General Rules for War" written in 1755 (p.134).

The Great German General Staff formed from the Quartermaster General Staff of the Prussian army during the reign of King Frederick II. However, it was not until the leadership of Colonel Baron Christian von Massenbach in 1801 under the reign of King Frederick III, that the name of the Quartermaster General Staff became simply The General Staff. Although Baron von Massenbach was able to establish a General Staff to advise the King and field commanders, the Prussian army had not quite perfected how to best use the military genius of the officers composing the General Staff. In 1806, the Prussian army suffered two devastating defeats at the battles of Jena and Auerstedt by the French forces led by Napoleon (DiMarco, 2009; Klien, 2001). Three very influential Prussian military reformers named Gerhard Scharnhorst, Carl von Clausewitz, and Wilheim von Gneisenau set out to change how the Prussian General Staff was composed. Scharnhorst, Clausewitz, and Gneisenau selected Generals for the staff from candidates that were the most competent, rather than their status of royal birth (Traxler, 1961; Pars, 2013). DiMarco (2009) supported and continued Traxler (1961) by stating:

> The French led by Napoleon in 1806 soundly trounced the Prussians, perhaps the best of the eighteenth century professional militaries. In response, a group of Prussian reformers carefully studied the nature of French success and determined that though they could

replicate or copy French tactical and operational methods, they had no ready answer to the command genius of Napoleon. Ultimately, however, they hit on a unique counter to the genius of the opposing commander. They determined that although it was impossible to train a commander to be a genius, or even to find and cultivate genius ability among junior officers, what was possible was to find and identify exceptionally bright junior officers. The Prussians determined that by carefully identifying, training, educating, mentoring, organizing and networking the brightest minds in the Prussian army they could artificially create a corporate genius that was an extremely powerful competent command capability that could outperform the individual genius of an opposing general. The corporate genius harnessed by the Prussians came to be the Prussian and later German General Staff. The German General Staff corps was a pool of the best minds in the German army, carefully selected and trained and then networked by common experience, training, personal relationships, and precise assignment to lead the German army in war, and also to study and solve the vexing military issues of the day in peace (pg. 2).

DiMarco (2009) in a separate paragraph found that:

Importantly, the German general staff system was an institutional element within the German command system designed to ensure that mediocre generalship did not cause operational or strategic failure. One of the proponents of the German reforms of the early nineteenth century, Gerhard von Scharnhorst, addressed this issue specifically: “General Staff officers are those who support incompetent generals, providing the talents that might otherwise be wanting among leaders and commanders.” The general staff system

> did not replace the need for generals. Rather, it replaced the need for individual genius with corporate institutional genius. It provided a system that augmented and added to the strengths of good generals; and, most importantly, it ensured that the army succeeded despite mediocre or poor generalship (p. 3).

According to Vergun and Arms (2009), many principles from the Great German General Staff; such as the training of Non-Commissioned Officers (NCO), were initially introduced into the U.S. army during the American Revolutionary War; such as, when General George Washington assigned Baron Friedrich Wilhelm von Steuben to assist in the training of the U.S. Army:

> Many of the Army's current regulations regarding NCOs can be traced to The Revolutionary War. In 1778, Gen. George Washington assigned Baron Friedrich Wilhelm von Steuben to train his Soldiers. Steuben, a former member of the Prussian general staff of Frederick the Great, wrote one of the Army's first training manuals, which spelled out the duties and authority of NCOs (p.10).

The American initial use of the Prusso-German General Staff tactical and strategic war room methods occurred in 1897 when U.S. Army Major Eben Swift created the first frameworks for the current U.S. Army Military Decision Making Process (MDMP) from a book on tactical decision games written by Prusso-German officer Verdy du Vernois. However, Swift incorrectly applied the concepts of the German General Staff by focusing too much on the ways and means of the war room and German General Staff, rather than on the results of the collaborative data

analysis process that informed the German General Staff's decision-making process (Humpert, 2007).

Following World War I (WWI), the U.S. Army continued to improve on its decision-making process and staff planning activities that would occur in a war room by advising commanders to make an "estimate of the situation," before making a decision. However, there were no formal steps to outline or explain the procedures for making an estimate of the situation. Near the start of World War II (WWII), the U.S. Army developed Field Manual (FM) 101-5, *Staff Officer's Field Manual: the Staff and Combat Orders*, which provided more detailed explanations and procedures than any earlier attempts to establish a decision-making model and process.

Several revisions of FM 101-5 occurred between 1949 and 1984 as the U.S Army learned more about the nature of war and its decision making process during future conflicts in Korea and the war in Vietnam. In 1984, FM 101-5 was updated with the new name of *Staff Organizations and Operations.*

The new 1984 version of FM 101-5 included a flow chart that a provided for the feedback of command and staff information into a continuous and interactive decision making process that would improve command and staff collaboration in the TOC/war room. In 1997, FM 101-5 was again updated to include the commander providing his "Intent" of the operation, the commander's initial guidance, and the commander's concept of the operation. This new 1997, FM 101-5 change to U.S. Army doctrine allowed staff in the TOC/War room and commanders in the field the ability to make recommendations and decisions that still supported the commander's

intent when they encountered variables to war they had not previously planned for; such as, a change in enemy activities, strength, or location (Paparone, 2001).

The current and most recent changes as to how U.S. Army commanders and staff should conduct collaborative war planning and decision-making activities in a U.S. Army Tactical Operations Center (TOC)/War room occurred in 2011, when the U.S. Army introduced a completely new manual for command and staff operations to replace FM 101-5.

The new manual was named Army Tactics, Techniques, and Procedures No. 5-0.1 (ATTP 5.0-1), *Commander and Staff Officer Guide.* ATTP 5.0-1 is one of many manuals that are part of the U.S. Army's attempt to restructure its entire doctrinal publication program. This new program/project called Doctrine 2015 is being developed to make all U.S. Army publications reflect lessons learned from its most recent wars in Iraq, Afghanistan, and the war on Global Terror by the year 2015. Doctrine 2015 will also seek to reduce the total number of U.S. Army manuals and develop joint manuals for use with the U.S. Marine Corps (Henry, 2012; Morrow, 2012; U.S. Army Doctrinal Publication 3-0, 2011; U.S. Army Tactics, Techniques, and Procedures No. 5-0.1, 2011).

Certain members of the commander's staff/leadership team, designated as "Battle Captains," would use the experience of their military branch to collaborate with the intelligence officer to recommend a best course of action for the commander to consider (Angeles, 2005; U.S. Army Field Manual 3-21-20, 2006; U.S. Army Tactics, Techniques, and Procedures Manual 5-0.1, 2011; Waddell, 2006). The development and presentation of a course of action by subordinate leaders is a distributive leadership and shared decision-making action that allows the

commander to see one to three possible solutions that he may accept, decline or incorporate into a final decision as part of a shared decision-making process.

Battle Captains are also required to be ready to deliver/share relevant data to any units within the unit command structure and if circumstances require it, temporarily lead the unit (Angeles, 2005; U.S. Army Field Manual 3-21-20, 2006; U.S. Army Tactics, Techniques, and Procedures Manual 5-0.1, 2011; Waddell, 2006).

A Battle Captain is ordinarily an army officer with at least three years field experience and six months of formal school training in leadership and decision-making (Angeles, 2005; U.S. Army Field Manual 3-21-20, 2006). According to (U.S. Army Field Manual 3-21-20, 2006):

> The battle captain ensures all staff elements in the Command Post (CP) understand their actions in accordance with the Tactical Standard Operating Procedures (TSOP) and Operations Order (OPORD), and provides coordination for message flow, staff briefings, updates to CP charts, and other coordinated staff actions. As a focal point in the CP, the battle captain processes essential information from incoming data, assesses it, ensures dissemination, and makes recommendations to the Commander, Executive Officer (XO), and Staff Operations Officer (S-3). Dissemination to the staff of important events is critical. In doing so, the battle captain assists in synchronization of staff actions (pp. 9-4).

Many schools today could benefit from the utilization of school personnel to process and disseminate data in the data room similar to army Battle Captains. This new position would use their office, data room, or data from the school student software information to facilitate improved data analysis, data dissemination, and the synchronization and accountability of

resources (Peery, 2011; U.S. Army Field Manual 3-21-20, 2006; U.S. Army Tactics, Techniques, and Procedures Manual 5-0.1, 2011; Waddell, 2006; White, 2011).

School Data Room

The earliest reference the researcher could find of school personnel using a term similar to a data room was in a study by Reeves which noted use of the phrases data wall and data center (Reeves, 2004). Reeves (2004) described his findings from two real, but fictitiously named elementary and high schools. Reeves (2004) noted:

> The teacher's lounge at Whitman Elementary seems at first glance to be comfortably familiar. Along one wall is a large couch with frayed upholstery, accompanied by unmatched furniture acquired or donated over the years. The distinctive smell of "teacher's coffee"-started hours ago and now being distilled to the consistency of maple syrup-is in the air. Cartoons poking gentle fun at life at school cover the refrigerator. But one distinctive feature in the Whitman lounge is startlingly different. A large bulletin board, eight feet wide and four feet tall, is covered with table's charts, and graphs. In 12-inch lettering above the bulletin board are the words "Whitman Data Wall." A closer look reveals that the data wall contains much more than last year's test scores; it displays a rich variety of data, the vast majority of which were collected and analyzed by teachers on the Whitman faculty. (p. 29)

Many of the teachers claimed that the information in the data rooms was used for both informal and formal meetings (Reeves 2004). Reeves (2006) also used the term "data wall" to describe a portable three-sided "science fair" type project board that was organized around

external or test data, internal classroom data, and inferences made from the data. Reeves (2006) stated:

> One of the most powerful techniques that educators and school leaders can use to improve decision-making in the classroom, school, and district is the "Data Wall." Ideally, the Data Wall is a portable display, using the cardboard three-panel display frequently used for student science fairs. When administrators gather to discuss their ideas for improving student achievement, the Data Walls provide a rich source of information about the strategies employed in each school. Within each school, the Data Walls can be the focal point for faculty discussions on improving student achievement. For principals and teachers who are already using data to guide their instructional decision-making, the use of a Data Wall will not create any additional work. For leaders who are not using data to guide their decisions, the Data Walls provide a valuable technique to jump-start their work. Most importantly, this technique will insure that the analysis of student data is not isolated to a single seminar or a staff development program on data, but rather it becomes a continuous part of faculty and administrative decision-making throughout the school year. (p.1)

DeLisio (2009) used the term data room and made physical comparisons of the school data room to a military war room. However, there was no mention as to how the personnel inside either the data room/war room behave while conducting decision-making with the data available to them (p.1).

According to research conducted at two high schools located in a southeastern state of the U.S.A. by Kensler et al, (2012), a data room:

> Serves as a practical and symbolic vestibule in which to hold the groups' work. Evidenced-based practice, including systems thinking tools and dialogue, are the interactive practices used to enable school personnel to collect, analyze, understand, and use data. Professional development activities in both schools aimed to foster the development of these skills in their leadership team members and teachers. All of this occurs within a community of practice. The data room may be a designated space or physical location within a school where much of the thinking and interaction occurs. The work in the data room is intended to move beyond the room and influence teaching and learning practices throughout the high schools, thus expanding the community of practice beyond the leadership team and physical space. Thus, the dashed lines indicate the permeable nature of the data room space. (p. 33)

A data room or data wall can be a useful data tool for displaying and presenting information; moreover, an established data room with a data coordinator or data curator to analyze, present, and update the data, can stimulate the collaborative use and analysis of school data in the decision-making process (Kensler et al., 2012; Peery, 2011; White, 2011).

U.S. Education reform policies such as Goals 2000, NCLB, and RTTT have stimulated the need for schools to make changes in the types of data schools use for decision-making, the development of school improvement plans, and reporting of school progress (Gallagher, 2010; Lange et al., 2012; Marshall & Gerstl-Pepin, 2005; Marsh, Pane, & Hamilton 2006; Means, Padilla, & Spring, 2011; Park & Datnow 2009).

Statement of the Research Problem

A data room can provide school leaders a visual account of the relevant data needed for faculty to reflect upon; however, they must be engaged in rich dialogue resulting in a collaborative process for data driven decision-making (Chapman & Fullan, 2007; DeLisio, 2009; Reeves, 2004; Reeves, 2009; Nelson, Deluel, Slavit, & Kennedy, 2010; Peery, 2011; Waldron & Mcleskey, 2010; White, 2011). The Republican and Democratic accountability-driven educational policies of NCLB and RTTT are influencing how school data is utilized for decision-making and may require educators to explore other cultural paradigms to change the manner in which educators practice decision-making (Bolman & Deal, 2002; Datnow, 2011; Fullan, 2012; Kaniuka, 2009; Marino, 2007; Marshall & Gerstl-Pepin, 2005; Senge et al., 2012; Spring, 2010; Wayman, 2005). Despite the recent political influences and accountability policies for data-driven decision-making, very little empirical research exists to describe or interpret the decision-making processes and behaviors of school leaders. Additionally, little empirical research exists to provide school leaders with descriptions and interpretations as to how other learning organizations such as the U.S. Army conducts its decision-making process. This much-needed research may inform school leaders on how they might construct or improve upon current decision-making tools (Cousins, Goh, & Clark, 2006; Datnow, 2011; Davison, 2008; Ingram, Seashore Louis, & Schroeder, 2004; Kaniuka, 2009; Paparone, 2001; Park & Datnow, 2009; Shen & Cooley, 2008; U.S. Army Doctrinal Publication 2-0, 2012; U.S. Army, ATTP No. 5-0.1. 2011; Fullan, 2012; Fox, 2013).

Purpose of the Study

The purpose of this ethnographic field study was to explore and compare the cultural practices of data-driven decision-making within two paradigmatically different learning organizations. The two cultural learning organizations that I explored are a k-12 public school system in the Southeastern United States of America and a U.S. Army unit in the Southeastern United States of America. These two learning organizations were selected because they are both U.S. government entities, have bureaucratic structures and consider themselves to be learning organizations, yet are different in many ways; such as, their purpose in society, the environments in which they operate, their organizational structure, and their cultural behavior when practicing decision making. Comparisons made between these two differing cultural paradigms in regards to data-driven decision-making may contribute to the growing body of research concerning school data-driven decision-making, accountability, and policy making (Fetterman, 2010; Kaniuka, 2009; Lange et al., 2012; LeCompte & Schensul, 2010; Marshall, C., & Gerstl-Pepin, C., 2005; Miles, Huberman & Saldana, 2014; Sallee & Flood, 2012; Senge et al., 2012).

Research Questions

I developed four research questions to frame this field study from my purpose statement. The research questions are labeled questions A for the School study site and questions B for the Military study site for a total of eight research questions. I labeled the research sites as the School study site and the Military study site. The research questions are identical except for the names of the research study sites. (Fetterman, 2010; LeCompte & Schensul, 2010; Miles, Huberman, & Saldana, 2014).

1. Research Questions 1A and 1B:

    A. What kinds of decision-making tools exist at the School study site to facilitate data-driven decision-making?

    B. What kinds of decision-making tools exist at the Military study site to facilitate data-driven decision-making?

2. Research Questions 2A and 2B:

    A. What roles and relationships do leaders and staff members take for data-driven decision-making at the School study site?

    B. What roles and relationships do leaders and staff members take for data-driven decision-making at the Military study site?

3. Research Questions 3A and 3B:

    A. What participant behaviors for decision making at the School study site can be observed, coded, and triangulated using verification methods such as prolonged engagement in the field, thick description, and member checking to determine the behaviors to be cultural rather than individual? The distinction of the participant behaviors being cultural behaviors rather than individual behaviors is meaningful because cultural behaviors indicate how the participants act as a culture-sharing group. The focus of my field study is on how the participants act as a culture-sharing group and not as individual cases.

B. What participant behaviors for decision making at the Military study site can be observed, coded, and triangulated using verification methods such as prolonged engagement in the field, thick description, and member checking to determine the behaviors to be cultural rather than individual? The distinction of the participant behaviors being cultural behaviors rather than individual behaviors is meaningful because cultural behaviors indicate how the participants act as a culture-sharing group. The focus of my field study is on how the participants act as a culture-sharing group and not as individual cases.

4. Research Question 4A & 4B:

   A. How do the results of the findings for the School study site compare to the results of the findings for the Military study site?

   B. How do the results of the findings for the Military study site compare to the results of the findings for the School study site?

Definition of Terms

The following terms have defined for this study:

1. Accountability – The responsibility individuals or organizations have to others for the implementation and/or outcome of a task. This may include responding with data to report your progress (Fullan, Hill, & Crevola, 2006; Spring, 2010; Wiliam, 2010).
2. Change – Change is the complex and non-linear systematic process concerning the transformation of an individual or organization (Fullan, 1993; Reeves, 2009; Watson & Watson, 2013).

3. Collegial Conversation – Professional and critically constructive dialogue concerning organizational improvement amongst members of a learning organizations (Chapman & Fullan, 2007; Nelson et al, 2004; Nelson et al., 2010; Reeves, 2009).
4. Congenial Conversation – Personal and polite talk amongst members of a learning community that superficially addresses any organizational problems or improvement (Nelson et al., 2010; Reeves, 2009).
5. Data Analysis Tool – Computer software programs for storing data, visual displays to present data, and decision-making models that allow for the disaggregation, presentation and analysis of data for decision-making (Flowers & Carpenter 2009; Lange et al., 2012; Mandinach, 2012; Senge et al., 2012**;** Wayman, 2005).
6. Data Driven Decision-making – An evaluative process of making decisions based upon data relevant to the policies, principles and goals of an organization (Flowers & Carpenter, 2009; Lange et al., 2012; Mandinach, 2012).
7. Data Room – A room or walls of a room used for the display and analysis of school data that supports and symbolizes a culture of data driven decision-making (DeLisio, 2009; Kensler et al., 2012; Peery, 2011; Reeves, 2004; White, 2011).
8. Data Warehouse – A data tool in the form of a computer software system, designed to aggregate school data from different databases, and then allows the disaggregation of data by a specific query for statistical analysis (Lange et al., 2012; Rudner & Boston, 2003).
9. Distributed Leadership – A network of interconnected vertical and lateral leaders in a learning organization that share information for the purpose of continuous and systemic

improvement (Murphy et al. 2009; Park & Datnow, 2009; Lange et al., 2012; Levine & Schrum, 2013; Waldron & Mcleskey, 2010).

10. Instructional Leadership – The visible presence of a leader that promotes excellence and equity in education by allocating resources, defines the school mission, creates a vision, coordinates the curriculum, communicates progress, supports the people and activities implemented to achieve the vision (Carver, 2012; Gray & Lewis, 2013; Marzano, Waters, & McNulty, 2005; Prytula, Noonan, & Hellsten, 2013; Zepeda, 2003).
11. Knowledge Management – The process of organizational learning, sharing, and constant development of knowledge obtained from, the collaborative human collection and analysis of data and other forms of information relevant to the success, sustainability, and survivability of the organization (Ugurlu, 2013).
12. Military Decision-Making Model – The primary and time tested decision-making tool developed by the U.S. Army that establishes a detailed process for collaborative leadership and shared decision-making (Davison, 2008; Paparone, 2001; U.S. Army, ATTP No. 5-0.1. 2011).
13. Organizational Learning – a systemic process by which an organization establishes an honest and current reality of itself and communicates that reality throughout the organization to promote reflective thought that creates new knowledge for the process of change and desired growth of the organization (Fullan, 1993; Fullan, 2001 Senge et al., 2012; Ugurlu, 2013).

14. Paradigm – The current knowledge and beliefs of a particular discipline and/or the cultural beliefs of a bounded group of people concerning that discipline (Kaniuka, 2009; LeCompte & Schensul, 2013; Marino, 2007; Watson & Watson, 2013).
15. Reframing – A form of reflective thinking using a different frame from the reference you are currently using to facilitate a critical and conceptual thought process. Reframing may also help you create a more current reality of your understanding of a situation, which can lead to increasing your personal mastery within that area of study (Bolman & Deal, 2002; Senge et al., 2012).
16. School culture – A stable and consistent set of underlying social meanings, shared beliefs, practices, and basic assumptions that characterize a school (Bernhardt, 2004; Deal & Peterson, 1999; Lange et al., 2012; Schoen & Teddlie, 2008; Senge et al., 2012).
17. Shared Decision-Making – Involving all staff members and stakeholders in the decision-making process and allowing them to make decisions within the parameters of their delegated authority and responsibilities (Bernhardt, 2004; Lange et al., 2012; Marino, 2007; Paparone, 2001; Waldron & Mcleskey, 2010).
18. Site Based Management – A varied policy of decentralizing much of the decision-making process and accountability concerning the operations of a school, from the central office to the leaders of the actual school site (Camminatiello, Paletta & Speziale, 2012; Glickman, 1993; Marshal & Gerstl-Pepin, 2005; Marzano & Waters, 2009).
19. Systems Thinking – A thought process by which general social systems theory is applied to the analysis of the interdependent and connected parts or actors in a system and additionally, how these multi-layered and interconnected parts or actors, communicate

and function asymmetrically and bi-directionally to sustain and grow the system (Blockley, 2010; Levine & Schrum, 2013; Stichweh, 2000; Watson & Lee, 2013).

Limitations of the Study

This study had the following initial limitations:

1. This study initially focuses on exploring and comparing the cultural practices of how two different learning organizations conduct distributed leadership and shared decision-making.
2. Data collection was by observations, interviews, field notes, document analysis and the analysis of artifacts.
3. Access to the School study site participants was initially limited to non-contract time. The participants later agreed to meet during contract time if it did not interfere with the regular operation of their school.
4. Access to the U.S. Army study site participants was limited to Officers at or near promotion to Major/O4.

Assumptions

The following assumptions were made for this study:

1. Initial limitations and data collection may change depending on access to the research study sites and participants.
2. There may be modifications to the initial research questions if the research reveals a need to make changes.

3. Qualitative research methods of description and interpretation are to present and explain the data.

Significance of the study

This qualitative study should provide educators with empirical data that was collected from an ethnographic field study comparing the decision-making process and decision-making models from a school district in the Southeastern part of the United States of America to a U.S. Army unit, also located in the Southeastern part of the United States of America. It is my intent that the empirical data and interpretations provided to educators from this comparative ethnographic field study will help educators reframe and reshape how they distribute leadership, collaboratively analyze date and share decision-making by constructing and implementing better decision-making models. The development and use of better decision-making models may help resolve school problems concerning critical issues such as accountability, equity, knowledge management, organizational learning, data-driven decision-making, and systemic school improvement planning (Fullan, 2012; Lange et al., 2012; Senge et al., 2012; Ugurlu, 2013; Wang, Waldman, & Zhang, 2013).

Summary

The purpose of this ethnographic field study is to explore and make comparisons of the organizational and cultural practices of decision making within a U.S. Public School District and

a U.S. Army military unit. A primary focus is on the cultural practices concerning the use of decision-making tools, the individual roles and relationships of those primarily participating in decision-making and the cultural behavior of the participants during the conduct of the organization's decision-making process. This chapter included a brief historical account concerning the recent initiatives of school reform such as accountability and the increased use of data for decision-making brought forth by the federal mandates of NCLB and RTTT. This chapter also includes a brief history of the development of the decision making process that is used by the U.S. Army in its Tactical Operations Centers (TOC) or War Rooms. Chapter II provides an in-depth review the research literature framing the issues surrounding this ethnographic field study.

Chapter II. Literature Review

The U.S. Republican Education reform policy of No Child Left Behind (NCLB) developed during the George W. Bush administration and the current Democratic education reform policy named Race To The Top (RTTT) developed by the current Presidential administration of Barack Obama, both have historical traces to the Presidential administration of former U.S. President Ronald Reagan (Spring, 2010). According to Spring (2010), the Reagan administration's report *A Nation at Risk,* was an alarming indictment concerning the status of U.S. global competitiveness and claims, "Our Nation is at risk, our once unchallenged preeminence in commerce, industry, science, and technological innovations is being overtaken by competitors throughout the world" (p. 3). The Republican and Democratic education political platforms differ concerning various cultural issues such as religion, diversity, and immigration. However, both political parties have been noticeably supportive of educational policies related to economic growth and school accountability through standardized testing since the *A Nation at Risk* report of 1983 and the Goals 2000 Act developed during the administration of President George H.W. Bush (Deville, 2011; Goren, 2012; Spring, 2010). The bi-partisan support of Goals 2000 began an era of standards based accountability that continues today. It is part of the education political platforms of both the Democratic Party through RTTT and the Republican Party through NCLB. It appears as though the standards based accountability agenda driving U.S. education policy reform involving both the Democratic and Republican party political

platforms is expected to continue regardless of which party occupies the White House in the next election (Deville, 2011; Goren, 2012; McGuinn, 2012; Spring, 2010).

The continuing accountability reporting and data driven decision-making mandates brought forth by the most recent federal education reform policies of NCLB and RTTT could be best addressed by educational leaders through the practices of collaborative data analysis, distributed leadership and shared decision-making (Cousins, Goh, & Clark, 2006; Lange et al., 2012; Senge et al., 2012; Wang et al., 2013).

Currently, many school leaders lack the knowledge of how to use data tools such as student information systems, data warehouses, decision-making models, visual display technology, mobile computing hardware, and a data room that could serve as an operations center/war room. Data tools such as visual display equipment and student information systems can be co-located within the data room to facilitate the collective and collaborative presentation/display of school data such as standardized test scores to support collaborative data analysis, distributed leadership and shared decision-making (Fullan, 2012; Kensler et al., 2011; Lange et al., 2012; Ugurlu, 2013; USDOE, 2010a; USDOE, 2010b).

A number of school districts in the States of Texas, Maryland, and Georgia, have been labeled "failing schools" because they were not able to achieve Adequate Yearly Progress (AYP), as determined by their state standards (Dessoff, 2011; Deville & Chalhoub-Deville, 2011). The failure of not being able to make AYP has resulted in the loss of federal funding, forced personnel restructuring, the migration of students to other schools, and test cheating such as in the case of the Dallas Texas, Baltimore Maryland, and Atlanta Georgia, standardized test

cheating scandals (Dessoff, 2011; Deville & Chalhoub-Deville, 2011). One possible reason for school districts having suffered the loss of federal funds and/or participated in test cheating, may be the result of school systems and school leaders not having the acumen to use data tools and lead in this new era of accountability (Bakioglo & Dalgic, 2013; Fullan, 2012; Nelson, Palonsky & McCarthy, 2004; Reeves, 2004; Senge et al., 2012; Ugurlu, 2013; USDOE, 2010b;).

Critical Thinking

Critical thinking or reflective thinking is an essential thought process as it applies to continuous school improvement planning, because of the dynamically changing needs of education in this era of standards based education reform (Bakioglo & Dalgic, 2013Jenkins & Cutchens, 2011; Mulnix, 2011; Senge, 2012). According to Mulnix (2011):

> Critical thinking is the same as thinking rationally or reasoning well. In order to reason well, a thinker must be able to give reasons for what she believes, and these reasons must actually support the truth of the statement or belief they are claimed to support. As a matter of objective fact, some statements count as evidence for others by standing in inferential or evidential relations, wherein one statement will give one a reason to believe that another statement is true. In order to give reasons that actually do support (and do not just seem to support) a given claim, a critical thinker must have learned the skill of grasping inferential or evidential links between separate statements. To be a proficient critical thinker, then, is to understand what counts as a good inference between statements, and what does not (pp. 477-478).

Critical thinking allows the individuals or groups using data rooms to make inferences, connections, and recommendations concerning the school's policies and practices (Bakioglo & Dalgic, 2013; Blockley, 2010; Mulnix, 2011; Stichweh, 2000; White, 2011).

Critical thinking on part of the educators collaborating in the data room could also serve to address alternative and different views to discuss school data. The alternative views that we would use to discuss the data could be the views of others and/or it could be an alternative view that comes from reframing the issues according to the four frames Bolman & Deal (2002) designated as the political frame, human resource frame, structural frame, and symbolic frame.

Data analysis using the four frames would facilitate critical thinking among participants in the data room, because the participants in the data room would be reflecting on the data from different organizational perspectives. The newly formed different perspective would lead to more and/or stronger inferential connections that can help educators create a more reliable current reality of the learning environment. A more reliable current reality would facilitate the development of a stronger and deeper personal mastery of the issues concerning the particular needs of educators for accountability reporting, the distribution of leadership, data-driven decision-making, and systemic school improvement planning (Senge et al., 2012; Wang et al., 2013).

Accountability and Data

Accountability and data have a complex matrix of relationships to educational policy and practice. It is usually by the very data that schools report to stakeholders and policy makers for which they are accountable. Many school leaders fail to report data necessary to keep a grant or meet an accountability goal simply because they do not understand their data. Moreover,

many school leaders do not use decision-making tools because they have not been trained to utilize decision-making tools to facilitate staff collaboration, a culture of data use, and data driven decision-making (Hess & Mehta,2013; Flowers & Carpenter, 2009; Kensler et al., 2012; Lange et al., 2013; Reeves, 2004; Ugurlu, 2013; USDOE, 2010b).

A systems thinking approach for the collection, analysis, and interpretation of data for accountability, collaboration, critical thinking, and data-driven decision-making, is the best approach for school improvement planning. However, the intellectual data analysis capacity of individual school leaders is critical to determining the effectiveness of the data collection, data analysis, and development of a culture of data-driven decision-making (Hess & Mehta,2013; Kensler et al., 2012; Lange et al., 2012; Mulnix, 2012; Levine & Schrum, 2013; Spillane, 2012; Stichweh, 2000; USDOE, 2010b).

Data Types and Data Collection

Before data is posted or displayed in the data room, school leadership or persons responsible for setting up the data room must first decide what type of data sources are needed, how the data is to be collected, and how it will be critically analyzed (Lange et al.,2012; Schmoker, 2003; White, 2011; Ugurlu, 2013).

According to Lange et al, (2013), data types fall into the following four categories:

1. Demographic data, that describes the surroundings and context in which the learning community operates. An example of demographic data would be data such as sex, age, and ethnicity.

2. Student learning data, that describes a variety of measurements to include standardized test, norm-referenced test, and data generated in the classroom such as home grades from homework.
3. Perception data is usually gathered through questionnaires. This data captures and reports the beliefs and feelings of those in the learning community. Perception data is crucial to help you determine the capacity for change in the learning community by knowing the beliefs and attitudes of the individuals involved in the change process towards change and the need for change.
4. School Process data, which includes instructional strategies, classroom management, and student assessment (pp. 6-7).

Learning Point Associates (2004) also list four types of data that includes perception data and demographic data, but differ from Lange et al., by listing achievement data and program data as part of their four types of data. Learning point associates state the terms achievement data and program data are more specific to school improvement and are more helpful to educators that are in the beginning stages of collecting and analyzing data. Learning point associates offer the following perspectives on achievement and program data:

1. Achievement data is ongoing assessment data that consist of much more than standardized testing. Achievement data should be tiered in terms of annual large-scale assessment data, periodic assessment data, and classroom assessment data (p. 8).
2. Program data provides a rich source of information concerning the quality of school improvement programs. Program data will often uncover hidden and neglected data that does not appear as empirical data (p.11).

Qualitative data that comes from interviews, observations, and artifacts help a learning organization grow and uncover specific underlying systemic problems. Moreover, issues related to negative stake holder perceptions, the conditions contributing to a positive or negative school culture and the context of how individuals behave in a particular culture or setting, and why the capacity for a particular culture or organizational to learn and/or change may not exist (Datnow, 2011; Cox, 2012; Salle & Flood, 2013; Senge et al., 2012).

Once an organization determines the type of records it needs for program evaluation or school improvement development, it collects the data. Most empirical data for schools exist in school databases and data warehouses (Bernhardt, 2004; USDOE, 2010b; Lange et al., 2013). Databases usually contain one particular type or form of data; however, a data warehouse can contain multiple databases and allows specific, related, and interrelated data to be extracted using a query. The operation of data warehouses is usually at the district level by individuals with specialized training. The data types in the data warehouse are usually composed of student learning data, demographic data, and school process data aggregated at the district level.

School level leaders must query or request disaggregated data that is relevant for their school improvement planning and data driven decision-making (Bernhardt, 2004; Lange et al., 2013; USDOE, 2010b). Schools may also collect internally generated data such as grades, office referrals, attendance, and graduation rates. School archival data is useful for establishing a base line or frame of reference to start an analysis of the data (Bernhardt, 2004; Lange et al., 2013; USDOE, 2010b; White, 2011).

The school should analyze the data at this point to make sure data is reliable and relevant for the decision-making process, and school improvement planning (McREL, 2003; White, 2011; Ugurlu; 2013). By carefully analyzing their data collection results, Marzano (2003) states, schools should avoid making the following two mistakes when collecting data:

1. Using indirect measures of learning that are not sensitive to the actual learning in the classroom. This usually happens when a school or school district relies too heavily on "indirect" data that has been aggregated from standardized testing, that may not adequately portray what is really happening in the classrooms of their schools or school district (p. 56).
2. Having no explanatory model to interpret the data in terms of how the data should provide the school with information that positively impacts learning (p. 57).

Schools should also make sure that they utilize statistically sophisticated personnel who are capable of interpreting quantitative and/or qualitative data at a level beyond descriptive statistics and measures of central tendency.

The organization of a data team/staff is an effective method to ensure that data collection efforts result in data that will increase student achievement. A data team/staff can provide pertinent information as well as continuity of knowledge transfer in the event that there is a change in leadership or staff. Having an individual person responsible for collecting data can create a significant setback in data collection efforts (Bush & Glover, 2013; Lange et al., 2012; Peery, 2011; White; 2011).

Data Use and School Culture

Every school has a unique culture of its own. The overall culture may exist somewhere between positive and toxic. Nevertheless, some kind of general culture exists in every school. Often, the primary culture of a school may not include critical sub-cultures such as the use of data; however, a culture of using data for decision-making is critical for initiating and sustaining continuous systemic school improvement planning (Bernhardt, 2004; Deal & Peterson, 1999; Flowers & Carpenter, 2009; Goodwin, 2009; Lange et al., 2012; Senge et al., 2012).

The symbolic action of a school leader publicly rewarding successful teachers and students is a practice of using data in a positive way. School leaders using data in a positive manner may help foster the creation of trust within the school and a positive school climate that can lead to the development of a school culture that regularly uses and appreciate the use of data (Bolman & Deal, 2002; Deal & Peterson, 1999; Lange et al., 2013; Park & Datnow 2009).

A culture of using data for decision making should exist in a school because it can play a dominant role in determining how quickly critical issues such as student achievement and school improvement are resolved. Many successful organizations in business and education have grown and adapted to change by using data to affirm and support their system of shared beliefs, folkways, traditions, and symbols that instills meaning, passion, and purpose to their vision (Deal & Peterson, 1999; Hess & Mehta, 2013; Lange et al., 2013; Learning Point Associates, 2004; McREL, 2003). In some cases, the culture of an organization can create negative internal and external perceptions of the organization.

The phrase "perception is reality" holds true when data is not available to support the positive perceptions desired. A false perception can grow or be corrected if the correct data is available and communicated throughout the organization. Data that is displayed using visual data tools such as a data room or data wall can be a very effective tool for communicating the information needed to promote positive perceptions of an organization's growth and performance (Bolman & Deal, 1999; Goodwin, 2009, Lange, 2013; Reeves, 2004; Ugurlu, 2013).

Creating a School Culture That Uses and Values Data

There are many reasons to create a school culture that values the collection, interpretation, presentation and collaboration of data for continuous and systemic school improvement planning. The use of data is an ethical imperative of school leadership. Research based data provides the critical information needed for the kind of collaborative dialogue, critical thinking, and data driven decision-making that are necessary to transform a stagnant school into an effective and successful learning organization (Feeney, 2009; Fullan, 2001; Fullan, 2003; Lange et al., 2012; Nelson, Palonsky &McCarthy, 2004; Reeves, 2009; Senge et al., 2012).

The school leader that plans to create a culture of data use must be prepared to strengthen the organizational capacity for leadership and change in order to deal with the dynamic complexities of change. The ethical school leader could more effectively initiate cultural change by collaboratively focusing on ethical issues such as equity, social justice, and closing the academic achievement gap. Data collaboratively presented in a data room by an ethical leader

may help support and justify the ethical leader's goals and visions (Fullan, 1993; Fullan, 2001; Hess & Mehta, 2013; Reeves, 2009; Senge et al., 2012).

School leadership also has an ethical imperative to develop leadership within the ranks of the organization because school leadership is a collective process that operates best when leadership is distributed and data is used to drive a shared decision-making process (Bakioglo & Dalgic, 2013; Feeney, 2009; Fullan, 2003; Lange et al., 2012; van Aeijde et al., 2009). When leadership capacity is developed within teachers and other stakeholders in the school the speed of organizational learning and ability to change quickly increases. The professional development of school leaders in the school other than at the administrative level, helps develop the personal mastery of individual leaders and helps them to realize their interdependent and interconnected relationships, which could foster more effective team learning (Feeney 2009; Fullan, 2003; Hess and Mehta, 2013; Lambert, 1998; Lange, 2012; Senge et al., 2012).

A Data Room for Collaborative Data Analysis

Creating a culture of data use in a school where a data room does not exist or barely exists is not an easy task. A properly constructed data room can help sustain a culture of data use by providing an arena for critical data analysis, facilitating the management of organizational knowledge and collaborative dialogue (Ingram, Louis, & Schroeder, 2004; Lange et al., 2012; Peery, 2011; Reeves, 2009; Ugurlu, 2013; White, 2011).

The type of dialogue among faculty members in the data room can range from professional discussions to social talk over coffee; however, it is important that the type of dialogue conducted for school improvement be collegial and not congenial. Congenial dialogue

is the type of talk that superficially discusses school issues with no intent to solve critical or systemic school problems. This type of thin and unprofessional dialogue that does not challenge another colleague's professional opinion does not cut deep into a true analysis of school data and therefore does not provide any reliable information for effective data driven decision-making. However, it is critical that novice educators receive protection from the demeaning comments and criticism of more experienced educators when novice educators attempt to participate in collegial dialogue (Chapman & Fullan, 2007; Nelson et al., 2004; Nelson et al., 2010).

Collegial dialogue is that type of professional talk concerning school improvement which constructively challenges the accuracy of the data in the data room and the views of others regarding the data. Many practitioners of education are not comfortable with collegial dialogue and may need professional development concerning how to engage in collegial conversations. A better personal mastery of the data being discussed by an individual educator or team member usually increases collegial dialogue. Collegial dialogue improves team learning, and increases the opportunity for the transfer of organizational knowledge that is developed as a result of collegial dialogue (Dalenberg et al., 2009; Nelson et al., 2010; Senge et al., 2012; Ugurlu, 2013). Data analysis tools such as data walls and data rooms provides the means for educators to conduct more meaningful data analysis that drives collaborative data driven decision-making at the classroom, school, and district level. Data walls and data rooms may exist at the classroom or school level however, data rooms are generally at the school and district level (DeLisio, 2009; Peery, 2011; Reeves, 2004; White, 2011).

A data room/wall is not to be a static display of year-end standardized test scores, discipline reporting statistics, or attendance rates. A data room/wall is to be an ever-changing

display of school data that is composed of records of school process data, perception data, and school demographic data. The update periods could range from weekly in the classroom, to monthly in the school, to mid-term and semester at the district level (Lange et al., 2012; Peery, 2011; Reeves, 2004; Reeves, 2006; White, 2011).

A "data wall" according to Reeves (2006) is at best a three-section panel; similar to the tri-boards used in science fairs, and portable to facilitate transporting the panels to other areas within the school for collaboration. Reeves (2006), further explains that the three essential parts of a data wall are:

1. External data, such as state test scores.
2. Internal data, such as classroom assessments or other school measurements involving teaching practices; chosen by the school to reflect its unique needs.
3. Inferences and conclusions (drawn from the data) (p. 4 Fi-1)

A "data room" according to DeLisio (2009), is a designated room at the school or district level where data analysis occurs for data-driven decision-making and school improvement planning (p. 5).

A "data room" according to Kensler et al. (2011) also "serves as a practical and symbolic vestibule in which to hold the group's work. The work in the data room is intended to move beyond the room and influence teaching and learning practices" (p.33).

A data room has charts and other statistical displays posted along its walls. The walls, charts, graphs, and various displays may be color coded and/or labeled to differentiate between the types of data on display. The data room should be available for professional and not public

viewing because it may contain confidential student information. The data room should also include mission statements, goals, and benchmarks for success. The data room should also allow for the posting of comments in the data room so that the data team can update, interpret, or explain the data (Abbey, 2010; DeLisio, 2009; Marazza, 2003; Peery, 2011; Reeves, 2004; Reeves, 2006; White, 2011).

A data room is a significant data tool for displaying data and providing a designated area for collegial dialogue. The most effective collaboration takes place when the dialogue occurs within a framework of distributed leadership and shared decision-making. Distributed leadership and shared decision-making are crucial to the concept of data-driven decision-making because subordinate leaders that are in positions throughout the organization are now able to collect and provide data that they are very familiar with analyzing (Lange et al., 2012; Park & Datnow, 2009; Nelson et al., 2010; van Ameijde et al., 2009; Waldron & Mcleskey, 2010).

A significant problem identified in the current research literature on decision making in education is the lack of adequate training for school leaders concerning the use of data tools such as decision-making models and/or decision making processes (Flowers & Carpenter, 2009; Fullan, 2012; Kensler et al., 2012; Marsh, Pane, & Hamilton, 2006; Reeves & Hatch, 2011). Also absent in the current literature are thick descriptions and interpretations of how an organization or culture actually transforms the data in a data room into knowledge for their decision-making process, based on their decision-making model (Cox, 2012; Geertz, 1973; Kaniuka, 2009; Salle & Flood; 2012; Waldron & Mcleskey, 2010).

Current Decision-Making Models and Frameworks in Education

The complex learning environment of schools today, the diversity and ever-changing demographics of school populations, the large amounts of school data in student information systems, and the political demands for accountability and data-driven decision-making from federal education policies such as No Child Left Behind (NCLB) and Race To The Top (RTTT) has overwhelmed many school leaders. This overwhelming amount of change and ever-increasing amount of data can paralyze the data collection and analysis efforts of school leaders. Instead of school data analysis occurring in the data room, school data remains on the walls of the data room as a matter of "checking the box." As a result of this paralysis or neglect, the data room essentially has become another teacher's lounge and the data that is posted serves as nothing more than wallpaper (Deville & Chalhoub-Deville, 2011; Flowers & Carpenter, 2009; Mandinach, 2012; Marsh, Pane, & Hamilton, 2006; McGuinn, 2012; van Aeijde et al., 2009; Reeves & Flatch, 2011).

Educational leaders may sustain effective data-driven decision-making by adopting or developing decision-making models that provide visual frames to help educational leaders manage organizational knowledge, direct data collection, collaborate during data analysis, facilitate distributive leadership, and share decision making (Flowers & Carpenter, 2009; Kaniuka, 2009; Lange et al., 2013; Ugurlu, 2013; USDOE 2010a; USDOE, 2010b). Before educational leaders begin to adopt or construct education decision-making models, it would behoove them to look at some models proposed in the current research literature.

The following three models developed by Mid-continent Research for Education and Learning (McREL), The Research And Development (RAND) Corporation and Flowers & Carpenter respectively present some of the current models being proposed for data driven decision-making in education.

Mid-continent Research for Education and Learning (McREL)

According to McREL @www.mcrel.org:

> McREL International is a private, nonprofit, nonpartisan education research and development corporation. Since 1966, when we were founded to turn knowledge about what works in education into practical guidance for educators, McREL has grown into an international organization with more than 120 employees and an array of clients and contracts across the United States, Canada, the Pacific region, Australia, and other parts of the world. Today, inside McREL' s headquarters in Denver, Colorado, and our offices in Honolulu, Hawaii; Charleston, West Virginia; Nashville, Tennessee; and Melbourne, Australia, you'll find experienced researchers and education consultants working together to provide educators and leaders with research-based, practical guidance on the issues and challenges facing preK−16 education.

According to McREL (2003), data collection and analysis need to be purposeful in order for educators to properly identify student learning patterns and develop strategies to support student learning, Secondly, resources such as time, a data team, and various data tools must be designated to build an infrastructure for data collection and analysis. Thirdly, a purpose for the collection of data and the results of the findings must be interpreted and communicated to all

stakeholders in the learning community to facilitate dialogue for the sustainment of school improvement.

The data-driven decision making framework developed by McREL (2003) calls for educators to develop strategies for collaboration concerning the use of data. Additionally, it also provides a continuum of sustainability framed as a 3x3 model that describes what an effective school data driven decision-making process should look like from the standpoint of at least an effective process, somewhat effective process, and most effective process. Moreover, the McREL report also calls for the establishment of a school leadership team and data team to facilitate "a respectful, trusting culture in which data can be collected, analyzed, and used constructively to increase student achievement" (p. 3).

The Research and Development Corporation (RAND)

According to RAND, @www.rand.org:

> The RAND Corporation is a nonprofit institution that helps improve policy and decision-making through research and analysis. This product is part of the RAND Corporation occasional paper series. RAND occasional papers may include an informed perspective on a timely policy issue, a discussion of new research methodologies, essays, a paper presented at conference, a conference summary, or a summary of work in progress. All RAND occasional papers undergo rigorous peer review to ensure that they meet high standards for research quality and objectivity. For more than six decades, RAND has used rigorous, fact-based research and analysis to help individuals, families, and communities throughout the world to be safer and more secure, healthier and more

> prosperous. Our research spans the issues that matter most, such as energy, education, health, justice, the environment, and international and military affairs. RAND is widely respected for operating independent of political and commercial pressures. Quality and objectivity are our two core values.

A study by a team of researchers for The Research and Development Corporation (RAND) has yielded some very relevant and recent information concerning data-driven decision-making. In their study, the researchers synthesize findings from other studies on data-driven decision-making. The RAND study provides a comprehensive explanation of current practices involving data-driven decision-making and provides suggestions for future research. The study also provides a brief history of data-driven decision making in education, which dates as far back as the initial stages of Site Based Management research during the late 1970s and early 1980s. Rather than producing an actual decision-making model, the RAND study offers a conceptual framework that addresses the need for educators to seek multiple types of data, such as:

> *input* data, such as school expenditures or the demographics of the student population; *process* data, such as data on financial operations or the quality of instruction; *outcome* data, such as dropout rates or student test scores; and *satisfaction* data, such as opinions from teachers, students, parents, or the community (pp. 2-3).

Once the data has been collected, the RAND study suggests that educators would then be able to conduct an analysis of the data to generate actionable knowledge, weigh merits of possible solutions, make decisions, and then collect new data that will inform a continuous cycle of data-driven decision making.

An implication for educational researchers from the RAND study is that researchers identify better ways school staff can present data and then translate the data into usable information for school improvement planning (Marsh, Pane, & Hamilton, 2006). Marsh, Pane, & Hamilton (2006) also stated that policy makers provide focused training for educators on analyzing data so that educators may better identify problems and enact solutions. Secondly, allocate time for educators to collaborate in interpreting data because effective partnerships can provide access to information and means of interpreting information that is sensitive to local needs. Thirdly, assign individuals to filter data and help translate data into usable knowledge and provide user-friendly technology and data systems that allow educators easy access to data for analyzing, summarizing, organizing, and displaying data (p. 10).

Flowers and Carpenter 5 Step Process

Flowers and Carpenter (2009) stated that many educators are overwhelmed with using data for decision making, because they lack training, tools, and experience to properly identify and analyze data for data-driven decision making. Flowers and Carpenter (2009) found that many educators lack the statistical skills to properly identify and analyze data for data-driven decision-making and offered a five-step process to help guide educators in identifying and analyzing school data. The process consists of the following five sequential steps:

1. Review your school improvement plan to identify goals and your primary focus.
2. Determine how the data will be used by:
    - Involving as many teachers and staff as possible
    - Engaging the parents and community members
    - Providing those involved with specific areas of responsibility

- Keeping things moving in the face of daily demands
- Creating a system in which representatives of different improvement groups can come together to share information

3. Reduce your total amount of data by identifying only the relevant data to support your school improvement plan. This will allow you to focus on the data that supports your school improvement goals.
4. Objectively examine and discuss the data with teachers, staff, and other stakeholders.
5. Set goals, evaluate the progress of your decision-making and return to step three for continuous improvement (p. 65).

The Flowers and Carpenter five-step model may be very useful to educators. However, it is a simple process and may not be thorough enough to analyze more sophisticated or complex school problems. Additionally, Flowers and Carpenter (2009) suggested educators find useful school data from the following sources:

1. Parent involvement data.
2. School climate data.
3. Instructional practices data.
4. Leadership and professional development data (p. 65).

According to Lange et al (2012), it is important for educational leaders to conduct their data driven decision-making by engaging teachers in collegial dialogue that begins with the interpretation of data and transmission of organizational knowledge from the teachers to school

leaders. A collaboratively formed foundation of information and knowledge from dialogue between educational staff and leadership may provide educational leaders with a better understanding of their current reality before they make final decisions concerning instruction, curriculum, and comprehensive school improvement planning (Ash, Hodge, & Connell, 2013; Bakioglo & Dalgic, 2013; Senge et al, 2012; Stronge, 2013: Ugurlu; 2013).

U.S. Army Decision Making Process

The U.S. Army uses a decision-making model and process that is over one hundred years old. The U.S. Army decision-making model and process may provide educators with the opportunity to study decision-making models and tools developed from a perspective that is different and more sophisticated than the decision-making models presented in my review of the literature (Kaniuka, 2009; Ugurlu, 2013; U.S. Army Tactics, Techniques, and Procedures Manual 5-0.1, 2011; U.S. Army Doctrinal Publication 5-0, 2012).

The U.S. Army uses an iterative planning methodology that facilitates collegial dialogue between U.S. Army leaders and U.S. Army staff called the Military Decision Making Process (MDMP). Additionally, the MDMP also provides U.S. Army staff and commanders with a framework that guides their data collection, data analysis, management of knowledge, distribution of leadership, shared decision-making, and an audit trail for accountability (Cojocar, 2011; U.S. Army Doctrinal Publication 5-0, 2012; U.S. Army Tactics, Techniques, and Procedures Manual 5-0.1, 2011). According to U.S. Army Doctrinal Publication 5-0 (2012):

> The *military decision-making process* is an iterative planning methodology to understand the situation and mission, develop a course of action, and produce an operation plan or

> order. The MDMP combines the conceptual and detailed aspects of planning and integrates the activities of the commander, staff, subordinate headquarters, and other partners throughout the planning process. The MDMP helps leaders apply thoroughness, clarity, sound judgment, logic, and professional knowledge to understand situations, develop options to solve problems, and reach decisions. The MDMP results in an improved understanding of the situation and a plan or order that guides the force through preparation and execution (p. 8).

The U.S. Army Military Decision-making Process incorporates many aspects of systems thinking, such as team planning, time management, collaborative data analysis, critical thinking, and distributed leadership that sustains dialogue for the creation of organizational knowledge and a culture of shared decision-making (Blockley, 2010; Cojocar, 2011; Levin & Schrum, 2013; Mulnix, 2012; U.S. Army Tactics, Techniques, and Procedures Manual 5-0.1, 2011).

The U.S. Army Military Decision-making Process (MDMP) is a time-tested and research-based decision-making tool. In 1897, U.S. Army Major Eben Swift created the first frameworks for the current U.S. Army Military Decision Making Process (MDMP) from a book on tactical decision games written by Prusso-German officer Verdy du Vernois. Moreover, the U.S. Army MDMP of today also represents decades of U.S. Army research and learning from the strategies of German General Staff leaders such as General Carl von Clausewitz, decades of war fighting to include two major world wars, and its military campaigns in the Middle East (Cojocar, 2011; DiMarco, 2009; Humpert, 2007; Pars, 2013).

The U.S. Army MDMP of 1897 was based upon the tactics of the Prusso-German General Staff (Generalstab*),* and has gone through several revisions to include: the development of a 1937 *Staff officer's Field Manual,* and an expanded 1947 revision named U.S. Army Field Manual (FM) 101-5 *Staff officer's Field Manual: The Staff and Combat Orders.*

A 1950 revision was named U.S. Army Field Manual (FM) 101-5 *Staff Organization and Procedures.* A 1954 revision included a Commanders Intent statement to guide staff planning. A revision in 1968 included an Assumptions statement to introduce contingency planning within the MDMP. A revision in 1972 introduced a nine step Military Decision Making Model that is similar to the current MDMP.

A significant revision in 1984 included a change of title to *Staff Organization and Operations* and an appendix that calls for collaboration among army leaders to discuss the development of future U.S. Army decision-making tools. A revision in 1997 introduced concepts such as commander's intent and commanders concept of the operations that added to the multidimensional aspects of the MDMP and significance of the role of the commander (Humpert, 2007; Paparone, 2001; Pars, 2013). Currently, a newly revised and updated 2011 publication called U.S. Army Tactics, Techniques, and Procedures Manual (ATTP) 5-0.1: *Commander and Staff Officer Guide* replaced the 1997 FM 101-5 *Staff Organization and Operations.* According to U.S. Army Tactics, Techniques, and Procedures Manual (ATTP) 5-0.1., (2011):

> The *military decision making process* is an iterative planning methodology that integrates the activities of the commander, staff, subordinate headquarters, and other partners to

> understand the situation and mission; develop and compare courses of action; decide on a course of action that best accomplishes the mission; and produce an operation plan or order for execution (FM 5-0). The military decision making process (MDMP) helps leaders apply thoroughness, clarity, sound judgment, logic, and professional knowledge to understand situations, develop options to solve problems, and reach decisions. This process helps commanders, staffs, and others think critically and creatively while planning.
>
> The MDMP facilitates collaborative planning. The higher headquarters solicits input and continuously shares information concerning future operations through planning meetings, warning orders, supporting and supported units, and other military and civilian partners. Commanders encourage active collaboration among all organizations affected by the pending operations to build a shared understanding of the situation, participate in course of action development and decision making, and resolve conflicts before publishing the plan or order (p. 4-1).

Importantly, the MDMP includes the training of staff officers for collaborative and adaptive decision-making. A key feature of the MDMP is the aggregation and collaboration of staff and subordinate leaders normally positioned throughout the unit. The distribution of leadership and authority to subordinate commanders and staff members results in a sense of ownership, expert knowledge in specific staff areas, and a responsibility to collect, analyze, and interpret data necessary to accomplish their mission and inform their unit commander (Cojocar, 2011; U.S. Army Doctrinal Publication 5-0, 2012 U.S. Army Tactics, Techniques, and Procedures Manual 5-0.1, 2011).

When the commanders and staff members assemble to conduct their decision-making within the MDMP process, they do so according to a highly structured decision-making model that calls for a sequential information sharing process between the commanders and staff. This sequential and iterative briefing process ensures that a thorough and collaborative analysis of the data produces information that the unit leaders and staff can use for the development of the best Course of Action (COA) or decision. The best or multiple Courses of Action are then presented to the unit leader using data presentation tools such as diagrams or power point slides for acceptance, modification, or rejection (Cojocar, 2011; U.S. Army Doctrinal Publication 5-0, 2012; U.S. Army Tactics, Techniques, and Procedures Manual 5-0.1, 2011).

The U.S. Army usually conducts the MDMP in a military TOC/war room (DeLisio, 2009; U.S. Army Tactics, Techniques, and Procedures Manual 5-0.1, 2011). According to U.S. Army Doctrinal Publication 5-0, 2012:

> The MDMP consists of a series of steps that have various inputs and outputs. The outputs lead to an increased understanding of the situation facilitating the next step of the MDMP. Commanders and staffs generally perform these steps sequentially; however, they may revisit several steps in an iterative fashion, as they learn more about the situation before producing the plan or order. The seven steps of the MDMP are:
>
> 1. Receipt of mission.
> 2. Mission analysis.
> 3. Course of action development.
> 4. Course of action analysis.
> 5. Course of action comparison.

6. Course of action approval.
7. Orders production, dissemination, and transition (p. 8)

The Military Decision Making Process (MDMP) as a time tested and research based decision-making tool could provide a structure which educational leaders may consult to construct an Education Decision-Making Model and Process similar to the Military Decision Making Model (MDMM) and Military Decision Making Process. It is my intent that such a model for education would facilitate the management of organizational knowledge, the distribution leadership, and specify roles and responsibilities for data collection and analysis. Moreover, start the decision-making process with leaders listening to staff and construct final Courses of Action through a shared and collaborative decision-making process (Lange et al., 2012; Levin & Schrum, 2013; Ugurlu, 2013; U.S. Army Doctrinal Publication 5-0, 2012; U.S. Army Tactics, Techniques, and Procedures Manual 5-0.1, 2011).

Summary

Educational practitioners have entered into a new age of school reform supported by the federal mandates of NCLB and RTTT that hold educational leaders strictly accountable for school improvement and student achievement. Additionally, the federal mandates of NCLB and RTTT require educational leaders to use school data when making decisions that affect school improvement and student achievement. This new age of school reform calls for accountability and data-driven decision-making. The new age of school reform does not seem to be a temporary situation and will demand educational leaders to improve schools according to the current accountability policies or risk penalties such as the loss of funds, faculty, and even their own

jobs. However, the current practice of using data for school improvement and student achievement by educational practitioners is more the exception than the rule.

The development and maintenance of a school culture that values and uses data is the type of systemic change needed in our schools today. The capacity for that type of cultural change to take place lies centrally in the ability of the faculty to conduct collegial and collaborative data-driven dialogue concerning school improvement. A data room is an effective data tool that provides a visual display of school data in an area where faculty and staff can collaborate on the development and management of data driven solutions to correct systemic problems in our schools. However, unless educators develop better decision-making tools that cultivate cultural practices that systematically facilitate organized data collection and analysis, the data room may become just another teachers lounge for congenial talking, instead of an operations center that supports a culture of collegial dialogue, critical thinking, the management of organizational knowledge, distributed leadership, and a process for data driven decision-making.

CHAPTER III. METHODS

The purpose of my field study was to explore and compare the cultural practices of data-driven decision-making within two different learning organizations. I made ethnographic descriptions and interpretations of their cultural practices during decision making to see if what actually happens during their decision-making process is consistent with what each group espouses as to how they practice decision-making. My intent is that the results of the compared findings of this field study will contribute to the growing body of research concerning decision-making for educators, inform educational professional practices concerning school accountability, improve educational decision-making tools, and a culture that values the use of data for decision-making.

Fetterman (2010) found that "field work is the most characteristic element of any ethnographic research design" (p. 8). Moreover, Fetterman (2010) found that the customary time to conduct ethnography in the field is usually between six months and two years. I conducted my fieldwork in the school study site over a 12-month period from to November 2011 to November 2012. I conducted my fieldwork in the military study site over a 10-month period from February 2012 to November 2012.

Ethnography derives from the anthropological concept of culture and attempts to describe the "emic" or insider perspective of the events and behaviors occurring within the culture that is studied (Denzin & Lincoln, 2013; Fetterman, 2010; LeCompte & Schensul, 2010). Moreover,

according to Fetterman (2010) “many anthropologists consider cultural interpretation ethnography’s primary contribution. Cultural interpretation involves the researcher’s ability to describe what he or she has heard and seen within the framework of the social group’s view of reality” (p. 17). Additionally, LeCompte and Schensul (2010) found “the following seven characteristics mark a study as being ethnographic

1. It is carried out in a natural setting, not in a laboratory.
2. It involves intimate, face-to-face interaction with participants.
3. It presents an accurate reflection of participant perspectives and behaviors.
4. It uses inductive, interactive, and recursive data collection and analytic strategies to build local cultural theories.
5. It uses multiple data sources, including both quantitative and qualitative data.
6. It frames all human behavior and beliefs within a sociopolitical and historical context.
7. It uses the concept of culture as a lens through which to interpret results”. (p.12)

I selected an ethnographic field study approach because the purpose of my study was to explore, observe, and make comparisons of the cultural decision-making practices of a school system located in the Southeastern part of the United States of America to a U.S. Army unit located in the Southeastern part of the United States of America. An ethnographic field study design was effective because it situated me within the native environment of the two different culture-sharing groups, as the primary research instrument. My observations of their actual cultural practices enabled me to construct thick cultural descriptions and interpretations of how and why these two different culture-sharing groups actually behave the way they do in their

natural setting (Fetterman, 2010; Geertz, 1973; Denzin & Lincoln, 2013; LeCompte & Schensul, 2010; Miles, Huberman, & Saldana, 2014).

Research Questions

I developed four research questions to frame this field study from my purpose statement. The research questions are labeled questions A for the School study site and questions B for the Military study site for a total of eight research questions. I labeled the research sites as the School study site and the Military study site. The research questions are identical except for the names of the research study sites.

1. Research Questions 1A and 1B:

    A. What kinds of decision-making tools exist at the School study site to facilitate data-driven decision-making?

    B. What kinds of decision-making tools exist at the Military study site to facilitate data-driven decision-making?

2. Research Questions 2A and 2B:

    A. What roles and relationships do leaders and staff members take for data-driven decision-making at the School study site?

    B. What roles and relationships do leaders and staff members take for data-driven decision-making at the Military study site?

3. Research Questions 3A and 3B:

A. What participant behaviors for decision making at the School study site can be observed, coded, and triangulated using verification methods such as prolonged engagement in the field, thick description, and member checking to determine the behaviors to be cultural rather than individual? The distinction of the participant behaviors being cultural behaviors rather than individual behaviors is meaningful because cultural behaviors indicate how the participants act as a culture-sharing group. The focus of my field study is on how the participants act as a culture-sharing group and not as individual cases.

B. What participant behaviors for decision making at the Military study site can be observed, coded, and triangulated using verification methods such as prolonged engagement in the field, thick description, and member checking to determine the behaviors to be cultural rather than individual? The distinction of the participant behaviors being cultural behaviors rather than individual behaviors is meaningful because cultural behaviors indicate how the participants act as a culture-sharing group. The focus of my field study is on how the participants act as a culture-sharing group and not as individual cases.

4. Research Question 4A & 4B:

    A. How do the results of the findings for the School study site compare to the results of the findings for the Military study site?

B. How do the results of the findings for the Military study site compare to the results of the findings for the School study site?

Research Design

I selected an ethnographic research design to explore and compare the cultural practices of data-driven decision-making within the two different learning organizations. The ethnographic field study approach is the best approach to help me answer my research questions because as an interpretive methodology it situated me as the primary instrument for research. Moreover, the ethnographic field study approach guided me to interact with the participants in their natural setting and collect face-to-face ethnographic data using the data collection methods of in-depth interviews, observations, field notes, and the collection of material culture (Fetterman, 2010; LeCompte & Schensul, 2010).

The two cultural learning organizations are a k-12 public school system located in the Southeastern United States of America and a U.S. Army unit also located in the Southeastern United States of America. These two organizations were selected for comparison because they share the similarities of both being U.S. government entities, they have bureaucratic structures, and they consider themselves learning organizations. However, the two organizations are different in their societal purposes of providing Education and Defense in American society by the Public School Organizations and U.S. Army respectively. Public School Organizations and U.S. Army units also differ in the environments in which they operate and their cultural practices for decision-making (Fetterman, 2010; LeCompte & Schensul, 2010).

Sampling Strategies

According to Fetterman (2010), the selection of research study sites and participants for an ethnographic field study should center on the capability of the sites and participants to provide relevant data to answer the research questions (p. 35). In accordance with LeCompte and Schensul (2010) the "criterion-based sampling" strategy of "theoretical case selection" guided me to select two distinct cases or communities that are each separately bounded by common cultural traits, and cultural characteristics because a field study approach seeks to explore, describe, and interpret the cultural life of a community. A U.S. Army military community is both a geographically and culturally bounded community because it is located within the confines of a secured federal installation and the participants share the common characteristics of rotating duty stations, the wearing of uniforms and a ranking system that shows experience and authority such as Sergeant or Captain. A U.S. public school district is a bounded community because of the interrelated and connected duties performed by the educators such as teaching students, organizing school activities, and attending parent conferences. Similarly, the criterion-based sampling strategy of "reputational case selection" guided me to select participants (p. 158). For this ethnographic field study, I selected U.S. Army participants that are commissioned officers at the rank of Major/O4 or on the promotion list for the rank of Major/O4. Moreover, commissioned officers at the rank of Major/O4 should have extensive experience in using the Military Decision Making Process (MDMP). Likewise, I selected U.S. K-12 public school principals as study participants because school principals should have extensive experience in making decisions and conducting school meetings. School Principals and U.S. Army Majors should have both the experience in their jobs and longevity in their cultural communities to

provide data that are characteristic of the cultures that exist in U.S. public schools and the U.S. Army respectively.

Site Selection and Setting

In an ethnographic field study, it is best to select a single site with an intact culture-sharing group bound by certain identifiable cultural traits, such as shared values, beliefs, and assumptions (Fetterman, 2010; LeCompte, & Schensul, 2010). I selected two separate research sites consisting of two different culture-sharing groups for this comparative field study. The two-research study sites for this ethnographic field study are a U.S. School research study site and a U.S. Military research study site.

U.S. School Research Study Site

The School research study site is a large urban K-12 school district located in the Southeastern portion of the United States of America. I work in the School study site; however, I collected no data at the school where I work. I selected this study site because it met my sampling criteria as being a bounded community of educators and provided me with a large population of principals to recruit as participants.

Access to the School Research Study Site

The School Research study site required me to submit a preformatted local dissertation research proposal in addition to the letter of request to conduct research provided by the Auburn University Institutional Review Board (IRB). I also met with the local school district dissertation committee chair to explain the purpose of my research study and provide a written summary of my research project. The local dissertation committee approved my request to

conduct research after I satisfactorily answered various questions the local district committee presented to me concerning data collection and the recruitment of participants. The school district research committee chair stated that my data collection efforts could not interfere with student instructional time. The dissertation committee chairperson notified me by mail with a signed letter from the superintendent of schools granting me permission to recruit participants. I received a telephone call from the dissertation committee chair to congratulate me on receiving permission to conduct research. The telephone conversation between the dissertation committee chair and I ended with me being instructed to present the letter from the superintendent to each principal being recruited to participate upon entering their school building.

U.S. Military Research Study Site

The U.S. Military Research study site is a U.S. Army military installation located in the Southeastern portion of the United States of America. I selected this study site because it met my sampling criteria as being a bounded community of soldiers and provided me with a large population of army officers with combat experience to recruit as participants.

Access to the Military Research Study Site

I gained initial access to the Military study site after I thoroughly explained the significance of my research to a retired General Officer with connections to the approving authorities at the Military study site (Fetterman, 2010). I was a Company Commander during a previous command tour of the now retired General Officer. The retired General was pleased to know that I had become a public school educator. The retired General agreed to assist me because he also believes that the U.S. Army can provide the education field with information and

models that may help educators better distribute leadership, collaborate during data analysis, and inform their decision-making process. I received confirmation to visit the U.S. Army study site via email with instructions to meet with the leaders of the military units. The unit commanders coordinated a meeting for me to meet with their staff to establish facial recognition for security purposes, allow me to introduce the research project, introduce myself, and solicit participation. I obtained a low haircut and shaved my mustache. I was also dressed in desert boots, brown cargo pants, and a dark polo type shirt. I chose that particular form of dress because civilian contractors usually dress in that fashion and are regular guests around the military installations. Wearing this type of outfit is another attempt to bring less attention to myself while making observations. Each visit to the Military study site required me to undergo a positive check of identification by the Department of Defense Police. A positive check of identification for every person in a vehicle and a random vehicle check for items not allowed on a military base are common practices on most military installations. The two primary motives for the subjects from the Military study site to participate were that they felt morally obligated to help and they had children in the local school system.

Participant Selection

Participant Selection for the School Study Site

I selected participants at the School study site if they were serving in the role of school principal. School principals in this particular school district must all be certified with at least a Master's Degree in School Administration, have at least three years of experience as an assistant principal, and at least three years of experience as a teacher. I also selected principals because principals usually possess the institutional knowledge and professional experiences needed to

provide reliable answers to my research questions. Four principals consented to participate. One of the four principals served as an alternate and the remaining three principals fully participated in my field study until I exited their schools. The alternate principal also served as the initial participant so that I could practice interview techniques and improve the interview questions for the remaining principals that fully participated in the entire field study. The four participants for the School study site are a diverse group. The group consists of: one black male high school principal, referred to in this study as Mr. Robinson; one white female magnet academy principal, referred to in this study as Mrs. Caison; and one white male elementary school principal, referred to in this study as Mr. Jones. In addition, one white female middle school principal served as the alternate, referred to in this study as Mrs. Moseley. I selected these four principals because they each represented different levels of k-12 instruction across the school district. All four principals completed the informed consent forms and conference with me to hear an introductory briefing that included the purpose of my research, my professional background, the significance of my field study, and to ask me any questions concerning my field study.

Participant Selection for the Military Study Site

I selected candidates to participate from the Military study site if they had attained the rank of U.S. Army Major or been selected for promotion to the rank of U.S. Army Major. Additionally, I selected an allied British Officer at the rank of Major assigned to the U.S. Army to conduct formal and comparative training of U.S. Army command and staff organizations, operations, and decision-making procedures. Being promoted to the rank of Major in the U.S. Army means that the officer is no longer considered inexperienced in his duties and has probably served at least 10 years on active duty. A Major in the U.S. Army should have the institutional

knowledge, formal education and professional experiences necessary to provide me with reliable answers to my research questions. Four Majors and one Captain on the promotion list to make the rank of Major consented to participate. Two U.S. Army Majors served as alternates. The remaining two Majors and one Captain awaiting promotion to Major participated in this field study. The alternate participants helped me to practice my interview techniques and/or improve the interview questions for the participants that participated in the entire study. Although it was not a requirement for the participants to have combat experience, I was able to select participants with combat experience. Having combat experience is important because it increases the likelihood that the participants practiced the Military Decision Making Process (MDMP) in a lethal environment. It was also important to me that the participants had at least one year left on active duty and be stationed at this military research study site. A year's tenure on the site was necessary to continue the face-to-face interactions I needed to ensure the reliability and validity of this ethnographic field study (Fetterman, 2010).

To safeguard participant confidentiality I will not provide information as to the actual military units, exact unit locations, or geographic coordinates for combat actions. The candidates for the U.S. Army study site were a diverse group consisting of; one U.S. Army Infantry Captain awaiting promotion to major, referred to in this study as Captain Orlando; one special forces major (Green Beret), referred to in this study as Major Poseidon; and one British Army Infantry Major, referred to in this study as Major Rhodes. Two other U.S. Army Majors agreed to serve as alternates for this study if the three primary participants were unable to complete the study. All participants completed the informed consent forms and attended an initial overview of my study that included the purpose and significance of my study. All three of

the primary participants are white males. Major Rhodes is a British Officer and adds an international perspective to my field study.

The pseudonyms selected for the participants from the Military study site helps to continue a cultural military practice of using call signs to disguise the actual identity of military leaders. I asked the participants at the U.S. Army study site to select their own pseudonyms as a way of establishing rapport with the participants. I also reminded the participants from the U.S. Army study site to utilize pseudonyms different from the actual military pseudonyms they currently use. The use of current or former military operational pseudonyms could lead to a breach in confidentiality.

Key Informants

According to LeCompte and Schensul (2010) "key informants are individuals who are knowledgeable about their own culture, experts in specific areas of their culture, and able to explain the ways of their culture to outsiders" (p. 119). Fetterman (2010) favored the term key actor rather than key informant because he asserts the word informant may be associated with negative social stigmas such as being a snitch or whistle blower (p. 49).

Although the term key informant may have some negative social meanings, I will continue to use the term of key informant to identify the participants that provided me with confirming and disconfirming cultural information because the term key informant is the more traditional term and will resonate better with my intended audience of educators. Pseudonyms replace the actual names of research participants, intermediaries, and research sites to reduce the risk of public exposure, harassment, and breaches of confidentiality (Fetterman, 2010; LeCompte

& Schensul, 2010). The key informants for my ethnographic field study were Mr. Robinson who is a participating principal from the school study site and Captain Orlando who is a participating U.S. Army Infantry Officer from the Military study site. I selected Mr. Robinson and Captain Orlando because they are experts in their respective fields by virtue of their rank, experience, and peer's comments.

Each key informant provided both individual and cultural perspectives in regards to the research questions that framed this ethnographic field study such as the locations of key events. According to Fetterman (2010) "Key or focal events that the fieldworker can use to analyze an entire culture occur in every social group," and "key events provide lenses through which to view a culture," such as how "Geertz (1973) eloquently used the cockfight to understand and portray Balinese life" (p. 99).

Key Events

In addition to my overall fieldwork data collection and analysis experiences, I collected and analyzed data at two key events that produced significant emergent themes that I analyzed and coded to make descriptions and interpretations of the participant's cultural way of life. Captain Orlando recommended the Mission Analysis step of the Military Decision Making Model, and Mr. Robinson recommended his staff meeting that he arranged to discuss the hiring of a new teacher (Fetterman, 2010; Geertz, 1973; LeCompte & Schensul, 2010).

Data Collection Methods

I collected data for this ethnographic field study in the forms of participant observation, interviews, material culture such as documents, and field notes (Denzin & Lincoln, 2013; Fetterman, 2010; LeCompte & Schensul, 2010; Miles, Huberman, & Saldana, 2014).

Participant Observation

According to Fetterman (2010) participant observation typifies most ethnographic research, is essential to rigorous fieldwork, and the ethnographer ideally conducts observation for at least six months being the primary instrument for research (p. 37). Moreover, extensive time in the field allowed the participants to become accustomed to my presence and act more closely to what their natural cultural behavior would be as if I were not there making observations and taking notes (Fetterman, 2010; LeCompte & Schensul 2010). I conducted at least monthly intermittent visits for observations in the School study site over a 12-month period and, likewise, conducted at least monthly intermittent visits in the Military study site over a 10-month period. I utilized an observation protocol as a data collection tool to help organize my thoughts, organize the collection of field notes to better analyze their contents, sketch maps of cultural scenes, jot down verbatim quotes from participants, and my own personal reflections; see appendix B (Creswell, 1998; Fetterman, 2010; Miles, Huberman, & Saldana, 2014). On several occasions, the U.S. Army participants asked me to share my experiences as a Battle Captain in an Army Tactical Operations Center (TOC) during the Cold War while training in a European theatre of operations, and at the U.S. National Training Center (NTC) located in the California Mojave Desert.

My ability to accurately and candidly respond to questions as to my military experience from the participants at the Military study site provided me cultural credibility; thus, allowing me greater access to additional data; such as, currently developed army manuals explaining the MDMP, participant personal experiences in the Middle East, and information concerning the conduct of British Army Decision-Making Models. My access to data, resulting from my tested and proven credibility with the participants at the Military study site, provided me with additional layers of observational and material culture data that contributed to my thick descriptions and interpretations (Denzin & Lincoln, 2013; Fetterman, 2010; Geertz, 1973; LeCompte & Schensul, 2010).

Field Notes

According to Fetterman (2010) "field notes are the brick and mortar of an ethnographic edifice," because field notes can stand alone as collected data or help provide more cultural meaning to other methods of data collection such as observations and interviews (p.116). Field notes differ from observations, participant interviews, and other methods of data collection because field notes also help to develop descriptions of participant gestures, emotions, and sketches of the cultural decision-making settings and decision-making tools. Similarly, field notes also point to other data to be collected, and to the reflections and interpretations of the researcher (Denzin & Lincoln, 2013; Fetterman, 2010). According to Miles, Huberman, and Saldana (2014) field notes are usually raw data that may contain abbreviations, maps and brief descriptions of cultural behavior or documents until more formal notes can be written and coded for analysis (p. 71).

I wrote up my field notes immediately following an observation because the memory of observations and events can pass quickly (Fetterman, 2010). I made extensive use of a digital recording device to initially store my field notes while in the field and then transfer the field notes to paper later. The field journal containing my field notes was essential to helping me develop a cultural portrait of what was really going on and inform further data collection; it also provided another significant layer of data to construct thick descriptions of the two culture-sharing groups. My field notes also helped me to better define codes, and regular patterns of participant behavior that led to the emergence of themes (Denzin & Lincoln, 2013; Fetterman, 2010; Geertz, 1973; Miles, Huberman, & Saldana, 2014).

Interviews

I conducted both semi-structured and informal interviews during this ethnographic field study (Fetterman, 2010). Whereas the semi-structured interviewing occurred mostly during the one-on-one interviews between the participants and me, I used an informal approach to interviewing during my participation in cultural events or member checks for the confirmation of my descriptions. Interview data also provided me with verbatim quotations from the participants so that my descriptions and interpretations would more closely reflect the lived experiences of the participants (LeCompte & Schensul 2010; Miles, Huberman, & Saldana, 2014). To conduct the semi-structured interviews I utilized an interview protocol as a data collection tool to help organize my thoughts, inform the participant, thank the participant, and to keep a record of the time and date of the interview; see appendix A (Creswell, 1998; Fetterman, 2010; Miles, Huberman, & Saldana, 2014). I conducted semi-structured in-depth interviews with all three participants from each research study site for six interviews and each interview lasted

approximately one and one-half hours. I personally audio recorded and transcribed all participant semi-structured interviews verbatim. By personally transcribing the interviews, I was able to get an initial overall feel of the data before managing the interview data further with Atlas.ti7, Computer Assisted Qualitative Data Analysis Software (CAQDAS) (Denzin & Lincoln, 2013; Fetterman, 2010; Friese, 2012; Miles, Huberman, & Saldana, 2014).

Material Culture

The collection of material culture such as U.S. Army Field Manuals and decision-making tools provided me with specific examples of cultural decision-making text and tools utilized by the group. Similarly, I was able to conduct an analysis of the school data tools such as their data rooms. My analysis of cultural documents and tools used for decision-making by the participants helped me to uncover hidden cultural themes found in the form of stories, rituals, and symbols such as the U.S. Army ritualistic use of individual staff decision-making tools to inform the commander and other staff members participating in the Military Decision Making Process. Cultural documents are also helpful in confirming observational data and contribute to the development of questions for member checks (Denzin & Lincoln, 2013; Fetterman, 2010; LeCompte & Schensul, 2010).

Data Analysis

The collection and analysis of data during an ethnographic field study is an iterative process that informs a progressive and often simultaneous data collection and analysis plan (Fetterman, 2010; LeCompte & Schensul, 2010; Miles, Huberman, & Saldana, 2014). Upon exiting the field sites I reviewed all of my data by hand so that I could establish a general feel of

the all the data while simultaneously reflecting on the methodology, data collection methods and research questions that framed this ethnographic field study (Fetterman, 2010; LeCompte & Schensul, 2010; Denzin & Lincoln, 2013).

Critical and Conceptual Thinking

According to Fetterman (2010) clear thinking about data collection and analysis is very important while the researcher is in the field, where critical thinking skills are required when "comparing and contrasting data, trying to fit pieces of data into the bigger puzzle—all the while hypothesizing about the best fit and the best picture" (p. 94). Similarly, LeCompte and Schensul (2010) viewed ethnographic data analysis as a conceptual and cognitive process initiated by the thinking abilities of the researcher (p. 195). Moreover, the two previous assertions by Fetterman (2010) and LeCompte and Schensul (2010) concerning the thinking abilities of the fieldworker are significant because the researcher is the primary instrument for data collection and analysis for an ethnographic field study (Denzin & Lincoln, 2013; Fetterman, 2010; LeCompte & Schensul, 2010).

Jottings and Memoing

According to Fetterman (2010), jottings may consist of any type of researcher notes, shorthand, symbols, and mnemonic devices that assist the researcher in recalling or reflecting on data collection and data analysis. In addition, standard note taking aids such as #, ∑, ≠, and other signs contribute to facilitate the researcher's recall of observed data (p. 116). In addition to the jottings, Fetterman (2010) also found that the use of memos during data analysis help the researcher condense data, combine data, and keep participants aware of the progress of the

ethnographic field study (p. 119). Similarly, the use of jottings and analytic memos contribute to the discovery of emergent themes (Friese, 2012; LeCompte & Schensul, 2010; Miles, Huberman, & Saldana, 2014). According to LeCompte and Schensul (2010):

> As researchers pore over and over their data in the initial stages of cleanup and organization, and even as they begin a more formal coding process, they experience what ethnographers call the "emergence of themes". What this means is that as one becomes more and more familiar with the data, certain overall ideas, topics, or central tendencies become obvious. (p. 210)

I maintained a record of my iterative analytic thoughts and conceptual ideas concerning how my data collection and analysis should proceed by writing jottings onto or within the written text of my analyzed data, to include, interview transcripts, descriptions, and interpretations of the data. Similarly, I also utilized analytic memos as separate pages of written text to help inform my continuing development of the research questions, data collection methods, data analysis, and the linking together of coded data to discover patterns of behavior that would lead to the emergence of themes (Fetterman, 2010; Friese, 2012; LeCompte & Schensul, 2010; Miles, Huberman, & Saldana, 2014).

Management of Data

I initially used a folder filing system to managed my files and hand coded large sections of my data using an initial list of codes that was derived from the literature in chapter two, the research questions, and my professional experiences as a U.S. Army Officer, High School Science Teacher, and Assistant Principal. Secondly, I managed my data analysis and codebook

development process by creating files for my transcribed data and codes using Microsoft Word. I personally audio recorded and transcribed every interview verbatim with signed consent from the participants. Thirdly, the transcribed interviews, observation notes, analysis of material culture, field notes, and initial codes were later computer coded, managed, and analyzed with the assistance of Atlas.ti7. Atlas.ti7 is a type of Computer Assisted Qualitative Data Analysis Soft-Ware (CAQDAS). I also utilized Atlas.ti7 to assist in the process of transforming the Microsoft Word files into Primary Documents, the coding of data segments, the development of analytic memos to construct emergent themes, network views to visualize data patterns, hyper-links to connect data patterns, and the development of a code book (Fetterman, 2010; Friese, 2012; Miles, Huberman, & Saldana, 2014).

Codebook Development

Codes are labels in the form of words or a single phrase that give cultural meaning to the descriptive information compiled during a qualitative research study such as large segments of data, a single word, a complete sentence, a piece of audio recording, or visual data such as photographs (Fetterman, 2010; Friese, 2012; LeCompte & Schensul, 2010; Miles, Huberman, & Saldana, 2014).

The development of my codebook was computer assisted with Atlas.ti7 CAQDAS. By using Atlas.ti7, I was able to create more of a coding system that prints out a codebook with code names, code definitions, code comments, and an example of a coded data segment. An excerpt from my Atlas.ti7 assisted codebook is at Appendix C. I used an iterative two-stage coding process to construct my codebook (Friese, 2012; Miles, Huberman, & Saldana, 2014).

Stage 1 Coding

The first coding stage consisted of establishing and defining an initial list of codes that I developed from the review of literature in chapter two of this study, my research questions, and my professional experiences (Fetterman, 2010; Friese, 2012; LeCompte & Schensul, 2010; Miles, Huberman, & Saldana, 2014). The first coding stage code labels are defined using a single word or sentence that would provide a short descriptive meaning for that specific code. I continued to operationalize the code definitions and code names as I acquired more knowledge about the two cultural research study sites while conducting fieldwork. According to LeCompte and Schensul (2010) "operationalization means defining a concept concretely in such a way that it can be understood, observed, or categorized accurately by any researcher reviewing the same data or observing the same setting" (p. 214). I utilized a four-step process to operationalize my codes for data analysis and placement in my codebook:

1. Name of code
2. Abbreviation of code
3. Definition or description of code
4. An example of how I assigned the code to the transcribed text data (Fetterman, 2010; Friese, 2012; LeCompte & Schensul, 2010; Miles, Huberman, & Saldana, 2013).

During the second step of the first coding stage, I continued to operationalize and assign additional codes as they emerged during my analysis of the interviews, observations, material culture, and field notes. I checked with key informants and looked at my research questions to make sure that my code definitions reflected the cultural perspectives of the participants and

could inform my critical and conceptual thinking skills as I looked for answers to my research questions (Fetterman, 2010; Friese, 2012; LeCompte & Schensul, 2010; Miles, Huberman, & Saldana, 2014). The third step of my stage one coding, consisted of deleting codes that were obsolete, merging codes into other codes that were similar in meaning, and the operationalization of new codes (Fetterman, 2012; Friese, 2012; Miles, Huberman, & Saldana, 2014).

Stage 2 Coding

During the second stage of my coding strategy, I developed the stage-one codes into a code and sub-code structure to group codes into identifiable patterns of cultural behavior and observations. Additionally, I used visual methods such as hand drawn diagrams, analytic memos, and computer generated network views to display and connect the relationships of the coded patterns of data to locate emergent themes within and across the data collection methods and participants (Fetterman, 2010; Friese, 2012; Konopasek, 2008; LeCompte & Schensul, 2010; Miles, Huberman, & Saldana, 2014).

My codebook and Atlas.ti7 network views assisted my critical and conceptual thinking skills while I developed descriptions and interpretations of the coded data patterns and emerging themes. The hyperlinks and code relations editor connected coded data patterns across and within the Atlas ti7 primary document files allowing me to triangulate data codes to find convergent and divergent data patterns to help in the development of thick descriptions and interpretations of the emergent cultural themes (Fetterman, 2010; Friese, 2012; Konopasek, 2008; LeCompte & Schensul, 2010; Miles, Huberman, & Saldana, 2014).

Validation

I established authority for this study using the verification strategies of triangulation, thick description, prolonged engagement in the field, member checking, an audit trail, researcher reflexivity, and considerations for bias (Denzin & Lincoln, 2013; Fetterman, 2010; LeCompte & Schensul 2010, Miles, Huberman, & Saldana, 2014).

Triangulation

Triangulation is a method of verification where the usages of at least three methods of data collection (such as interview, observation, field notes, and the analysis of material culture) corroborate and/or confirm data findings. Similarly, triangulating at least three data sources such as three participants representing the cultural groups contributes additional trustworthiness to the triangulation process (Fetterman, 2010; LeCompte & Schensul, 2010; Miles, Huberman, & Saldana, 2014).

According to Fetterman (2010):

- Triangulation can work with any topic, in any setting, and on any level.
- Triangulation always improves the quality of data and the accuracy of ethnographic findings
- Triangulation can occur naturally in conversations as easily as it can occur in intensive investigative work
- Triangulation can produce conflicting results, requiring additional data and an effort to reconcile the information (p. 94).

I utilized the four data collection methods of interview, observations, field notes, and the analysis of material culture such as documents and decision-making tools. The information from the observations helped to confirm whether the actual behavior of the participants of each research study site was consistent with what they stated their cultural behavior would be during the interviews I conducted with them. Similarly, the documents I analyzed confirmed whether the participants produced or utilized decision-making tools as prescribed by the instruction in their procedural manuals and interviews. My triangulation process during this ethnographic field study was both iterative and recursive. The triangulation process revealed the decision making process, as I reflected on the data collected from the multiple methods and sources. Similarly, the triangulation process revealed decision-making procedures and practices of the three military participants from the Military study site represented three different U.S. Army occupational branches of Special Forces, Infantry, and a U.S. Army International Liaison from The United Kingdom (Friese, 2012; LeCompte & Schensul, 2010).

Thick Description

I initially began to develop thick descriptions of the ethnographic data by writing and/or audio recording the events, interviews, and behaviors as they actually occured (Geertz, 1973). Secondly, my descriptions represent data triangulated by my four data collection methods and three participants from each research study site to check for confirming and disconfirming data. Moreover, my personal biases were minimized or eliminated in the course of member checking with the participants to ensure that I have constructed interpretations that represent what the participants believe the events and behaviors mean to them (Fetterman, 2010, LeCompte & Schensul, 2010). Additional layers to the thickness of my descriptions came from transcribing

and coding the observed gestures, emotions, and verbatim personal responses of the actors involved. I contextualized all descriptions and interpretations to the bounded cultural groups so that connections of the descriptions are made to identifiable patterns and themes that exist within the cultural setting (Fetterman, 2010; Geertz, 1973, LeCompte & Schensul, 2013; Miles, Huberman, & Saldana, 2014).

Prolonged Engagement in the Field

Prolonged engagement in the field allowed me to build the type of trust and respect I needed between the participants and myself so that my presence among the participants would not cause them alarm or cause them to act in any deceptive ways such as altering their naturalistic behavior. Prolonged engagement in the field allowed me greater access to information such as material culture in the form of organizational manuals and specialized tools for decision-making such as completed protocols for collecting and analyzing data. I spent approximately 12 months from November 2011 to November 2012 collecting data in the School study site. I spent approximately 10 months from February 2012 to November 2012, collecting data in the Military study site. The Military study site was difficult to enter because of the several layers of military command and national security checks that I had to negotiate before conducting my field study. A retired U.S. Army General was instrumental as an intermediary in helping me to gain an audience with the actual chain of command gatekeepers of the research site. My background as a veteran army officer was helpful when we were negotiating my access to the Military study site. I respected and adhered to all limitations placed on my data collection to include access to classified materials and access to areas off-limits to my research (Fetterman, 2010; Geertz, 1973; LeCompte & Schensul, 2010; Miles, Huberman, & Saldana, 2014).

Member Checking

Member checking is a verification strategy that allows participants from the research study sites to confirm the credibility or authenticity of information provided to me from other participants of the research study site. Member checking verifies that I have provided an emic perspective or cultural meaning to the etic interpretations that I made from the ethnographic data I collected. Member checking helped reduce bias by reducing participant and researcher efforts to skew data (Fetterman, 2010; LeCompte & Schensul, 2010; Miles, Huberman, & Saldana, 2014).

Audit Trail

An audit trail is the validation of a study by someone external to the project who possesses the experience to determine the credibility of the study. A formal audit trail was established within this field study because this field study is a dissertation under the supervision of a dissertation chair (Gay, Mills, & Airasian, 2006; Miles, Huberman, & Saldana, 2014).

Role of the Researcher

Researcher reflexivity as a verification strategy provided me the opportunity to reflect on, describe and clarify any assumptions, beliefs, and experiences that qualify me to conduct this ethnographic field study. Moreover, being reflexive about who I am also exposed any bias that I brought into the study and helped me to reduce the likelihood of any bias affecting this study by sharing my beliefs and experiences with the participants and readers of this ethnographic field study (Fetterman, 2010; LeCompte & Schensul, 2010; Miles, Huberman, & Saldana, 2014).

I am an African American male doctoral candidate. I previously served 10 years active duty as an Infantry Officer in the U.S. Army from 1985-1995 and in the U.S. Army Reserves from 1995-2001. Since my service in the U.S. Army I was employed as a high school science teacher from 1997-2000, a high school assistant principal from 2000-2013, and I am currently employed as a Middle School Assistant Principal and serve as a member of the school district disciplinary hearing panel.

While in the U.S. Army, I served one year in a battalion operations center for the purposes of collecting and analyzing data for the Military Decision-making Process (MMDP), planning staff training, and coordinating U.S. Air Force support for battalion operations. The level of battalion operations varied from small unit training at Ft. Carson, Colorado and training to include allied joint exercises in a European theater of operations. For three years from 1989 until 1992, I served as an instructor of Infantry Officer training, and as an Infantry basic training Company Commander at Ft. Benning, Georgia. While serving in the battalion operations center and as a Company Commander, I utilized the MDMP to conduct data-driven decision-making. These two experiences also required me to observe, record, and describe the actions and behavior of others under my command on a continuous basis. I received an honorable discharged from the active U.S. Army in 1995 at the rank of Captain/O3 and later from the U.S. Army Reserves as a Major/O4 in 2001.

Being honest about who I am is also an ethical consideration because researcher reflexivity helps to establish trust between the researcher, the participants, and prospective readers of this ethnographic field study (Fetterman, 2010; LeCompte &Schensul, 2010).

Bias

Bias within a qualitative research study can be introduced from the selection of participants, the methods, and analysis of the data being collected (Miles, Huberman, & Saldana, 2014). Bias could have been introduced into this ethnographic field study directly by me because I was the primary research instrument for data collection, analysis, descriptions, and interpretations; therefore, it was essential for me to provide the previous paragraph on researcher reflexivity as one part of my overall strategy to reduce bias (Fetterman, 2010; LeCompte & Schensul, 2010; Miles, Huberman, & Saldana, 2014). I continued to address the issue of bias in this study by conducting group conferences with the participants to inform them of my personal biases, such as my background as an army officer and school administrator. It was important that I inform the participants of my former military rank of Major/O4 and current school administrative position so that each group would be familiar with my own professional frames of reference and acknowledge to them my cultural familiarity of their own professional environments. This acknowledgement of my previous experiences during the group conference was to inform the participants of my personal history and experience. I did so, so that subsequently the participants would not introduce bias into my data collection by thinking that I am completely naive to their culture, and can be easily misled or distracted (Miles, Huberman, & Saldana, 2014). Additionally, I grounded my findings with verbatim quotes from the participant interviews and used member checks to confirm my interpretations. My prolonged engagements with the participants in the field helped me to not make hasty judgments about the participants or bias my coding and subsequent development of themes (Fetterman, 2010; LeCompte & Schensul, 2010; Miles, Huberman, & Saldana, 2014).

Ethical Considerations

This ethnographic field study, the protocols associated with it, and the informed consent forms for participation received approval from Auburn University and its Institutional Review Board (IRB) on November 2, 2011; see Appendix F. I treated all participants with respect to all ethical protocols of Auburn University and its Institutional Review Board. An informed consent document was signed by all participants informing them of the right to withdraw from participation without consequence; was explained to all the participants; see Appendix E, (Fetterman, 2010; LeCompte & Schensul, 2010).

Ethical considerations specific to qualitative research such as the evolving and developing nature of ethnographic fieldwork caused me to add or adjust ethical protocols as unintended situations occurred by conferring with the dissertation chair. I did not engage in any type of deception to gain access to participants, the research sites or data (Fetterman, 2010; Miles, Huberman, & Saldana, 2014).

Pseudonyms

The use of pseudonyms help to minimize the disclosure of the participant's identity or any type of harm coming to the participants, such as being criticized for participating in this field study. Moreover, the use of pseudonyms helped to reduce participant bias, because participants were more apt to speak or behave in a more naturalistic way when their identity is disguised (Fetterman, 2010; LeCompte & Schensul, 2010).

Reciprocity

Reciprocity may be any ethical exchange of ideas, information, and services between participants and the researcher in a field study. The amount of time that participants contribute to help a researcher can have a value placed on it, and the exchange of information, services, or payment to participants may be appropriate given the circumstances of the research (Fetterman, 2010; LeCompte & Schensul, 2010).

The only reciprocal agreements that occurred between the participants and the researcher was the mutual exchange of professional advice on issues related to data driven decision-making. Later, during the conduct of my field study, I did verbally agree to assist the members of the School study site with improvements to their data rooms, and I agreed to help members of the Military study site with the preparation of their resumes if they decide to leave the army and pursue a career as a civilian.

Summary

This chapter presented an overview of the methods I used to conduct this ethnographic field study. I described the research methodology, research design, site selection, participants, data collection methods, methods of analysis and coding procedures to analyze the data, strategies to validate the study, and ethical consideration. The results of the findings for this ethnographic research study, at the School and Military study sites, are presented next in chapter IV.

CHAPTER IV. FINDINGS

In Section 1, I present the research questions and findings in the form of four themes for the U.S. School study site. In Section 2, I present the research questions and findings in the form of themes for the U.S. Army study site. Finally, in Section 3, I make comparisons of the findings in Sections 1 and 2.

Section 1. Research Questions and Themes Found at the School Study Site

Research Question 1A: What Kinds of Decision-Making Tools Exist at the School Study Site to Facilitate Data-Driven Decision-Making?

Theme 1: Decision-making models do not exist at the School study site to frame an individual or team decision-making process.

All three principals stated that they did not possess or utilize a decision-making model. Mr. Robinson said, "Well, currently we do not have a decision-making model, we just try to do what is best for the kids."

Mr. Jones said, "There is no formal model that I use (um), nothing that we have been trained, that is consistent throughout the district. (Um), so any decision-making model is just basically my preference as to how I choose to make decisions". Mrs. Caison said,

> I would say there is not a formal decision-making model. I try very hard to go to our School Improvement Leadership Team. It is something you know that is extremely

> important to the whole school. But most of, the majority of the stuff that happens, you just do it on the fly. But if it has to do with the whole school, I try very hard to incorporate the leadership team. There is not a fast and furious way we do it you know we don't have one.

Although all three principals had similar responses to not having a common decision-making model, Mr. Robinson wanted to clarify his statement by saying, "Well, we do look at the data to make data-driven decisions, but as far as an actual model, we look at what is in the best interest of the kids."

Mrs. Caison asked me if I could tell her of my fieldwork at the Military study site concerning the Military Decision Making Model. I described and interpreted the Military Decision Making Model and Process to Ms. Caison the best I could using my observations and field notes from my fieldwork conducted at the Military study site. Mrs. Caison responded by saying:

> I was just thinking in retrospect that at the school level, yes we need to have a decision-making model and a process by which we make decisions, but that it also needs to happen at the district level. Um, and it needs to be the same model, and we need to do it the same way, and once we develop or adapt the model, it needs to be taught to the principals and even, I don't know how, but also to the teachers. But, I know that it definitely needs to be taught to the principals, and that we hear the same information at the same time, the same way. It doesn't need to be just given to us in writing. It needs to be explained and it needs to be taken very seriously. We had Staff Development over the summer in our Principal Leadership Institute, and I think this is something that could be

quite beneficial in our Principal Leadership Institute. Um, this year was about crucial and critical conversations, and I see this as being a crucial and critical conversation. Um, and I think it would alleviate and eliminate a lot of problems if we all follow the same procedures.

Theme 2: Data rooms or Data walls are not present in all the participating schools at the school study site.

When I asked the principals if they had a data room, Mr. Robinson and Mrs. Caison stated that they had a data room or were in the process of developing a data room. Mr. Jones had not established a data room. Each Principal had knowledge of what a data room was, but there were some differences as to how the data room was to function for collaborative data analysis. Mr. Robinson was very proud of the progress he was making on developing his data room and responded to my interview question concerning the existence of a data room twice: "We do have a data room; we do have a data room." When I asked if there were any set protocols or standard operating procedure for the data room Mr. Robinson replied, "Currently it is basically used to store and post information. But there is no set protocol or procedure to post data weekly or for teachers to come in and look at data weekly. But we are moving in that direction." The data room developed by Mr. Robinson was the most complete data room of the three schools that I observed.

The data room designed by Mr. Robinson is inside a classroom not currently used for regular instruction. Upon entering Mr. Robinson's data room, I immediately noticed four tables with chairs in the middle of the room. The room is rectangular with four walls. The rear wall, left wall, and right side walls are color-coded and contain different types of school data. There is

only one door to the data room and upon entering the data room; I stood approximately four feet from the front wall of the room, my right shoulder is towards the front wall and my left shoulder towards the rear of the room. As I turned left to face the rear of the room, I could see four tables set in the configuration of a square so that people sitting at them will have eye-to-eye contact. As I looked to my left while facing the rear of the data room, I observed a wall that contains school data pertaining to a recently awarded grant. Below the grant data and pushed against the same wall are folders on a table containing information about the School Improvement Grant. As I continued my observations, I looked towards the rear wall of the room past the tables, and could see school demographic data and summative student achievement data. Mr. Robinson informed me that certain pieces of the summative student achievement data came from the District Student Information System (SIS) and the State Longitudinal Data System (SLDS). I saw a desk in the left corner for the staff member designated to maintain the data room; however, Mr. Robinson informed me that the desk is available for any faculty member or purpose pertaining to the function of the data room. In addition, Mr. Robinson told me that the desk is to have both a telephone and computer installed later. While still facing the rear of the room and then turning to my right, I saw a green color-coded wall containing school and student achievement data according to grade levels. The front wall has a 3x9 foot white board mounted to it for various uses such as note taking and comments. There was also an interactive video screen mounted at the center of the white board for multi-media presentations, conferences, and instruction.

Mrs. Caison just recently relocated to another school building and was in the initial stages of converting what seemed to be a large office or conference room into a data room. During my observation of her data room, she said:

> We have a data room, but it is not utilized the way I want it to be utilized. I think the biggest reason is because we just moved into here in July, and we have rooms that we still have not yet unpacked. We have kind of just moved in. We are moving in just before school is getting started. So, we kind of hit the ground running, we are now just trying to stay afloat, so it was like data was the last thing on my mind. At that point, you know, we had to get chairs in the room and tables and stuff, um, get books moved, um. We have a person who is in charge of our data. She maintains our test data and we have different notebooks so when we meet and we need data, she pulls out one of those notebooks. Now, this coming year I said, and she is working on it this summer. I said, I want all of our test data on the wall.

Mr. Jones had not yet identified a particular room to develop into a data room, but was currently using the room of his academic coach to display data Mr. Jones said:

> We do not here have an official Data Room. Although, my Academic Coach meets weekly with each grade level, and she has um, a de facto Data Room in the sense that we focus on "at risk" kids and identify them. So, if you went into a room you saw index cards all over the room with student information color-coded based on an (inaudible) system, but you could go in and identify and see where in the areas that we needed to improve and what kids we needed to talk to. Um, we did ask each teacher to have a data notebook um, where they had student information.

Mr. Jones further stated that he knew a data room was "needed or highly recommended" to have in the school.

> Again, being my first year as a principal and during my years as an Assistant Principal, we were told we needed a data room and that was a big thing, but I never really understood why. One, there was not set criteria for how the data room was to look and then two, once you get that information, the key question is how do you use it? I think the problem is we put up a lot of information, and in the scheme of things, it is not all useful. I think that sometimes we are looking at too much information. And so, what we are doing here is trying to narrow our focus instead of shooting our guns at so many different things. Narrow our focus and uh, really identify what we really need the key or most important areas. I think we will make a bigger impact in those areas and help the school in the long run, if that does make sense.

In addition, Mr. Jones stated that until he develops a regular data room that he and his staff would be using their data books and school Student Information System (SIS). Mr. Jones also said:

> From test scores, reading assessments and things like that, our new Student Information System does make it easier now. We are really discussing if they even need a data notebook because the information is on the Internal Student Information System, but if they do not have a data notebook, then we have to find a way to make sure they are looking at the data. That is the only thing. So, we have to decide uh, you know how we are going to approach that.

Research Question 2A: What Roles and Relationships do Leaders and Staff Members take for Data-Driven Decision-Making at the School Study Site?

Theme 3: The participating principals desire to cultivate trusting relationships with their faculty and staff to improve faculty and staff buy-in of the decisions made by the principals.

The primary roles of the participating school's leadership and staff consists of a Principal, Assistant Principal, School Counselor, an Academic Coach, Department Chair, and classroom teacher. Each school has one principal. However, the number of staff members varies depending on the number of students enrolled and the grade level of instruction. Staffing varies depending upon whether the school is an elementary school, middle school or high school. Although each school has clear designations of leadership and staff roles, each principal expressed a desire to cultivate more trusting staff relationships to generate buy-in to decisions made by the principals.

Mr. Robinson spoke about having people you can trust and Mr. Jones spoke about having staff that trust you or creating "buy in" with the faculty and staff.

The relationships of the leaders and staff of the different schools varied depending on the leadership style of the principal, size of the school, the number of staff, staff experience, and whether the school was elementary or high school.

Mr. Jones stated:

> Here we um, the thing I have tried to do is to gather as much information and data as I can before making decisions. Um this being, I just finished my first year here. Um, teachers were not very involved in the decision-making process at all, and so this year

> much of what we did was to get a very active leadership team um, that met very frequently. We did it once a month routinely, um to look over where the school was going. We did a lot this year on developing our mission on what we believed. So what we were doing was a lot of groundwork, Um, and you know and guiding things to what we want the school to be today. Now we will begin looking at identifying our strengths and our weaknesses and areas we need to improve on. Basically, how do we get to where we want to be?

There was significant concern among the principals with achieving trust and "buy in" from the teachers. However, "buy in" seemed to be difficult to achieve because of issues concerning transparency and trust. The lack of transparency could be a result of having no decision-making model or process that would establish and cultivate distributed leadership and shared decision-making. When school leaders exclude teachers from the decision-making process teachers may ceremoniously agree with the principal, yet not really trust or have confidence in the decision of the principal. In addition, Mr. Robinson stated that trust among his leadership and staff was very important. I asked him if he could explain what he knows concerning trust and the decision-making of government and military leaders; he replied:

> When as the President or any General makes a decision they make those decisions not totally by themselves. They have advisors, so they have advisors and individuals that they listen to that have a broad knowledge base, so you have to have, you have to be surrounded by good people, and you have to be surrounded by people you can trust. You have to be surrounded by people who have the best interest of the students at hand and not necessarily their best interest, but what is best for the kids.

Another possible lack of trust and "buy in" could be the result of novice faculty not being able to understand or process certain decisions made by the school principal. Even if new educators are included in the decision-making process they will not possess the skills or experience to effectively participate in shared decision-making. When I asked Mrs. Caison if she thought an organizational decision-making model and process would help with establishing trust through collaboration and shared decision-making she responded:

> I think in my school it would be extremely important because as the administrator, I am the oldest person here. All my teachers are fairly young and new. Most of them started with me so they are not familiar with making decisions on their own so, I think of having a model this is how we need to do it. I think they would be more forthcoming because they tend to come to me for answers, and I would rather them dig into themselves for their own answers, and because they are very smart and intelligent young people, but we have a hard time coming together you know and um, we only have ten, so it's very hard. We have four major departments and an elective, and our Career Technical Agricultural Education (CTAE) people, well person, and my Spanish Teacher, and it is very difficult for them to understand that I need them to make some of these decisions for me. You know it is not that I do not want you to, I really want you to, you know, but they, and I really think it would help us in that they would understand how to have a procedure. You know. Because when they do, ok I say you guys handle this, they come back and they want to know; "did I do it right?" You know, and I think if we had a formal process, I think that would be most helpful, especially when it comes to big things like student achievement.

Explaining the purpose of this project to the participants proved to be very fruitful because it allowed them to make comments concerning my research project and the other cultural learning organization I am comparing to their cultural study site. After hearing me explain how the military uses an organizational decision-making model, Mr. Jones stated:

> Yeah! Cause, the thing is um, to have a formal decision-making model well what I would think of it as a template on how to approach good decision-making usually brings more consistency to the decision-making process and also more than likely, without knowing exactly what the military does, it seems as though they get a lot of input. What we call "buy in." Creating "buy-in" with the teachers and it's a process that yeah, I think if people know what the decision-making process is, uh they will feel more comfortable that the best decisions are being made with the best available information. Uh, you know we try to establish that, but there is not a set of, -- I don't have any set guidelines, so yeah, I think it would be very useful.

Mr. Jones used the term "template" to help define what he understands the military models to be. Although the military decision-making models are more than just templates, the word template would provide educators with a good initial definition and visualization to help educators better comprehend and understand the military decision-making models.

Research Question 3A - What Cultural Behaviors can be Observed During Decision-Making at the School Study Site?

Theme 4: The principals at the School study site do not use any decision-making tools such as decision-making protocols or decision-making models that are in common to the participating schools to prepare for or conduct their decision-making process.

When I asked if there were any set protocols or standard operating procedure for the data room Mr. Robinson replied, "Currently it is basically used to store and post information, but there is no set protocol or procedure to post data weekly or for teachers to come in and look at data weekly, but we are moving in that direction." The data room developed by Mr. Robinson was the most complete data room of the three schools that I observed.

I called Mr. Robinson's school to arrange an interview. His secretary informed me that he was in but that he was about to interview a potential teacher for hire. I told her that he was expecting my call and that I was actually returning a call from him. She placed me on hold for a brief moment before forwarding my call to Mr. Robinson and he said, "hey come on over, the personnel interview is not until another two hours. If we can interview before that time, I am good."

As I entered the school, it seemed quite busy for the summer time. I saw three parents sitting in chairs and one student silently crying and wiping tears. I asked Mr. Robinson, "Why is she upset?" Mr. Robinson stated that it had to do with a change of the student's school of assignment. He further stated that the student was rather fond of his school, however, because she was now living outside of his assignment zone that the parent would have to provide transportation but was unable to do so.

As I walked into Mr. Robinson's office, he offered me a seat and explained that he only had one and a half hour to interview, because he wanted to meet with members from his school improvement team before conducting a collaborative interview with a potential new hire. I asked him if I could sit in on the meeting. He stated that I could sit on the meeting, but he was sure I would understand why I could not sit in on the interview. I shook my head in agreement and we began the interview.

Following the interview, he escorted me to the data room. As we walked to the data room, Mr. Robinson stated that he and his staff were now conducting interviews in the data room because he felt the more they used it the more comfortable his teachers and staff would feel in it. I nodded in agreement. I watched as the following people entered the room: his own school improvement specialist, one of his two assistant principals, a Georgia Department of Education school improvement specialist, and the chairperson representing the department where the new hire would teach. Collectively they discussed what qualities each wanted to see in the new hire. Specifically; the State representative reminded the group of the extended school day and how that could become a delicate issue to explain, and the principal reminded the group that the new hire must be highly adaptable to change and really believe that all kids can learn. The secretary peered into the door and told the group that the new hire called and stated that she was running thirty minutes late.

Mr. Robinson excused his staff and proceeded to leave me in the data room. However, before leaving the data room, he asked me if I could share with him what I had learned from my literature review and field notes on the U.S. Army decision-making tools and decision-making process to improve his data room and decision-making. I told him that I would gladly provide

him with any information I have learned from my review of the literature, but would rather provide him with some recommendations and a copy of my dissertation once I have completed all of my fieldwork and the remainder of my dissertation. We shook hands and he left me to write down my field notes.

Mr. Robinson's behavior to use the data room for the interview displayed the kind of behavior he desired from his staff. Additionally, it was a good decision on his part to allow the interviewing teacher to see the school data room which provides evidence of his school's attempt to become more transparent and data-driven in their decision-making process.

Section II. Research Questions and Themes found at the Military Study Site

Research Question 1B -What kinds of Decision-Making Tools Exist at the Military Study Site to Facilitate Data-Driven Decision-Making?

Theme 1: All three participating U.S. Army units utilize the Military Decision Making Model for team decision-making.

A review of material culture in the form of a U.S. Army training manual prior to observing the participants study provided me early evidence that the U.S. Army Military Decision Making Model (MDMM) facilitates distributed leadership, collaborative data analysis, shared decision-making, and decision-making that is data driven. The U.S. Army utilizes the MDMM to frame a staff or team collaborative decision-making process that results in a decision or solution to a problem.

When the U.S. Army conducts its decision-making using the MDMM, the session is termed the Military Decision Making Process (MDMP); however, I found that the MDMM and

MDMP utilized for group decision-making are extensions of the U.S. Army decision-making model for individual decision-making termed the Troop Leading Procedures (TLP). One purpose of the TLP is to provide all individuals participating in the MDMP a common framework for individual decision-making that helps to align, calibrate, and provide a frame of reference for systemic thinking and team learning during the conduct of the MDMP. The U.S. Army decision-making model that I describe and interpret in this field study is the Military Decision Making Model that frames the Military Decision Making Process.

I provide a brief description and interpretation of the eight steps and purpose of the TLP during this field study. However, a recommendation to conduct a future field study to research the TLP is in chapter five of this study. Whenever possible, the U.S. Army conducts its MDMP inside a Tactical Operation Center (TOC). The TOC is a decision-making tool; similar to a school data room (U.S. Department of the Army, Tactics, Techniques, and Procedures (ATTP) No. 5-0.1., 2011).

All three participants at the U.S. Army research study site stated that the U.S. Army has a common decision-making model that frames team planning and decision-making, and that the U.S. Army has a decision-making model that frames individual planning and decision-making. During my interview with Captain Orlando concerning the military decision making models Captain Orlando said:

> The biggest model that we use is the Military Decision-Making Process. It is done at Battalion level or higher level, um there is also a Decision-Making process that you have to use at the company level called the Troop Leading Procedures is what we label them. So, one is the Military Decision Making Model. In order to conduct that you normally

have a bigger problem set that you are trying to solve and you need a lot of man power, but if you are trying to solve a problem on your own we refer to the troop leading procedures, which is really the foundation of all of our problem solving, the troop leading procedures.

During a separate interview with Major Rhodes, Major Rhodes made the following comments to support the claims of Captain Orlando:

> Well, there are two models we teach here for planning and decision-making. The first one is the Troup Leading Procedure, known as the TLP, which is at the company level and below. So, for groups of 150 people and less, we then teach another planning process for battalion level and above so for groups of 150 people plus really and uh that's called the Military Decision Making Process, the MDMP and the British Army equivalent to the TLP is known as the Seven Questions.

After Major Rhodes mentioned that the British Army had an equivalent decision-making model to the TLP, I asked him if that was the only model used by the British Army. He responded by saying:

> The Seven Questions is used up to Battalion level, so we use another process one level higher. We then teach or use something called the British Estimate Process, which is probably comparable with MDMP and that really is used at Brigade level and above.

After receiving the reply from Major Rhodes concerning the seven questions, it was necessary that I ask him if there were other British decision making models, because this information may prove fruitful for future research concerning the comparison of U.S. Army

decision-making models and U.S. educational decision-making models to the decision-making models of a foreign army.

I asked Captain Orlando “Is every soldier in the U.S. Army aware of any one of the two models.” His immediate response was, “Yes, every, every problem that is solved in the Army uses some of either the Troop Leading Procedures, or the Military Decision Making Process."

In support of the claims made by Captain Orlando concerning the wide-spread organizational use of U.S. Army decision making models, I also found that as a cultural document U.S. Army Training Manual ATTP 5-01 (2011), stated:

> The troop leading procedures are a dynamic process used by small-unit leaders to analyze a mission, develop a plan, and prepare for an operation. These procedures enable leaders to maximize available planning time while developing effective plans and preparing their units for an operation. TLP consist of eight steps. The sequences of the steps of TLP are not rigid**.** Leaders modify the sequence to meet the mission, situation, and available time. Some steps are done concurrently while others may go on continuously throughout the operation” (p. 5-1).

In addition, the U.S. Army Training Manual ATTP 5-01 (2011), listed the following eight steps for conducting the Troop Leading Procedures:

- Step 1 - Receive the mission.
- Step 2 - Issue a warning order.
- Step 3 - Make a tentative plan.

- Step 4 - Initiate movement.
- Step 5 - Conduct reconnaissance.
- Step 6 - Complete the plan.
- Step 7 - Issue the order.
- Step 8 - Supervise and refine.

The TLP provides a simple, yet effective model for individual and small group decision-making. As a decision-making tool, it helps by providing the individual leader with a framework that facilitates speed and thoroughness when attempting to solve a difficult problem as an individual or in coordination with a very small group of people (U.S. Army Training Manual ATTP 5-01., 2011 (p. 5-1).

Captain Orlando stressed the importance and effectiveness of the TLP from his own personal experiences during combat in the Middle East:

> I think that is why we are so successful in the Army, cause talking specifically to a commander having just recently commanded in Iraq, um, having the foundations of the Troop Leading Procedures allow you to solve problems very quickly and you are conducting those steps so fast cause you, they are engrained in every decision that you make. You are able to frame a problem very quickly, understand the problem and solve it while conducting the Troop Leading Procedures really, simultaneously.

According to U.S. Army manual ATTP 5-01 (2011), the Troop Leading Procedures extend into the Military Decision Making Model and help to prepare leaders and staff for participation in the Military Decision Making Process:

> The troop leading procedures extend the Military Decision Making Process (MDMP) to the small-unit level. The MDMP and Troop Leading Procedures (TLP) are similar but not identical. Commanders with a coordinating staff use the MDMP as their primary planning process. Company-level and smaller units lack formal staffs and use TLP to plan and prepare for operations. This places the responsibility for planning primarily on the commander or small unit leader (p. 5-1).

Although the U.S. Army considers the TLP to be a very effective decision-making model for individuals and small groups, the U.S. Army prefers to use the MDMM and MDMP for larger staffs to solve problems that are more complex.

While interviewing Major Poseidon and asking him if the U.S. Army has a common organizational decision-making model, he reinforced the claims made by Major Rhodes and Captain Orlando. Major Poseidon also credited the MDMP with helping him to make decisions and solve problems in his personal life by saying:

> Well, the army standard is the Military Decision-making process which I've used numerous times for planning operations, in training and in actual uh, personally. It's just the way my mind works now, with a lot of analysis, before I make a personal decision using my own modified version of the Military Decision Making Model.

The fact that Major Poseidon continued to elaborate on the Military Decision Making Process, as did Major Rhodes and Captain Orlando, triangulates the existence and cultural use of the two decision-making models. Major Poseidon continued to add:

> The Military Decision-Making Model is actually used throughout every branch of the service. Militarily, the Army and the Marine Corps are much better at it in the junior grades, because we use it so much, and we teach it to our young captains uh, so that they are able to take command of companies and then they are assigned to staff positions. They are not only able to do it at the company level, but also as a staff officer at brigade and battalion levels.

At first glance, the MDMM appears to be a step-by-step process that is labor intensive and consumes a great deal of time. However, Captain Orlando explained to me that when you are conducting the MDMP and your time is limited, you modify the process with your critical thinking skills. Captain Orlando said,

> When you are limited on time--and the problem with the Military Decision-Making Process is that it is very linear and step-to-step. You have to complete each step before you go on and frankly sometimes you don't have the time to do that, so you can interject critical thinking.

Although the MDMP is primarily a step to step method, the Army acknowledges that in the interest of time a commander need only consider each step and use what current data he has or briefly confer with the staff members to obtain or verify the data he needs. According to Captain Orlando:

> This type of critical thinking is what we call "Design," and is uh where you sort of still conduct the steps of the MDMM simultaneously, but you may pick some individual staff member and say look at this from a different vantage point, and again, that type of critical thinking is what we call "Design."

In addition to the statements from Captain Orlando concerning the need to apply critical thinking skills to the MDMP, the U.S. Army training manual ATTP 5-01 (2011), as a cultural document, described the MDMP as:

> An iterative planning methodology that integrates the activities of the commander, staff, subordinate headquarters, and other partners to understand the situation and mission; develop and compare courses of action; decide on a course of action that best accomplishes the mission; and produce an operation plan or order for execution (FM 5-0). The Military Decision Making Process (MDMP) helps leaders apply thoroughness, clarity, sound judgment, logic, and professional knowledge to understand situations, develop options to solve problems, and reach decisions. This process helps commanders, staffs, and others think critically and creatively while planning (p. 4-1).

The U.S. Army training manual ATTP 5-01 (2011) as a cultural document continued to state that the MDMM consists of the following seven steps:

1. Receipt of Mission

2. Mission Analysis (Most Critical Step)

3. Course of Action Development

4. Course of Action Analysis (War Gaming)

5. Course of Action Comparison

6. Course of Action Approval

7. Orders Production

I asked Major Rhodes "Is the Military Decision Making Process actually conducted in the linear fashion as it is framed in the Military Decision Making Model?" Major Rhodes responded by saying:

> It is a sequential process in the way it is written down. (Um), but that is just to make it understandable, but it is not designed to be sequential. It was designed to all work concurrently in order that people can feed analysis they are doing at any point into the system and you can see—ah, that during the mission analysis phase we look at the mission intent and concept one level up and two levels up. Now, very importantly on there, there are tasks that are specified tasks, implied tasks and constraints. Now, any of those things can change during the planning process as can the enemy situation."

In addition to the seven steps found in the military training manual and statement from Major Rhodes concerning the structure and purpose of the MDMM and MDMP, Major Poseidon concisely explained the application of all seven steps by saying:

> Well, there are seven steps to the process. I mean the first one is, Receive the Mission, the second one is Mission Analysis, and the third step is Course of Action Development. The fourth step is Course of Analysis or War Gaming. The fifth step is Course of Action

Comparison. The sixth step is Course of Action Approval. The seventh step is Orders Production. In the first step receipt of mission uh, you're gonna receive your mission somehow either verbally or in a written order, or perhaps a warning order, or a complete operations order, and as soon as you have that you start planning your mission. You come up with certain things like time lines; you put out information to the lowest level possible with as much information as you can initially, and then start putting together how you want to attack the problem.

The second one you go into the Mission Analysis from what you gathered from what you know. Now, you break it into parts so you can dissect it. Uh, most missions are very complex and so to make a complex mission simpler, you just break it into smaller parts, so that's essentially what you do in Mission Analysis. Uh, the Course of Action Development is where you take the information from what you have from the different elements if you have staff sections at a higher level, or if it's just you as an individual doing it, you look at things like enemy or environment. All of those different factors can come in to play and you consider them and you start developing a course of action that is best.

Now you can develop more than one course of action and that is when you start going into Course of Action Analysis and War Game. This is all where you compare the different courses of action that you and your staff developed. Especially when you start talking factors concerning the enemy and if he has a most probable course of action, of his own that, you perhaps came up with or someone else did. You attack that one, but then you might also have a most dangerous course of action so you want to address that.

Now some courses of action you could come up with could address his most probable and dangerous course of action, but it is possible that they contrast each other so much that your own analysis requires you to come up with two different courses of action. Therefore, you go into the analysis of them and then after that analysis you go into the comparison to see which plan or which course of action is best for the given scenario based on all the factors developed by you and your staff.

Finally, you go into the Approval Process, which is where you go try to use an objective point of view to analyze and deduct which course of action is best suited for the mission. It can be somewhat subjective based on the personality of the individual, and there are some of the factors that are the intangible factors such as, the skill level of those you are dealing with, the size of the element you are working with, um, how long have they been in an area. For example, if you are in the desert facing an enemy and it is 140 degrees outside and your unit is coming from Alaska and you have only been there for about a month or two weeks, that is a huge contrast.

Eventually, you will approve it, and as soon as you have the approval of which plan you will go with. I will say most plans that I have seen where different courses of actions were developed and the course of action that gets approval is usually a hybrid of one or two plans or maybe three different courses of action. It is usually not pure of one of the initial courses of action developed and that is where having those kinds of people that are very good at understanding the MDMP comes in to make that hybrid and then finally, the orders production.

With the Orders Production, a matter of making sure the information gets out to who it needs to get to as soon as possible in a clear and succinct way. Usually, we use the Five-paragraph operations order. The Five Paragraphs are an exact format for placing everything for the operation order. The format goes: Paragraph 1: Situation, Paragraph 2: Mission Analysis, Paragraph 3: Execution, Paragraph 4: Service Support and Paragraph 5: Command and Signal. They are working to change the doctrine from Command and Signal to Mission Command only, but that has not happened yet.

Theme 2: A Tactical Operation Center to facilitate decision-making exists in all three participating U.S. Army units.

During a member check with Captain Orlando to verify an observation I made concerning the structure and contents of a military Tactical Operations Center (TOC), Captain Orlando made it clear to me that the function of a TOC was more important than its form or structure. He continued to be specific by saying that the structure and contents of a TOC may differ from unit to unit; however, the function of a TOC is quite similar from unit to unit, especially those of a similar size with similar purposes or missions. He also stated that each TOC should have a Standard Operating Procedure (SOP), which prescribes how a particular TOC functions such as the responsibilities of the individuals assigned to work in the TOC and the current purpose of the TOC.

In addition, to data for analysis on display along the walls of the TOC, I also observed several diagrams outlining the steps to conduct the Military Decision Making Process (MDMP), Troop Leading Procedures (TLP), Intelligence Preparation of the Battlefield (IPB), and the Staff Estimates on display throughout the TOC. The IPB and Staff Estimate diagrams looked like

blank templates that would assist the staff member in the collection and analysis of data for collaboration during the MDMP. I thought this was a good idea because it did not require the military staff members to rely on memory and more importantly, it could help new or novice members become more thorough in their data collection, analysis, and collaboration.

Research Question 2B - What Roles and Relationships do Leaders and Staff Members take for Data-Driven Decision-Making at the Military Study Site?

Theme 3: The U.S Army Military Decision Making Model and Process cultivates vertical and horizontal interdependent relationships between the participating U.S. Army leaders and staff during the Military Decision Making Process.

A significant amount of coordination takes place between the various staff members as they organize themselves for the MDMP. A great deal of the data for the MDMP is initially collected and analyzed by individual staff members or staff sections, however, the staff members are well aware that during the iterative process of the MDMP it is the interdependent relationship that exist between their roles that form the basis of their very collegial information sharing and collaborative relationships.

During an interview with Captain Orlando concerning the staff roles and relationships during the MDMP, Captain Orlando said:

> At the battalion level, what you have is a Battalion Commander who is overall responsible for the Military Decision-Making Process; now that being said, he has a very small role in the actual work that is done in that process. He's there to make decisions, and make decisions only. Now what he has that everybody working for him on his staff

> doesn’t have, is that he has that experience. So he sees not necessarily the same problem, but a similar problem that he can always revert to and use his experience and knowledge that he has to uh, help make decisions during that, that Military Decision-Making Process. Now, underneath him he is going to have an Operations Officer (S-3) and an Executive Office (XO). The Operations Officer focuses on the operations side of the house (“This is how we are going to accomplish the mission with the forces we have"). The Executive Officer kind of runs the Military Decision-Making Process for the Commander, but he is also in charge of the S-1, who is in charge of personnel, and the S2 who is in charge of intelligence and the S-4 who is in charge of your logistics and money.

I asked Captain Orlando to clarify what he meant by the Executive Officer "running" the MDMP when the battalion commander, similar to a school principal, is in charge of all operations and will be held accountable for the final outcome of any decision that is made. Captain Orlando replied by saying:

> The Executive Officer and the S-3 do most of the work. It’s the staff’s job and what they have are called staff estimates during the Military Decision Making Process. What a staff estimate is used for is to say this is what I have, this is what I need to know, and then the Battalion Commander looks at that information and makes a decision based off of it. He can also request resources. If the Battalion Commander was actually the one standing up and doing the work, it would be uh -- futile, and nothing would get done. Because, he would be completely consumed in the process, and he needs to be the one on the outside looking at the entire problem so that he can make the right decisions and ultimately solve the problem.

When I asked Major Rhodes to describe the relationship of the commander to the staff and the decision-making process, Major Rhodes responded by saying:

> The leader is responsible for making the final decision on what outcome is required. He would expect his team to assist him with that, but he is responsible for the outcome. How that outcome is delivered, is a group effort. Again, the leader makes a final decision on what the best course of action is, but if he has any sense at all, he will use all the brains and experience around him.

According to Major Poseidon, each staff member also has a unique and interdependent relationship with the commander in addition to the interdependent relationship with the other staff members, and in regards to the Personnel officer or (S-1), Major Poseidon said, "An S-1 is personnel and deals with personnel issues. They do have input into the process because they keep track of the number of personnel the unit has and they have other things." Captain Orlando described the duties of the Personnel Officer or (S-1) as:

> (Um), the S-1 is in charge of personnel. Not only do they manage actual combat power…and human resources, in order to translate, it would be human resources. They are managing incoming and outgoing personnel. If we had to fight today, this is how many people we have, and they are managing everyone, even on vacation. Everything is like that because in the Army, people are your resource; you really have to understand them.

When I asked Major Poseidon to describe the duties of the Intelligence Officer (S-2) he said:

> The S-2 is intelligence, so they really do a lot of the analysis for the enemy. That is one of their primary roles. It's key because intelligence drives operations, so you have to include them, and their analysis is very important on how they see the enemy. They also do a lot of the work for environmental factors as well as putting in the information concerning the enemy.

When I asked Captain Orlando in a separate interview to describe the duties of the S-2 Captain Orlando responded by saying:

> The S-2 is intelligence, he looks at the enemy he looks at what the enemy has, and he focuses on the intelligence. Now the Executive Officer I mentioned earlier is in charge of the S-2, but the S-2 also works very close with the Operations Officer, um, because you need to know the enemy very well if you as an Operations Officer want to be successful in planning the operation.

I also asked Captain Orlando if he could further elaborate on the duties of the intelligence officer when it comes to providing information concerning the culture or demographics of certain groups of people. This question is critical because the cultural and demographic landscapes of communities that make up the attendance zones of schools today are ever changing. Educators need information to help them understand these changes to inform their decision-making as these changes occur, or when educators move from school to school. Captain Orlando replied by saying:

> Yes, we call it ASCOPE. He (Intelligence Officer/S-2) also does terrain if you do not have an engineer. Again, it varies based on what level you're at. If you have an engineer,

then he will focus on terrain and if not, then the S-2 will focus on terrain, but you bring up a good point. Uh, lessons learned specifically from the war on terror is that we have to understand the people and the culture better, and that is what the S-2 does and we use the acronym ASCOPE, Area, Structures, Capabilities, Organizations, People, and Events.

During an interview, I asked Major Poseidon to describe the Operations Officer (S-3) he said:

> The S-3 will essentially synchronize the friendly force which is huge (complexity of the task) because without synchronization, you do not have a plan, uh because if everything isn't synchronized, it doesn't matter what assets you have if you do not know how to use them.

After describing the role of the S-3 and his relationship to the synchronization of assets, Major Poseidon then described the role the Logistics Officer (S-4) by saying:

> (Uh), the S-4 is logistics. (Uh), so every operation requires logistics and in order to support what you are doing you need the proper amount of logistics and you need to know for example, how much fuel a certain vehicle is going to require to go a certain distance and then what is that going to cost us. Do we need to move extra fuel to support that operation or are we going to have to refuel in route?

In a separate interview, Captain Orlando contributed to the role of the logistics officer by saying, "The S-4 is also in charge of your logistics and money." This short comment by Captain Orlando concerning money is critical because many learning organizations do not see money as a

logistical resource and fail to develop a spending strategy or synchronize the use of money to the mission, which is different from a budget.

The comments made by Major Poseidon concerning the synchronization of assets by the S-3 is important because synchronization must be part any of planning process to ensure completeness of the plan. In addition, the synchronization process facilitates the knowledge of effectively using the assets. If an organization has a better understanding of an asset, then that may change not only the role of the asset, but our relationship with the asset as well. Especially if the assets are human, artificial intelligence, or animal such as, in the case with staff from other units, military aerial drones, or bomb sniffing dogs. Money is another asset that needs to be properly allocated and synchronized or like time can be wasted and lost forever.

The roles and responsibilities of army staff as explained by the U.S. Army participants and defined in U.S. Army training manuals are consistent with the observations I made during the conduct of their Military Decision Making Process. Additionally, the interdependent staff roles, responsibilities, and relationships I observed during the MDMP suggest the existence of a climate and culture of collegial conversation that facilitates the interdependence of staff for systemic mission planning, such as the allocation of resources, organization and synchronization of resources, collaborative data analysis, distributed leadership, and shared decision-making that is data-driven.

Research Question 3B- What Cultural Behaviors can be observed during Decision Making at the Military Study Site?

Theme 4: The participants at the U.S. Army research study site are trained and held accountable to use organizationally developed decision-making tools; such as, Staff Estimates and the Military Decision Making Model to help inform and frame their decision-making process.

During a member check with Captain Orlando to verify my field notes, my early observations, and his first interview I coordinated an observation of the Military Decision Making Process (MDMP) to see if what I read from the U.S. Army manuals and heard during the participant interviews was consistent with their behavior during their conduct of the MDMP. Captain Orlando stated that he would be conducting an MDMP on or about July 30, 2012, and that I was welcome to observe. Captain Orlando went on to state that the Mission Analysis step of the MDMP was the most important, and that if I could not be present to observe an entire MDMP that I should try to observe the Mission Analysis step. I asked Captain Orlando why the Mission Analysis step was so significant, and he replied that the mission analysis step is where you make sure that you understand what you are supposed to be doing so that while you are working hard, you are working hard at the right things and for the right reasons. Captain Orlando then referred me to read U.S. Army Manual (ATTP 5-0.1, Commander and Staff Officer Guide, September 2011) which stated that the mission analysis is the most important step of the MDMP.

> According U.S. Army Manual (ATTP 5-0.1, Commander and Staff Officer Guide (2011): the MDMP continues with an assessment of the situation called mission analysis.

> Commanders (supported by their staffs and informed by subordinate and adjacent commanders) gather, analyze, and synthesize information to orient themselves on the current conditions of the operational environment. The commander and staff conduct the mission analysis step to understand the situation, define the problem, identify what tasks the commander must accomplish, and more importantly determine the true purpose of the operation (p. 4-6).

Also according to U.S. Army Manual (ATTP 5-0.1, Commander and Staff Officer Guide (2011), no amount of prior planning can solve an insufficiently understood problem. A proper understanding of the situation and the problem allows commanders to visualize and describe how the operation may unfold in their initial commander's intent and planning guidance. During mission analysis, the commander and staff perform the MDMP actions by analyzing inputs and producing outputs that feedback into the MDMP creating a more informed and collaborative MDMP. The initial inputs into the Mission Analysis include data such as the next higher headquarters plans, knowledge from other cooperating units, updated staff estimates, initial commanders guidance, and course of action evaluative criteria. The input and output data are analyzed collaboratively and individually by the commander and staff for decision-making during the MDMP. The analyzed data, decisions, and staff estimate products developed during the MDMP may become output information that iteratively becomes input information for higher headquarter units, or subordinate units (p. 4-6).

Additionally, I asked Major Poseidon to describe what the staff sections actually do and how they behave during the Mission Analysis step of the Military Decision Making Process. Major Poseidon replied by saying:

> What happens is whenever you go through mission analysis each staff section has something they are required to do. So-- when someone refers to the S-4, and yes there is a logistics officer, however, there is also an S-4 shop, which is a group of people that focus on logistics. So-- inside the S-4 shop you might have someone who is responsible for the fuel, someone who is responsible for the bullets, and somebody who is responsible for the transportation of items, things like that someone who is responsible for um, what we call class IV that is building supplies, concertina wire things like that. So-- during the MDMP, the S-4 knows that he has a responsibility to analyze what the higher element is giving him as far as assets. Uh, you take this information and then use it to decide do you need more, do you need less, or can you share something that you have more of, that kind of thing.

When I asked Major Poseidon to be specific as to how the different staff sections coordinate and/or collaborate the sharing of information and resources, he continued our conversation using the S-4 as an example by saying:

> The S-4 won't do it alone, and that's where the S-3 comes in for the synchronization piece, because the analysis that is going on during this process, if done correctly, is a team effort. Throughout everything, you have meetings. When you bring together representatives from all your staffs sections, other enabling units and any personnel that are involved and representing different parts and you say, ok where do we stand on the these things, here is what we know right now. That is where the Intelligence Officer (S-2) talks about the enemy. Here is what we know. The Operations Officer (S-3) would generally say here is what I know about our mission. In addition, here is what I know

about the next higher headquarters mission. This is to make sure that we know what our higher element wants us to do.

This is our purpose; but what really happens-- and as I have this seen a lot of times, and this works for military and civilian, we make a mistake and we give people a task first, and then tell them the purpose after. Give them the purpose! Give me a purpose and I'll find the task that matches it. And that's what these staff elements start doing, and well and that works for everybody because we understand the purpose of what we are doing. Our purpose may not be to defeat the enemy. It may just be to open a hole or a breach in the enemy defenses, or to get someone else through. Well, we need to know that because that changes how we are going to fight and how we are going to use our assets. Um, is there a follow-on mission? Is there something we have to do after this, or is this kind of it for us? Is it over? Well, that can sort of changes how everyone thinks and fights and they look at their piece, but when you do the "In Progress Briefs," you are constantly updating that information, because again, it's a parallel planning process.

The Parallel Planning model is very effective because if you don't start planning oh as soon as possible or do not allow your subordinate elements to start planning as soon as possible you are setting them up for failure. So-- the information they will need starts coming out of the questions they will ask from the receipt of the mission phase of the MDMP through mission analysis and into the course of Action Development.

Because in Course of Action Development (COADEV) I may decide that, I do need more resources based upon the Course of Action I have selected. Higher headquarters is doing the same thing and people below you are doing the same thing. So-- you are always

sharing information and that is how you know you are doing things correctly. It is hard to do, but if you do it correctly, the sharing of information becomes second nature, and as soon as you get information, you analyze what you can and you pass off the information to the lower levels and let them keep doing it as they can keep planning and understanding what their role in it is. So-- it's very, very, very effective and uh, I've been a part of very complex high level division level planning including thousands of soldiers to uh, more special and specialized operations that only include a dozen people that had a strategic impact, but conducted down at the tactical level, but it's the same process.

I asked Captain Orlando to contribute to the explanation given by Major Poseidon concerning the Mission Analysis and if the mission statement received from higher headquarters was accepted and duplicated for dissemination "as is." Captain Orlando responded by saying:

No, you don't because it is incomplete. Your next higher level is going to analyze the entire mission as it pertains to them and they are going to break it into pieces so it's almost like taking a huge problem, if you think of a pizza, the problem is; how am I going to eat it? I can't eat it by myself right. So, you take three guys and say you are going to eat from here to here, you are going to eat from here, and you may have a really big guy and he can eat a lot. So he is going to eat half the pizza and you kind of know the strengths of the subordinates you have and you break up that pizza into different problems so that each subordinate element take their chunk out of there. They eat their slice of pizza and their focus on is on just solving the problem for that particular portion.

My field notes, key informant interviews, and the U.S. Army cultural documents in the form of training manuals, triangulate to suggest that an observation of the Mission Analysis Step as a cultural key event will provide empirical findings that could result in the descriptions and interpretations of behaviors that occur throughout the entire Military Decision Making Process. (Fetterman, 2010; LeCompte, & Schensul, 2010; Miles, Huberman, & Saldana, 2014).

I used my observation of the participants conducting the Mission Analysis Step of the Military Decision Making Model (MDMM) as a Key Event to describe U.S. Army participant behavior during the conduct of the Military Decision Making Process (Geertz, 1973; Fetterman, 2010).

Upon walking into the participants operations center the smell of coffee in the room was strong and as I inhaled the air, it gave my very tired mind from the rigor of this research a needed "pick me up." Every member of the staff is in a military uniform. The staff officers from other foreign countries are present and in the proper uniform of their respective army. The U.S. Army battalion commander is seated in the front of the room facing data that is being displayed by power point on two separate drop down screens located near the left and right corners of the wall he is facing. The staff is assembled and still working at tables to his rear. The tables have on them pens, markers and various papers; to include maps, various staff estimate sheets for data collection and analysis, note pads, coffee, and energy drinks.

I observed and spoke to several staff members while they analyzed their staff estimates sheets and other data before the Mission Analysis briefing began. The Executive officer noticing my curiosity, approached me and stated that the staff estimates serve as a guide to assist the staff members in the collection, analysis, and interpretation of data that is specific to their roles and

responsibilities and that the staff estimate templates insure that basic, yet critical, data is available for the Military Decision Making Process.

This information is consistent with my field notes and data from the participant interviews that the commander may direct a staff member to collect and analyze data specific to the current mission. Additionally, the data collection using the staff estimate sheets is usually the minimum data that is applicable to the current operation.

The staff members assembled into separate groups specific to the information they were preparing to brief such as the S-2 for Intelligence and the S-4 for logistics. The climate in the room evolved from congenial personal greetings and discussions to collegial conversations concerning the sharing and crosschecking of information as the time to conduct the Mission Analysis approached.

The Executive Officer (XO), second in command to the battalion commander and primary MDMP facilitator, asked the commander if he was ready to begin. The commander, leaning back into his chair, nodded his head up and down signaling "yes." The XO looked at the operations officer, also known as the S-3, and nodded his head one time up and down to signal the S-3 to begin the MDMP. The S-3 stood up and quickly walked to the front of the room to initiate the Mission Analysis Step of the Military Decision Making Process. After greeting the commander and the staff, the S-3 told the commander that the unit has assembled for the mission analysis briefing and the S-3 began to state the missions of the higher headquarters unit one levels up, which is the Brigade mission and the mission of the higher headquarters unit two levels up, which is the Division mission. The assistant S-3 stood up walked to the front of the room, greeted the commander, and replaced the S-3. The assistant S-3 briefed a proposed

restated mission statement that he collaboratively developed with other staff members after he and the staff analyzed the initial mission statement given to them from the brigade headquarters and applying the battalion commander's initial guidance for planning the operation. The assistant S-3 displayed the restated mission on a projector screen and reminded the battalion commander of the initial guidance the staff received from the battalion commander to inform the staff's development of the newly restated mission that he is to brief for approval.

The initial guidance from the commander to the staff provides the staff with the commander's vision of the operation and other items he deems critical for the operation to be successful before the staff starts developing their staff estimates for the mission analysis briefing. The commander establishes his own initial guidance for his staff from guidance he receives from his higher headquarters and from conducting his own analysis of his unit's current situation. The initial guidance also creates transparency to the commander's thoughts and ideas concerning how he wants the mission planned and executed. The reason that the Assistant S-3 restates the commanders initial guidance back to the commander is so that the commanders knows that his guidance has been adhered to, and it allows the commander to modify the guidance if he feels it is necessary. The delivery of initial guidance by the commander creates the immediate transparency the staff needs to begin work. The inclusion of the initial guidance by the S-3 shows the commander that the staff has adhered to his guidance and can be trusted to follow his guidance and subsequent orders.

The intelligence officer (S-2) replaced the assistant S-3 and started to brief the initial Intelligence Preparation of the Battlefield (IPB) which was a brief description and interpretation of the battlefield as it pertained to the terrain, populated areas, and other man-made structures

that are part of the expected battle field and their probable effects on the operation. The S-2 also stated that he was ready to brief the Maneuver Combined Obstacle Overlay (MCOO). The MCOO briefing included a series of power point slides that identified enemy maneuver techniques, various obstacles, impediments, key terrain features, and avenues of approach. The S-2 then explained to the commander and staff that based on the results of his analysis of data regarding the enemy, he expected the enemy to utilize armored (tanks) maneuver techniques. The S-2 also identified specific avenues of approach the enemy would most likely use, physical obstacles on the ground that could impede enemy or friendly maneuvering, and key terrain features that he and the S-3 collaboratively identified as key terrain. The S-2 utilized the following Staff Estimate as a template to help develop the initial IPB:

1. A preliminary definition and identity of the enemy forces we will fight.
2. Enemy resources and expected enemy task organization.
3. The effects the weather and environment may have on the operation.
4. An evaluation of any significant enemy threats affecting the friendly force operation.
5. Determine the enemy's most probable courses of action.

The XO saw me looking a little puzzled at the initial S-2 staff estimate and informed me that the list was not a formal Intelligence Preparation of the Battlefield (IPB), but it was what the commander wanted the S-2 to prepare for an initial intelligence brief specifically for the Mission Analysis step of the MDMP. The XO is aware that I was a TOC staff member and explained to me that a more detailed and updated IPB will follow the Mission Analysis Step.

The Commander asked the S-2 and S-3 why certain terrain features were key terrain, but then paused and stated that he could wait to get that information during the Course of Action

Development step, which is step number 3 of the MDMP. The commander also relied on his own experience to add more key terrain features and rule out certain pieces of terrain initially listed as key terrain by the S-2 and S-3.

The S-2 attempted to address the Commander's question; however, the Assistant S-3 interrupted the S-2 and told the commander that it would be best to take the commander's earlier recommendation and respond to his questions concerning key terrain during the Course of Action Development step in the MDMP. The S-3, S-2, and Executive officer quietly agreed to speak with the commander together concerning his questions on key terrain.

The S-2 continued to brief the commander, but he changed from briefing the MCOO and started to brief the weather and its possible effects on the operation. The S-2 asked the commander if he had any more questions or concerns then returned to his seat. The assistant S-2 then began to rise and he positioned himself in front of the commander, greeted the commander and started to brief the Enemy Situation. His brief concerned what activities the enemy has done, is doing, and how that impacts friendly operation two levels up at the brigade and division headquarters. The assistant S-2 transitioned his brief and began the Enemy Disposition as part of the Enemy Situation briefing. The assistant S-2 enemy disposition brief was very specific and began with a demographic description of the enemy and an interpretation of what he expected the enemy to do. The S-2 bases his expectations of the enemy's future actions on the previous actions of the enemy and what the enemy war fighting doctrine suggest as the best course of action the enemy would select. The S-2 also developed a matrix that was a comparison of the enemy weapon capabilities to those available to the U.S. Commander. The assistant S-2 asked

the commander if he had any questions. The commander replied "no" and said "thanks that will be ok for now." The assistant S-2 returned to his seat.

The S-3 got up from his seat, but as he tried to walk towards the front to brief the commander, the assistant S-3 grabbed his arm and shoved a piece of paper into his hand. As the S-3 attempted to read what the assistant S-3 handed to him, the commander stood up with his hands on his hips and said with collegial concern, "what's the holdup 3?" The S-3 with a little hesitation in his voice said, "nothing sir." The commander sat down while saying "well, let's get on with it, times wasting." The S-3 positioned himself in front of the commander and started to brief the specified task, implied task, and essential task.

The commander briefly stopped the MDMP to look over his notes and refresh his cup of coffee at the rear of the room near me. I took this opportunity to ask the commander to explain the difference between specified, implied, and essential task. He told me that a specified task comes directly through the missions the unit receives from higher headquarters. He continued to say that implied tasks are tasks that he and his staff collaboratively identify as they conduct the Mission Analysis and that the identification of implied task is a continuous process as the MDMP progresses. Finally, he stated that an essential task could be either a specified task or implied task that he and his staff determine as critical to their mission accomplishment. The Commander continued to say that failure to plan for an essential could lead to complete mission failure. When I asked for examples of an essential task, the commander stated that the current mission statement as they restated it from the original mission given to them from higher headquarters was a specified task and essential task. He also stated that conducting reconnaissance using the unit scout platoon was an implied task because using the scout platoon

for enemy reconnaissance is his call and that it is an implication from higher headquarters that he would use the scouts.

The commander returned to his seat, began twirling his pen at a very fast pace, looked over his right shoulder and said rather briskly "hey S-2, get back up here and where do you plan on sending my scouts?" The S-2 intelligence officer, utilizing a map overlay of the terrain, pointed to where he wanted the scouts to concentrate their reconnaissance. The commander stated that he did not want the scouts in the location proposed by the S-2 because he feared that the enemy armored vehicles could overrun the scouts and destroy them before the scouts could get away or before he could send reinforcements if they became pinned down. The Commander got up from his seat and pointed to a location on the map and said "do not initially place the scouts forward of this particular piece of terrain." The Commander then gave the S-2 guidance on the maximum distance he would allow the scouts to be placed forward of his main forces. The commander stood up turned around and asked me if I would speak to his staff concerning the speed and tactics of the expected Opposing Force (OPFOR).

During my initial introductions to the U.S. Army participants, the commander became aware of my experiences as an Assistant S-3 in a battalion TOC while assigned to the U.S. Army 4th Infantry Division conducting NATO military training exercises in Europe to prepare for the possible invasion of an enemy force similar to the expected OPFOR for this MDMP. I walked to the front of the room to affirm the comments made from the commander by telling the staff, "Well-- based upon my experiences and the teachings of U.S. Army training doctrine, the OPFOR will factor the use of extreme speed into his armored warfare attack plans. Because his training doctrine teaches him to use the speed of his tanks and accept high casualty rates of his

own forces during combat to gain a momentum during his attack to achieve his objective. This, of course, is in contrast to U.S. Army training doctrine concerning the use of speed during the attack as it applies to the acceptance of casualty rates." The behavior of the commander to invite me to provide data to the Mission Analysis step showed how his training by the U.S. Army teaches him to use all available resources during the MDMP to collaboratively plan his operation and ready his forces for war.

The commander returned to his seat and said "ok S-2, that's enough, S-3 continue on." The S-3 began showing projector slides to brief the specified task, implied task, essential task, and any facts and assumptions concerning the mission. However, before the S-3 could start briefing; the commander while rubbing the back of his head with his left hand said with a slow tone, "hey S-3, I apologize just before the briefing started I was informed by higher headquarters that your first two listed assumptions concerning the enemy situation are now facts. I will get with you and the XO later, but for now treat those two assumptions as facts unless the situation changes. Ok, everything else I see up there is good let's move on."

The S-1 also referred to as the Personnel Officer rose and proceeded towards the front of the room to brief the commander. Before the S-1 could get in front of the room to initiate his brief or greet the commander, the commander said,

> Hey S-1, before you even start I will need to know the location and distance from the Administrative Logistical Operations Center (ALOC) to the Forward Line of Troops (FLOT)". I also want an estimate of how fast our units can be resupplied.

The S-1 stopped in his tracks and appeared to look like a deer caught in the headlights of an oncoming car, while simultaneously looking at the Executive Officer for help. The XO

usually sets up and operates the Administrative Logistical Operations Center (ALOC). The Executive Officer quickly rose to his feet in support of the S-1 and stated to the commander that he did not provide that information to the S-1 because he was waiting on more information from the brigade headquarters. The commander accepted the explanation from the XO and said "ok," pointed to the S-1 as a movie director points when he yells action and said, "Continue."

The Forward Line of Troops (FLOT) is a line drawn on a map, which indicates the most forward positions of friendly forces in any kind of military operation at a specific time. The Administrative Logistical Operations Center (ALOC) consists of the unit S-4 and representatives from the S-1 staff. The ALOC plans and coordinates logistical sustainment for tactical operations, just as the Tactical Operations Center plans and coordinates combat actions during tactical operations. The ALOC also serves as the alternate TOC for the unit if for any reason the main TOC is no longer able to function. The distance of the Administrative Logistical Center (ALOC) from the Forward Line of Troops (FLOT) affects how quickly the ALOC can resupply the fighting units. This is important for mission planning because the time it takes to resupply fighting forces could affect the momentum of the fight (U.S. Army Field Manual, FM 1-02, 2004). The S-1 began his brief by telling the commander what the troop levels would be at the start of the operation and suggested certain personnel changes once the new soldiers arrived. The commander turned to look over his left shoulder at the XO using a very collegial tone and concerned look said,

> Hey, XO I need to know what personnel I have now, not what I will get, I want this plan to reflect what we have, because from my experience, what we have is all we will get! I

want you or the S-3 to find out from brigade if we are the priority unit for this mission and if we are, then I will be in a better position to demand more personnel and assets.

The S-3 in reaction the commander's comments concerning the unit designation as the main effort stood up and told the staff that only minutes before the Mission Analysis began that the Assistant S-3 notified him that this unit is the brigade main effort. The commander stood up with a smile and said to the S-3, "Good then call the Brigade S-3 back and find out what aviation assets for combat and aerial reconnaissance do they have allocated for me."

The S-2 rose from his seat raised his hand and said to the commander, "Sir, if possible could we request the use of aerial ground penetrating radar to detect enemy operations on and below the ground?" With a low and disappointing voice, the commander said, "We probably will not get it and I do not want to waste my request on something that I probably will not get versus things I know the brigade has control of and can give to me." The S-2 stood up and vigorously replied, "Well sir, I am concerned about tunnels the enemy may have dug to use for infiltration purposes into our area of operation." The commander took a deep breath while sternly looking at the XO, sat down with his arms folded and after placing one hand over his chin, with great restraint and self-control said to the S-2, "Look, the aerial radar is a division asset. Contact the brigade S-2 and see if he is making the same or similar request to division. If we get that information or use of the asset we will use it when we get it, but do not include the possible use of ground penetrating radar in our Course Of Action Development planning because I am convinced that it's not going to happen, now move on."

The XO simultaneously made eye contact with the S-2 and made several gestures of slowly but methodically moving his head from left to right to signal to the S-2 to stop engaging

the commander and allow the process to continue. The S-2 respectfully said, "Thanks sir, I will contact the brigade 2 and get back with the S-3 or the XO." The S-2 wanted to collaborate with the S-3 or XO, because either the XO or S-3 would war game with the S-2 during the Analysis of the Course of Action phase of the MDMP.

The dialogue between the commander and the S-2 is the kind of collegial conversation that needs to take place in shared decision-making; however, because the XO and not the commander is the facilitator of the process, the XO allowed the S-2 to engage the commander until the XO determined it was time to move on.

Throughout the process the commander would say, "Got it." This was because he felt he either already had an understanding of the information being presented or had received enough of the current staff member's briefing. He stated that he did this because he could speed things up and provide more planning time for his staff to develop a course of action and subsequently provide more time to the subordinate leaders for decision-making.

The commander asked if anyone had checked with brigade for any other aerial reconnaissance support such as unmanned aerial vehicles (UAV). Current news media commonly refer to the unmanned aerial vehicles as Aerial Drones. The S-3 Air stated that he had not received any notification from the brigade headquarters on UAV assets but was going to make an inquiry after consulting with the battalion S-3 and S-2. The commander mentioned that they should first ask the brigade what is their plan for aerial reconnaissance and then plan the one for this battalion. He stated that this would prevent a duplication of effort and if brigade had planned aerial reconnaissance over terrain that was on the battalion reconnaissance plan. Then

they could use brigade Intelligence and save any aerial drone time assigned to this unit to confirm intelligence reports that are assumptions rather than facts.

The Commander's behavior for conversation throughout the MDMP was approximately 80% collegial and 20% congenial. The commander told me that if the current staff member conducting the briefing is nervous because of inexperience but not a lack of preparation, he speaks in a more congenial or coaching tone rather than a collegial or critical tone to prevent the new staff member from becoming overwhelmed. He also had a yellow note pad to keep track of any request made of him and any request he made of the staff.

The Fire Support Officer (FSO) moved to the front of the briefing area to give his name and his artillery unit. He described the capabilities of the artillery assets he had available to support the proposed mission and explained to the commander that he had pre-planned some targets based upon a collaborative effort with the S-2 and S-3. The FSO informed the commander that his fire support target plan would be in phases throughout the operation to support the approved course of action.

The FSO is not a regular staff member to the unit or the commander he is briefing. Certain military staff members will conduct operations with other military units that are not their parent organizations. These temporary staff members and soldiers are similar to educators who serve at the school district level and above that will work with a school for a particular reason or period. Central office staff members like the director of special education, the director of facilities, or the director of research and accountability, and testing are examples.

The XO rose and walked to the front of the room and briefed the actual troops available (per the commander's earlier request) and presented a recommended task organization using

projector slides for the battalion‘s current mission. The recommended task organization slides display how the XO has allocated the equipment and assigned the personnel into a task force to best support the unit operation. The task organization slides also displayed special units and equipment assigned from higher headquarters. The XO remained standing in front of the room and the S-3 joined him. The S-3 attempted to brief the Commanders Critical Information Requirements (CCIR); however, the image projected on the screen was not very clear and seemed to be missing some information, so the commander asked to see the actual document. The CCIR is data the commander in collaboration with his staff officers have determined to be the most important in-put information he currently needs to inform the MDMP (U.S. Army Manual, ATTP 5-0.1 Commander and Staff Officer Guide, 2011).

The commander looked at the CCIR document slide, reminded the staff that he was concerned with the placement of the scouts and that this fight would be considerably different from any engagements they have encountered in the Middle East. In addition, the Opposing Force (OPFOR) has weapons and firepower comparable to U.S. forces, is an armored force with tanks, and relies heavily on speed during the attack. The commander paused, again started to twirl his pen, took a deep breath and exhaled the question “what else?”

The XO folded his hands behind his back while staring at the commander and said, “Sir if you have no more questions concerns or requirements, that concludes our mission analysis brief. We would like to have your guidance for the Course of Acton Development and a tentative time for your approval of the Course of Action.” The commander quickly stood up, swaggered to the front of the room, turned around pointed in the direction of the S-3 and S-2 and strongly repeated some guidance he gave earlier by saying, “Do not risk my scouts to collect information that we

can get from brigade. I want you to focus the scouts closer to what is directly inside of our AO (Area of Operations)." The commander checked his note pad and gave a tentative time that he wanted the Course of Action Approval to take place. He then told the staff to take a ten-minute break and come back for a mini After Action Review (AAR) concerning the conduct of the Mission Analysis step they had just conducted.

After the ten-minute break was over, Captain Orlando invited me to observe the AAR. I did not want to pass up this opportunity because it was an unplanned observation that could develop into a topic for further research and this particular observation could help initiate the study. The XO summoned the staff back in the room for the AAR. The commander immediately commended the S-2 for his persistent pursuit of intelligence and introducing new technology in the form of ground penetrating radar. The commander chuckled and stated that his very collegial briefing from the S-2 reminded him to task the S-2 with checking higher headquarters on several issues and it made him aware of enemy tunnel operations that he did not know about. The commander also told the other staff members not to be offended when he says, "I got it" or "move on." He stated that it is just his way of saying, "I understand, or I have heard enough to grasp an understanding of the situation" and that his saying "move on" speeds up the process to give the staff and subordinate leaders more time for planning and decision-making. The commander also told the staff not to immediately read him the slides but allow him time to take in the information and respond.

As the AAR unfolded, it evolved into a reflective system thinking process facilitated by the commander, and not by the XO as was the case in the MDMP. The commander was in full control of the AAR, while coaching and mentoring his staff as to how he wanted the MDMP tailored to meet his needs. The commander also reinforced how the MDMP was a team effort, that the staff

should expect to brief their estimates, anticipate questions from him and other staff members, and that the immediate distribution and sharing of information was critical.

I ended my observation by asking the commander if we could meet later to discuss the events that unfolded, the operations center where this all took place, and the After Action Review that followed the Mission Analysis briefing. The commander agreed to meet, but the time and place was to be determined.

Later during a member check with Captain Orlando, he stated that the After Action Review is not a forum to fix blame, but a collaborative and evaluative process to perform a systemic check to see if you accomplished your mission according to your plans and doctrine. In addition, the AAR is conducted to see what improvements can be in the execution of the operation and conduct of the MDMP. Captain Orlando also stated that the AAR is the time to discuss things that happened unexpectedly and things that went very well. He went on to say, "It is best to conduct the AAR as soon as possible after an operation has occurred, because what ever happened is still fresh in everybody's mind and easy to recall."

During an interview session with Major Rhodes, I asked him if he could recall any particular demographic or operational environment where the Mission Analysis Step of the MDMP resulted in a course of action that was different from what the current U.S. Army doctrine suggested. Major Rhodes gives the following example of how an analysis of the cultures and demographics of Afghanistan utilizing the MDMP helped to define a current reality of the operational environment to avert negative political and media coverage during combat. Major Rhodes said:

> Something relevant to Counter-Insurgency (COIN) Operations in our recent experiences and I will include U.S. and British Army, is the idea that every activity you conduct is influencing somebody. Even the action of walking down the street in Iraq with a rifle is creating a perception in somebody, in the enemy, in the civilian population, in the local government, because the way you act is shaping the way they perceive you. So, what we say in COIN and what I did with my company certainly as a Company Commander, don't do anything just focused on End State. But that every single time you present yourself where somebody can see you, you are having an effect on that person or environment. In addition, the effect has got to be positive and so the influence that you present daily when you are both in contact shooting at people or when you are standing talking to an elder, or the President of a nation.

I informed Major Rhodes that the behavior and actions of educators based on their decision-making could have different meanings for different cultures. Major Rhodes agreed and said:

> Yes! And it's not just that soldiers are bad at this and I don't know where the teaching profession will have it similar or not, but soldiers are trained for the worst case example, and you know that, and so we tend to focus on what is going to get us killed, which is the enemy shooting at us. So, we spend a lot of time practicing shooting at the enemy. However, in a Counter Insurgency Operation (COIN) environment; it might be, that shooting at the enemy is one of the least important things we do in terms of persuading people that their government is the one to follow.

This could be similar to when educators must consider the effects of the methods we use to teach students, manage student behavior, or relate to their parents and other stakeholders.

Major Rhodes stated that a particular decision when doing COIN operations is how the behavior of soldiers does affect the overall mission. He stated that General McChrystal developed a plan and that the British Army adopted it as well. When asked if he could be more specific concerning this plan by identifying and explaining its initiatives, Major Rhodes said:

> When I was in Afghanistan, General McChrystal was the commander of The International Security Assistance Force (ISAF), so a lot of his stuff was coming through the system and the British Army liked it. It was in accordance with the way we felt things should be done. It was things like um, there was something that came down called *Courageous Restraint*, which was this concept of being shot at but you decide not to shoot back. Why? Because you are being shot at from a compound, that most likely has women and children in it. Because the enemy knows that if, you dropped a two thousand pound bomb on it and killed ten civilians, they have scored an information victory. An information victory that reports that International Security Forces Afghanistan (ISAF) forces have killed innocent victims, therefore, this business of behaving differently is that, if you get down behind cover and choose not to shoot back in this case that could be the best option. When you get the opportunity to target the enemy effectively, then go ahead and do it but when they make you kill a civilian, it does not matter if you have killed the enemy; you set the situation back so it is those sorts of concepts.

In the above example, the result of the MDMP is that an essential task of the unit mission should be to influence the media and local populations in Afghanistan. Additionally, ISAF

would be more careful in the conduct of its combat operations when considering the destruction of public property or the killing of a civilian. The presumed combat actions or justifiable collateral damage by ISAF, conversely, to a local family is the unjustifiable destruction of a sacred building or murder of a child. The final decision to fire bullets by the individual soldier is similar to the final decision and individual actions of teachers towards students.

Section III. Comparison of Research Questions and Themes found at the School and Military Study Sites

In this section, I compare the four themes I found at the School research study site to the four themes I found at the U.S. Army research study site. The research questions I used to frame this ethnographic field study also frame the comparison of the resulting themes. In this section, I pair research questions 1A &1B, 2A & 2B, 3A & 3B and the themes that accompany them to answer research questions 4A & 4B.

Research Questions 4A & 4B:

A. How do the results of the findings for the School study site compare to the results of the findings for the Military study site?
B. How do the results of the findings for Military study site compare to the results of the findings for School study site?

Whereas several similarities, such as being government agencies and having bureaucratic structures, exist between the two culture sharing groups, it will be the significant differences, such as the use of decision-making tools, staff relationships, and the cultural behavior of the participants during the decision-making process, that I will focus on during this comparison.

Comparison of Themes 1 for Research Question 1A and 1B

Research Question 1A - What kinds of decision-making tools exist at the School study site to facilitate data-driven decision-making?

Theme 1: Decision-making models do not exist at the School study site to frame an individual or team decision-making process.

Research Question 1B - What kinds of decision-making tools exist at the Military study site to facilitate data-driven decision-making?

Theme 1: All three participating U.S. Army units utilize the Military Decision Making Model for team decision-making.

The use of Decision-Making Models and the station where data collection and analysis occurs are significant comparative points for research questions 1A and 1B because the two culture sharing groups bear a stark contrast in their use of Decision-Making Models and Rooms for the collection and analysis of their data.

The culture-sharing group of educators that I observed at the School study site did not have a decision-making model. Conversely, the culture sharing group of U.S. Army participants at the Military study site utilized both individual and team decision-making models that are common to every soldier and unit in the U.S. Army. The U.S. Army decision-making tool for individual and small group decision-making is the Troop Leading Procedures (TLP). The U.S. Army decision-making tool for team decision-making is the Military Decision Making Model (MDMM), and when army leaders actually conduct decision-making, it is the Military Decision

Making Process (MDMP). The following participant interviews support my comparison of the findings:

The participant principals made the following statements in support of the theme: No decision-making model for team decision-making or a decision-making model for individual decision-making exists at the participant schools.

Mr. Robinson said, "Well, currently we do not have a decision making model, we just try to do what is best for the kids."

Mrs. Caison said,

> I would say there is not a formal decision-making model. I try very hard to go to our School Improvement Leadership Team. It is something you know that is extremely important to the whole school. But, most of, the majority of the stuff that happens, you just do it on the fly. But if it has to do with the whole school, I try very hard to incorporate the leadership team. There is not a fast and furious way we do it you know. We don't have one."

Mr. Jones said, "There is no formal model that I use. Um, nothing that we have been trained on that is consistent throughout the school district. Um, so any decision-making model is just basically my preference as to how I choose to make decisions."

The U.S. Army leaders made the following statements in support of the theme: All participant military units utilize the Military Decision Making Model for team decision-making.

Captain Orlando said:

> The biggest model that we use is the Military Decision-Making Process (MDMP). It is done at Battalion level or higher level, um there is also a Decision-Making process that you have to use at the company level called the Troop Leading Procedures. One model is the Military Decision Making Process and in order to conduct that you normally have a bigger problem set that you are trying to solve and you need a lot of manpower. If you are trying to solve a problem on your own, we refer to the troop leading procedures, which is really the foundation of all our problem solving the troop leading procedures.

Major Rhodes, a British officer on assignment to the U.S. Army, reinforced the comments from Captain Orlando by saying:

> Well. There are two models, which we teach here for planning and decision-making. The first one is the Troup Leading Procedure, known as the TLP, which we use at the company level and below for groups of 150 people and less, then teach another planning process for battalion level and above so for groups of 150 people plus really and uh that's called the Military Decision Making Process.

Major Poseidon continued to support the resulting theme by saying:

> We use the Military Decision-Making Model throughout every branch of the service. Militarily, the Army and the Marine Corps are much better at it in the junior grades because we use it so much, and we teach it to our young captains uh, so that they are able to take command of companies and then they get assignments as a staff officer at brigade and battalion levels.

Comparison of Themes 2 for Research Question 1A and 1B

Research Question 1A - What kinds of decision-making tools exist at the School study site to facilitate data-driven decision-making?

Theme 2: Data rooms or Data walls are not present in all the participating schools at the school study site.

Research Question 1B - What kinds of decision-making tools exist at the Military study site to facilitate data-driven decision-making?

Theme 2: A Tactical Operation Center to facilitate decision-making exists in all three participating U.S. Army units.

Each research study site made use of rooms that served as decision-making tools to post or analyze data for organizational planning and decision-making. At the School study site, this type of decision-making tool is a Data Room; similarly, at the Military study site, this type of decision-making tool is the Tactical Operations Center (TOC). However, the similarities between the school Data Room and the U.S. Army TOC end with the structures optimally having four walls. Whereas, the school data rooms regularly post summative school data such as end of year test scores, the U.S. Army research study site TOC is a forum to discuss more current and formative data such as the current demographics of a cultural group to help leaders make decisions on issues of immediate concern.

When I asked the participating principals if they had a data room, Mr. Robinson and Mrs. Caison stated that they had a data room or were in the process of developing a data room. Mr. Jones had not established a data room. Each Principal had knowledge of what a data room was,

but there were some differences as to how the data room was to function for collaborative data analysis. During an interview, I asked Mr. Robinson if there was any set protocol or standard operating procedure for his data room he replied, “Currently it is basically used to store and post information. There is no set protocol or procedure to post data weekly or for teachers to come in and look at data weekly, but we are moving in that direction."

All three participating Army units established a TOC or similar structure to conduct the MDMP. I conducted a member check with Captain Orlando to verify an observation I made concerning the structure and contents of a military Tactical Operations Center (TOC). Captain Orlando made it clear to me that the function of a TOC was more important that its form. Captain Orlando continued to be specific by saying, “The structure and contents of a TOC may differ from unit to unit; however, the function of a TOC is quite similar from unit to unit, especially those of a similar size, with similar purposes or missions.” Captain Orlando also stated that each TOC should have a Standard Operating Procedure (SOP), which prescribes how a particular TOC is to function, including the task, the particular purpose of the TOC and the responsibilities of the staff assigned to work in the TOC. The contrasting point here is that whereas school leaders are concerned with the form and structure of the data room, the Army leaders are concerned with the function of the TOC, the SOP, and responsibilities of the staff that use it for collaborative data analysis, systems thinking, critical thinking and data-driven decision-making.

Comparison of Themes 3 for Research Question 2A and 2B

Research Question 2A: What Roles and Relationships do Leaders and Staff Members take for Data-Driven Decision-Making at the School Study Site?

Theme 3: The participating principals desire to cultivate trusting relationships with their faculty and staff to improve faculty and staff buy-in of the decisions made by the principals.

Research Question 2B. What roles and relationships do leaders and staff members take for data-driven decision-making at the Military study site?

Theme 3: The U.S Army Military Decision Making Model and Process cultivates vertical and horizontal interdependent relationships between the participating U.S. Army leaders and staff during the Military Decision Making Process.

The principals assign roles for the U.S. educational participants in regards to their individual duties. In addition, no findings indicate the cultural development or cultivation of strong relationships between the leaders and staff that facilitate transparency, interdependence, collegiality, and collaborative decision-making. On the other hand, the multi-directional and interdependent relationships that exist between the individual roles of the participating U.S. Army leaders and staff are cultivated with organizational decision-making tools such as the Military Decision Making Process (MDMP) and the Staff Estimates.

While conducting an interview on this topic with Mr. Jones at the School study site, Mr. Jones said:

> Here we um, the thing I have tried to do is to gather as much information and data as I can before making decisions. Um this being, I just finished my first year here. Um, teachers were not very involved in the decision-making process at all! And so this year, a lot of what we did was to get a very active leadership team um, that met very frequently. We did it once a month routinely, um to look over where the school was going. We did a lot this year on developing our mission on what we believed. So what we were doing was a lot of groundwork, Um, and you know and guiding things to what we want the school to be today. Now we will begin looking at identifying our strengths and our weaknesses and areas we need to improve on. Basically, how do we get to where we want to be?

The following results of the findings from the U.S. Army research study site support this comparison. Captain Orlando said:

> The Executive Officer and the S-3 do most of the work. It is the staff job and what they have are staff estimates during the Military Decision-Making Process. What a staff estimate is used for is to say this is what I have, this is what I need to know, and then the Battalion Commander looks at that information and makes a decision based off of it.

Within the same set of findings, Major Rhodes added:

> The leader is responsible for making the final decision on what outcome is required. He would expect his team to assist him with that but he is responsible for the outcome. How the outcome is delivered is a group effort. Again, the leader makes a final decision on

what the best course of action is, but if he has, any sense he will use all the brains and experience around him.

Additionally, I asked Major Poseidon to elaborate on what he believes is a very significant relationship that the Operations Officer (S-3) has with the leader and every member of the staff. Major Poseidon stated:

> The S-3 will essentially synchronize the friendly forces, which is huge (complexity of the task), because without synchronization, you do not have a plan, uh because if everything isn't synchronized, it doesn't matter what assets you have if you do not know how to use them.

The comparisons made here suggest that the MDMP promotes the development of U.S. Army leadership and staff relationships and educators could improve the development and cultivation of stronger leadership and staff relationships by way of an organizational school decision-making model. In addition, a decision-making model and process could also facilitate the development of relationships that are multi-directional, transparent, trusting, interdependent, and highly collaborative.

Comparison of Themes 4 to Research Question 3A and 3B

Research Question 3A-What participant behaviors for decision making at the School study site can be observed, coded, and triangulated using verification methods such as prolonged engagement in the field, thick description, and member checking to determine the behaviors to be cultural rather than individual? The distinction of the participant behaviors being cultural behaviors rather than individual behaviors is meaningful because

cultural behaviors indicate how the participants act as a culture-sharing group. The focus of my field study is on how the participants act as a culture-sharing group and not as individual cases.

Theme 4: The principals at the School study site do not use any decision-making tools such as decision-making protocols or decision-making models that are in common to the participating schools to prepare for or conduct their decision-making process.

Research Question 3B-What participant behaviors for decision making at the Military study site can be observed, coded, and triangulated using verification methods such as prolonged engagement in the field, thick description, and member checking to determine the behaviors to be cultural rather than individual? The distinction of the participant behaviors being cultural behaviors rather than individual behaviors is meaningful because cultural behaviors indicate how the participants act as a culture-sharing group. The focus of my field study is on how the participants act as a culture-sharing group and not as individual cases.

Theme 4: The participants at the U.S. Army research study site are trained and held accountable to use organizationally developed decision-making tools such as, Staff Estimates and the Military Decision Making Model, to help inform and frame their decision-making process.

The cultural behaviors of the U.S. educational participants at the School study site during the conduct of decision-making varied widely among the different schools studied. The diverse behaviors were a result of the vague to nonexistent staff relationships at the different schools,

and organizational climates created by the school principals. Conversely, the cultural behaviors of the U.S. Army participants at the Military study site during the conduct of decision-making were common among the participating units being studied, and driven by a formal decision-making process. The Military Decision Making Model and Process helped to cultivate the observed U.S. Army participant behaviors of being transparent, collegial, collaborative, trustworthy, and adaptive such as with the decision for ISAF units to show courageous restraint during combat.

The participating principals at the School study site stated that they did not have an organizational decision-making model or process; however, they all desired their staff and teachers to trust them and "buy-in" to their decisions. Moreover, the absence of an organizational decision-making model, the inconsistent use of data tools, and relying on the personal experiences of the principal and staff, could be a contributing factor to the difficulty in establishing the desired behaviors of trust and "buy-in" from the teachers and staff.

During an interview with Mr. Robinson, I asked him what he knew of current governmental and military decision making, Mr. Robinson said:

> When as the President or any General make a decision they make those decisions not totally by themselves, they have advisors, and individuals that they listen too that have a broad knowledge base, so you have to have, you have to be surrounded by good people, and you have to be surrounded by people you can trust.

During an interview with Mr. Jones, he asked me to explain to him what had I learned about the Military Decision Making Model. After I briefly explained my findings according to

the U.S. Army Field Manuals, my field notes, participant interviews, and personal experiences to Mr. Jones as to how the U.S. Army utilizes their decision-making model and process, Mr. Jones made the following reply:

> Yeah! Cause, the thing is, um, to have a formal model, well what I would think of it as a template on how to approach good decision-making usually brings more consistency to the decision-making process. Um, more than likely without knowing exactly how the military does, it seems as though they get a lot of input what we call "buy in." Creating "buy-in" with the teachers and it is a process that yeah, I think if people know what the decision-making process is, uh they will feel more comfortable that the best decisions are being made with the best available information. Uh, you know we try to establish that, but there is not a set of, -- I do not have any set guidelines, so yeah, I think it would be very useful.

Mr. Jones utilized the term "template" to create a mental model and define what he understood the military models to represent. Although the MDMP, TLP, and Staff Estimates are more than just templates, the word template would provide an educator with a good initial definition to comprehend or understand the military decision-making models presented in the findings from the Military study site. I agree with Mr. Jones, believing that some type of template or rubric for educators to collect data and use in preparation for a decision-making process would help prepare educators for participating in collegial conversations. Better decision-making tools may also create higher levels of trust among educational leaders and staff, such as the trust Mr. Robinson said existed with the President and Generals.

The following field notes that I made while observing the U.S. Army participants conduct the Mission Analysis step of the Military Decision Making Process from the findings at the Military study site support the observed leadership and staff behaviors of transparency, collegiality, collaboration, trust, and stakeholder buy-in.

In regards to the observed behaviors of transparency, collegiality, collaboration, and trust, the commander and each participating staff member briefed their portion of the Mission Analysis step of the MDMP, openly to the entire staff. I provide the following example of this behavior from my field notes:

> The Executive Officer (XO), second in command to the battalion commander and primary MDMP facilitator, asked the commander if he was ready to begin. The commander, leaning back into his chair, nodded his head up and down as to signal "yes." The XO then looked at the operations officer, also known as the S-3, and nodded his head to the S-3 one time up and down as to signal, "Begin." The S-3 stood up, moved to the front of the room and initiated step two (Mission Analysis) of the Military Decision Making Process by greeting the commander and the staff. The S-3 then stated that they were assembled for the mission analysis briefing and then he began to state the missions of the higher headquarters unit two levels up, which is the division mission and then one level up, which is the brigade mission. The assistant S-3 stood up, moved to the front of the room, greeted the commander, and replaced the S-3. The assistant S-3 briefed the proposed restated mission statement, which is a collaborative effort by the staff after the staff analyzes the initial mission statement given to them from the brigade

headquarters, along with the battalion commander's initial guidance for planning the operation.

The briefing of the missions two levels up by the S-3 provides the staff and subordinate leaders the transparency they need for planning and relates how they fit into "the big picture." The briefing of the restated mission by the assistant S-3, which also includes the commander's initial guidance for operational planning, provides additional evidence of collaboration, trust, and transparency among the staff and the commander. The collaborative and transparent relationships formed during the MDMP also nurtures the behaviors of collegiality and trust among the staff as well. Trust is present here in three different types. Initially, there was the trust between the participants engaged in collegial dialogue to be respectful towards one another and not being afraid to make constructive comments to each other or the Commander. Secondly, there is the trust of the participants in the facilitator to mediate the dialogue and manage the sharing of knowledge. Thirdly, there is the trust of the commander in his staff to provide him with useful information and to adhere to his initial guidance.

The U.S. Army study site participants credited their ability to create buy-in because of the transparent, collaborative, collegial, and trustworthy environment created from their consistent use of the Military Decision Making Process. Major Rhodes, in an interview, attributes the Military Decision Making Process to helping the U.S. Army in Afghanistan quickly change its rules of engagement when returning gunfire to enemy forces. Major Rhodes stated that it was a common battle drill for U.S. Army and International Security Forces Afghanistan (ISAF) soldiers to immediately and heavily return weapon fire when fired upon by the enemy; however,

the practice had to change when the enemy fire came from social structures; such as, mosques, schools, and hospitals. Major Rhodes said,

> When I was in Afghanistan, General McChrystal was the commander of International Security Forces Afghanistan (ISAF), so a lot of his stuff was coming through the system and the British Army liked it. It was in accordance with the way we felt things should be done. It was things like um, there was something that came down called "Courageous Restraint," which was this concept of being shot at, but you decide not to shoot back. Why? Because you are being shot at from a compound, most likely that has got women and children in it and because the enemy knows that if you dropped a two thousand pound bomb on it, and killed ten civilians, they have scored an "Information Victory." Therefore, this business of behaving well if you get down behind cover and choose not to shoot back in this case that could be the best option.

The previous example by Major Rhodes explains the development and buy-in of a significant decision to change the media and local population's negative perception of the ISAF in Afghanistan. The ISAF would be careful in the conduct of its future operations and not lightly consider the destruction of public property or civilians as collateral damage. Because what is considered as collateral damage to an army, is the painful death of a child to a family or the destruction of an important social structure such as a mosque or hospital. The individual soldier usually makes the final decision to fire upon a civilian or social structure with the weapon in his hand, which is similar to the individual actions and behaviors of an educator in the school, classroom, or community. Similar to the actions of a soldier during unconventional warfare, the imported message of the behavior, words, and actions from educators to stakeholders must be

considered when educators interact with and educate others, especially diverse cultural groups such as English language learners, adult learners or families living in poverty. The public perception of education professionals can affect educational public relations and politics, which in turn can affect the very public policies that fund and direct the future of education. A common organizational decision-making model to frame the decision-making process for educators would lead to better decisions that are collaborative, data-driven, and generate stakeholder buy-in.

Summary

In this chapter I presented the comparative results of an ethnographic field study that I conducted at two different culture-sharing research study sites. The two different culture-sharing groups I explored are a k-12 public school system in the Southeastern United States of America and a U.S. Army unit in the Southeastern United States of America. I selected these two different culture-sharing groups were because they are both similar in that they are U.S. government entities, have bureaucratic structures, and consider themselves learning organizations. However, they differ in many ways such as their use of decision-making tools, how the roles and relationships among leaders and their staff are cultivated, and their cultural behavior when practicing decision-making. I present a summary of this field study, limitations concerning this field study, implications resulting from the findings, and recommendations for practice and future research in the next chapter.

Chapter V. Summary, Limitations, Implications and Recommendations

Summary of the Field Study

The purpose of this field study was to explore and compare the cultural practices of data-driven decision-making within two different learning organizations. The two learning organizations that I selected are a k-12 public school system located in the Southeastern region of United States of America and a U.S. Army unit located in the Southeastern region of the United States of America. These two learning organizations were selected because they share the similarities of both being U.S. government entities, have bureaucratic structures and consider themselves to be learning organizations, yet are different in many ways; such as, their purpose in society, the environments in which they operate, their organizational structure, and their cultural behavior when practicing decision making. Comparisons made between these two culturally different learning organizations in regards to data-driven decision-making may contribute to the growing body of research concerning school data-driven decision-making, accountability, and school improvement planning (Fetterman, 2010; Kaniuka, 2009; Lange et al., 2012; LeCompte & Schensul, 2010; Marshall, C., & Gerstl-Pepin, C., 2005; Miles, Huberman & Saldana, 2014; Sallee & Flood, 2012; Senge et al., 2012). Additionally, in chapter one, I provided a brief historical account of the recent initiatives of school reform such as accountability and the increased use of data for decision-making brought forth by the federal mandates of No Child Left Behind (NCLB) and Race To The Top (RTTT). Additionally, I presented a brief history of the events leading up to the development of the U.S. Army Military Decision Making Model and

Process that is currently in use by the U.S. Army for team decision making in its Tactical Operations Centers (TOC) or War Rooms.

The research questions I used to frame this field study are research questions A for the School study site and research questions B for the Military study site.

Research Questions 1A and 1B:

A. What kinds of decision-making tools exist at the School study site to facilitate data-driven decision-making?
B. What kinds of decision-making tools exist at the Military study site to facilitate data-driven decision-making?

Research Questions 2A and 2B:

A. What roles and relationships do leaders and staff members take for data-driven decision-making at the School study site?
B. What roles and relationships do leaders and staff members take for data-driven decision-making at the Military study site?

3. Research Questions 3A and 3B:

A. What participant behaviors for decision making at the School study site can be observed, coded, and triangulated using verification methods such as prolonged engagement in the field, thick description, and member checking to determine the behaviors to be cultural rather than individual? The distinction of the participant behaviors being cultural behaviors rather than individual behaviors is meaningful because cultural behaviors

indicate how the participants act as a culture-sharing group. The focus of my field study is on how the participants act as a culture-sharing group and not as individual cases.

B. What participant behaviors for decision making at the Military study site can be observed, coded, and triangulated using verification methods such as prolonged engagement in the field, thick description, and member checking to determine the behaviors to be cultural rather than individual? The distinction of the participant behaviors being cultural behaviors rather than individual behaviors is meaningful because cultural behaviors indicate how the participants act as a culture-sharing group. The focus of my field study is on how the participants act as a culture-sharing group and not as individual cases.

4. Research Question 4A & 4B:

A. How do the results of the findings for the School study site compare to the results of the findings for the Military study site?

B. How do the results of the findings for the Military study site compare to the results of the findings for the School study site?

In Chapter 2, I provided a review of the research literature framing the issues of accountability and data-driven decision making brought on by the federal education reform mandates of No Child Left Behind (NCLB) and Race To The Top (RTTT). NCLB and RTTT hold educational leaders accountable for the decisions made by educational leaders and call for educational leaders to make decisions that are based on school data such as test scores, student achievement, and school demographics (Spring, 2010; USDOE, 2002; USDOE, 2009; USDOE, 2010a). I also reviewed the concept of critical thinking, because thinking systemically and

critically of why certain data is collected and how the data is to be analyzed is an important element of data-driven decision-making (Bakioglo & Dalgic, 2013; Blockley, 2010; Jenkins & Cutchens, 2011; Lange et al., 2012; Levin & Schrum, 2013; Mandinach, 2012; Mulnix, 2011; Senge, 2012; Stichweh, 2000; Watson & Lee, 2013). Additionally, I presented a review of the literature pertaining to the development and purpose of a school data-room (Ingram, Louis, & Schroeder, 2004; Lange et al., 2012; Peery, 2011; Reeves, 2009; Ugurlu, 2013; White, 2011).

I also reviewed research literature concerning three educational decision-making models that may help educational leaders frame a decision making-process to help educators better respond to the requirements of NCLB and RTTT (Flowers & Carpenter, 2009; Marsh, Pane, & Hamilton, 2006; McREL, 2003). However, the three educational decision-making models only provide thin rather than thick descriptive information concerning how the models could frame or facilitate the development of an organizational culture where decision-making is a shared process, leadership is distributed, and data analysis is a collaborative effort (Fetterman, 2010; Flowers & Carpenter, 2009; Geertz, 1973; Marsh, Pane, & Hamilton, 2006; McREL, 2003). Furthermore, I presented a review of literature regarding how the U.S. Army conducts its decision-making process and revealed an organizationally developed decision-making model the U.S. Army has developed since 1897 (Humpert, 2007; U.S. Army Tactics, Techniques, and Procedures Manual 5-0.1, 2011; U.S. Army Doctrinal Publication 5-0, 2012). My initial comparison of the three education decision-making models to the U.S. Army Military Decision Making Model (MDMM) suggested that the MDMM is a more detailed and sophisticated model. The MDMM also appeared to be a better model for decision making because the MDMM is a step by step decision-making model in which data is collaboratively and iteratively analyzed,

leadership is distributed, and decision making is a shared process (Cojocar, 2011; U.S. Army Tactics, Techniques, and Procedures Manual 5-0.1, 2011; U.S. Army Doctrinal Publication 5-0, 2012).

I chose an ethnographic research design because ethnography is an interpretive methodology that situated me as the primary instrument for research to answer my research questions. Moreover, the ethnographic field study approach guided me to interact with the School and Military study site participants in their natural setting allowing me to collect face-to-face ethnographic data using the data collection methods of in-depth interviews, observations, field notes, and the collection of material culture (Fetterman, 2010; LeCompte & Schensul, 2010; Miles, Huberman, & Saldana, 2014).

My collection and analysis of data throughout this field study was an iterative process that informed a progressive and often simultaneous data collection and analysis plan (Denzin & Lincoln, 2013; Fetterman, 2010; LeCompte & Schensul, 2010; Miles, Huberman, & Saldana, 2014). The development of my codebook was computer assisted with Atlas.ti7 CAQDAS. By using Atlas.ti7, I was able to create more of a coding system that prints out a codebook with code names, code definitions, code comments, and an example of a coded data segment. An excerpt from my Atlas.ti7 assisted codebook is at Appendix C. I used an iterative two-stage coding process to construct my codebook (Friese, 2012; Miles, Huberman, & Saldana, 2014). I established authority for this study using the verification strategies of triangulation, thick description, prolonged engagement in the field, member checking, an audit trail, researcher reflexivity, and considerations for bias (Denzin & Lincoln, 2013; Fetterman, 2010; LeCompte & Schensul 2010, Miles, Huberman, & Saldana, 2014).

Chapter 4 is composed of three sections. I initially presented the research questions, findings, and resulting themes for the School study site and the Military study site respectively as section 1 and section 2. Section 3 provided a comparison of the themes found in sections one and two.

In section 3, I compared the four themes resulting from the findings at the School study site to the four themes resulting from the findings at the Military study site and concluded the following differences may exist in how the participants at the school study site practice decision making differently from the participants at the Military study site:

1. Decision-making models do not exist at the School study site to frame an individual or team decision-making process. However, all three participating U.S. Army units utilize the Military Decision Making Model for team decision-making.
2. Data rooms or walls are not present in all the participating schools at the school study site. Conversely, a Tactical Operation Center (TOC) to facilitate decision-making exists in all three participating U.S. Army units.
3. The participating principals desire to cultivate trusting relationships with their faculty and staff to improve faculty and staff buy-in of the decisions made by the principals. However, The U.S Army Military Decision Making Model and Process cultivates vertical and horizontal interdependent relationships between the participating U.S. Army leaders and staff during the Military Decision Making Process.
4. The principals at the School study site do not use any decision-making tools such as decision-making protocols or decision-making models that are in common to the participating schools to prepare for or conduct their decision-making process.

Conversely, the participants at the U.S. Army research study site are trained and held accountable to use organizationally developed decision-making tools; such as, Staff Estimates and the Military Decision Making Model to help inform and frame their decision-making process.

Limitations

The first limitation of this study was that I could not interview or observe the educational participants at the School study site during their contract times, unless approved by the central office. The School study site is a K-12 public school district located in the Southeastern region of the United States of America.

A second limitation was security at the military installation. I could not enter into any military buildings or areas classified as "Off-Limits." I was required to present identification upon entering the military installation and submit to a search of my vehicle upon request of any Department of Defense security personnel every time I entered the Military study site. The Military study site is a U.S. Army base located in the Southeastern Region of the United States of America.

A third limitation was that the participants for the School study site be serving or have served in the role of a school principal. This limitation for participant selection was so that the School study site participants have enough experience to assist in answering my research questions.

A fourth limitation was that the participants for the Military study site be serving or been selected for the rank of Major/O4, and served as a Company Commander. This limitation for participant selection was so that the Military study site participants have enough experience to assist in answering my research questions.

A final limitation is that my sampling became a form of convenience sampling because the geographic location of the study sites were within a travel distance that my personal funds could support (Fetterman, 2010; Miles, Huberman, & Saldana, 2014)

Implications

The first implication of my study is that educational practitioners may not be using decision-making models to frame or inform their decision-making and school improvement planning. According to Marzano (2003), schools should avoid making the mistake of collecting data and having no explanatory model to interpret the data in terms of how the data should provide the school with information that positively influences learning. The participants in this field study from the school study site did not use any type of organizational decision-making model, nor did the School study site participants utilize any of the decision-making models discussed in my review of the literature (Flowers & Carpenter 2009; Marsh, Pane, & Hamilton, 2006; McREL, 2003).

The second implication of my study is that school data rooms are not consistently being established and that data-rooms exist primarily for the posting and displaying of summative data such as end of school year data, which provides little to no help to educators attempting to define their current reality or inform their immediate decision-making concerns. In addition, I note in

this field study that too much emphasis is placed on the structure of the data room and not enough emphasis on its function to stimulate collaborative data analysis, systems thinking, knowledge management, and collegial dialogue (Cousins, Goh, & Clark, 2006; DeLisio, 2009; Lange, et al., 2012; Schmoker, 2003; Senge et al., 2012; Ugurlu, 2013).

The third implication of my study is that the absence of educational decision-making tools similar to the U.S. Army Staff Estimates and Military Decision Making Models make it difficult for school leaders to cultivate leadership and staff relationships that create the "buy-in" the participating principals said they desired for school improvement planning. Developing vertical and horizontal interdependent staff relationships could also lead to an increase in collegial conversations, team learning, systems thinking and shared visions (Blockley, 2010; Flowers & Carpenter, 2009; Marzano & Waters 2009; Senge et al., 2012; Stichweh, 2000).

The final implication of my study is that the absence of educational decision-making tools similar to the U.S. Army Staff Estimates and Military Decision Making Models hamper educational leaders in regards to understanding their missions, setting achievable goals and articulating a comprehensive vision for school improvement planning (Flowers & Carpenter 2009; Marsh, Pane, & Hamilton, 2006; Marzano, 2009; McREL, 2003).

Recommendations for Practice and Future Research

This ethnographic field study explored the decision-making practices of two different culture-sharing groups. The two study groups were a K-12 public school district located in the southeastern part of the United States of America and a U.S. Army military unit also located in the southeastern part of the United States of America. Comparisons were made of the organizational decision-making tools, participant roles and relationships for decision-making, and the cultural

behavior of the participants during the decision-making process. I found that the principals at the School study site did not utilize any type of personal or organizational decision-making model or process. Moreover, a data room did not exist within each participating school at the School study site to facilitate the analysis of data and data-driven decision-making. The relationships among the faculty and staff were sometimes vague and there was one account of the staff not being included in the school decision-making process. My discussion of the compared themes leads me to make the following six recommendations for educational practice and future research.

My first recommendation is for educational practitioners and researchers is to immediately study the various types of data-driven decision-making models that exist within the current research literature, such as the models found in my chapter two review of the literature and adopt a decision-making model to help frame their decision-making. Whole school districts should adopt a common decision-making model and process (Flowers & Carpenter, 2009; Marsh, Pane, & Hamilton, 2006; McREL, 2003; U.S. Army Manual (ATTP 5-0.1), Commander and Staff Officer Guide, 2011). By adopting and using the same decision-making model, a school district could create an atmosphere to facilitate the "buy-in" of the decision-making of major changes within entire school districts, similar to the decision of the U.S. Army to initiate the political decision of *Courageous Restraint* in Afghanistan. Moreover, a common and systems oriented decision-making model could help new school principals collaborate with their peers during their first months as the instructional leader of a school as indicated by Mrs. Caison in my field notes. Although the current models in my review of literature may not be sophisticated enough to completely help educators answer to the current accountability mandates

of NCLB and RTTT, the current models could help educators become accustomed to using decision-making models until better models are designed for educators.

My second recommendation is that educational practitioners focus more on the purpose of their school mission and task of school staff operating within the data room instead of the physical structure/layout of the data room. Many data rooms in use today display useless summative school data and are equipped with furniture and technology that no one is using. The basic physical structure or layout of the data room may vary from school to school such as it is with the U.S. Army TOC structure. However, the collaborative staff actions and behaviors that occur in the data room should be consistent throughout the school district such as it is for U.S. Army battalion staff operations. Specifically, schools should base the relationships of school staff, the organizational structure of school staff, and training of school staff upon the current and future realities of education reform mandates such as NCLB and RTTT. The posting of decision-making terms in the data room such as collegial conversation, data-driven decision-making, collaborative data analysis, distributed leadership, and shared decision-making could possibly lead to the creation of a culture of using language and thought that facilitates transparency, trust, and "buy in" to school decisions that are highly sought by the principals at the School study site. Moreover, educators should establish and enforce rules of conduct during collaborative decision-making in the data room so that new or inexperienced school leaders are protected from unwarranted criticism during the decision-making process (DeLisio, 2009; Kensler et al., 2012; Lange et al., 2012; Senge et al., 2012; ; Ugurlu, 2013; U.S. Army Manual (ATTP 5-0.1), Commander and Staff Officer Guide, 2011).

My third recommendation for future research is to extend this qualitative study as a mixed methods design to include using a team of researchers to conduct the research. LeCompte and Schensul (2010) recommended researchers mix an ethnography with a quantitative method such as a "survey to confirm and validate ethnographically defined participant concepts and patterns" (p.128). As part of this recommendation, I also suggest that other U.S. Army decision-making tools such as the Troop Leading Procedures (TLP), Staff Estimates, and After Action Review (AAR) are included in the focus of the research project. A different member of the research team could be responsible for conducting individual research on a different U.S. Army decision-making tool and then collaborate with the entire research team to analyze how their particular U.S. Army decision-making tool functions as part of the entire decision-making process. Additionally, I suggest the research on the TLP focus on how the TLP as a tool for individual decision-making prepares individual leaders and staff to participate in the MDMP as a team decision-making process. The primary goal for the research team would be to learn from the U.S. Army the purpose of its decision-making tools and adapt that knowledge to creating better decision-making tools for educators that address accountability and organizational growth. Moreover, researching the Troop Leading Procedures could help frame decision-making for the individual teacher such as decision-making for instruction, assessment, and student behavior. It is essential for the evolution and practice of education that educational researchers develop new decision-making models that are similar in design and purpose to the Military Decision Making Model and Military Decision Making Process. Better-designed decision-making models similar to the MDMM could facilitate the systemic collection, analysis, and interpretation of educational data as the data relates to educational policy, practice, and research (Lange et al., 2012; Mulnix,

2011; Senge et al., 2012; Stichweh, 2000; U.S. Army Manual (ATTP 5-0.1), Commander and Staff Officer Guide, 2011; Ugurlu, 2013).

My fourth recommendation is that U.S. Colleges of education take the lead in educating and developing educational leaders that not only embrace the practice of data-driven decision-making but also believe that data-driven decision-making must take place within the framework of a decision-making model that promotes the distribution of leadership and a sharing of knowledge within the decision-making process. It is important that educational leaders understand that the distribution of leadership and the sharing of decision making does not relieve educational leaders of being ultimately responsible for accountability. It is a moral imperative of U.S. Colleges of Education to reconsider their curriculum of educational leadership and better prepare educational leaders to respond to current and most likely future accountability mandates such as NCLB and RTTT with solutions that are data driven and not schemes that result in test cheating scandals that tarnish our profession (Fullan, 2003; Spring, 2010).

My fifth recommendation for future research would be to explore the decision-making tools of the U.S. Marine Corps because the U.S. Marines utilize the same Military Decision Making Model (MDMM), as the U.S. Army. Conducting research on how the U.S. Marine Corps applies the MDMM to facilitate their decision-making process could provide additional data for educational researchers towards the development of decision-making models for educational practice.

My final recommendation based on my findings from the interview with Major Rhodes, would be to explore the British Army decision-making Tools. The British Army is a longtime ally of the United States of America, and researching their decision-making process would

provide an additional cultural aspect from an international point of view for comparisons, implications, and recommendations.

Summary

In this field study, I explored and compared how a U.S. Army military unit conducts decision making and uses decision-making tools to how a U.S. k-12 public school district conducts its decision making and uses decision-making tools. I sought to gather empirical data that could provide information to educators that contributes to our development of decision-making models and decision-making tools. Additionally, I sought information that could help cultivate a culture of decision-making within the field of education where data analysis is collaborative, leadership is shared, and decision-making is data-driven. This research suggests that the U.S. Army Military Decision Making Model and Process as decision-making tools are different from any education decision-making models described in the part of my review of the literature addressing education decision-making models. It is my intent that the empirical data and interpretations I provide from this field study contributes to the practice and research of decision-making in the field of education.

References

Abbey, R. (2010, January). Cincinnati turnaround schools seeing gains on district tests. *Catalyst- Ohio.* Retrieved from: http:www.catalyst-ohio.org/news/index.php

Agee, J. (2009). Developing qualitative research questions: a reflective process. International Journal of Qualitative Studies in Education, 22(4), 431-447.

Angeles, R. (2005). Battle captains and battle tracking. *Infantry, 94*(5), 36-41

Ash, R.C., Hodge, P.H., & Connell, P.H. (2013). The recruitment and retention of principals who increase student learning. *Education, 134* (1), 94-100.

Bakioglo, A., & Dalgic, G., (2013). The Possible Barriers behind Reflective Thinking and Practice: Experiences of School Principals from Turkey and Denmark. *Educational* Sciences: Theory & Practice, 13 (2), 832-838.

Bernhardt, V.L. (2004). Data analysis: for continuous school improvement. Larchmont, New York: Eye on Education.

Bernhardt, V.L. (2003). No school left behind. *Educational Leadership, 60* (5), 26-30.

Blockley, D. I. (2010). The importance of being. *Civil Engineering and Environmental Systems 27*(3), 189-199.

Bogdan, R. C., & Biklen, S. K., (1998). Qualitative research in education: An introduction to *the theory and methods.* Needham Heights, Massachusetts: Allyn & Bacon

Bolman, L.G., & Deal, T. E. (2002). *Reframing the path to school leadership*. Thousand Oaks, California: Corwin Press.

Boser, U. (2012). Race to the top: What have we learned from the states So Far? *Center for American Progress.* Retrieved from http://www.americanprogress.org/issues /education/report/2012/03/26/11220/race-to-the-top-what-have-we-learned-from- the-states-so-far/.

Bush, T. & Glover, D. (2013). School management teams in South Africa: A survey of school leaders in the Mpumalanga Province. *International Studies in Educational Administration, 41*(1), 21-40.

Camminatiello, I., Paletta, A., Speziale, M. T. (2012). The effects of school-based management and standards-based accountability on student achievement: Evidence from PISA 2006. *Electronic Journal of Applied Statistical Analysis, 5*(3), 381-386.

Chapman, C. & Fullan, M. (2007). Collaboration and partnership for equitable improvement: towards a networked learning system? *School Leadership and Management, 27* (3), 207-211.

Cojocar, W.J. (2011). Adaptive leadership in the military decision making process. *Military*

Review, 91(6), 29-34.

Cousins, B.J., Goh, S. C., & Clark, S. (2006). Data use leads to data valuing: Evaluative inquiry for school decision-making. *Leadership and Policy in Schools, 5*(2), 155-176.

Cox, R.D. (2012). Teaching qualitative research to practitioner-researchers. *Theory Into Practice*, 51(2), 129-136

Crabtree, B.F., & Miller, W. L. (1992). *Doing Qualitative Research*. Newberry Park, California: SAGE Publications.

Creswell, J. W. (1998). Qualitative inquiry and research design: Choosing among five *traditions*. Thousand Oaks, CA: SAGE.

Creswell, J. W., & Miller, D. L. (2000). Determining validity in qualitative inquiry. *Theory Into Practice*, 39 (3), 124-130.

Creswell, J.W. (2007). Qualitative inquiry and research design: Choosing among five approaches. (2nd ed.). Thousand Oaks, CA: Sage.

Crossley, M. (2008). Bridging cultures and traditions for educational and international development: Comparative research, dialogue, and difference. *International Review of Education, 54*(3/4), 319-336.

Crotty, M. (1998). The foundations of social research. Thousand Oaks, CA: Sage Publications, Inc.

Cruz, E.V., & Higginbottom, G., (2013). The use of focused ethnography in nursing research. *Nurse Researcher.* 20(4), 36-43.

Dalenberg, S., Vogelar, A. L.W., & Beersma, B. (2009). The effects of a team strategy discussion on military team performance. *Military Psychology,* 21(2), 31-36.

Datnow, A., (2011). Collaboration and contrived collegiality: revisiting Hargreaves in the age of accountability. *Journal of educational change, 12*(2), 147–158.

Davidson, K. (2008). From tactical planning to operational design. *Military Review,* September-October.

Deal, T. E., & Peterson, K. D. (1999). *Shaping school culture*. San Francisco California: Jossey-Bass.

DeLisio, E. R. (2009, July 23). Using data rooms to map your way to success. *Education World,* Retrieved from http://www.educationworld.com/a_admin/admin/admin392.shtml

Denzin, N. K., & Lincoln, Y. S. (Eds.). (2013). *Collecting and interpreting qualitative materials* (4th ed.). Thousand Oaks, California: SAGE Publications.

Dessoff, A. (2011). High-stakes cheating. *District Administration, 47*(4), 50-52.

Deville, C., & Chalhoub-Deville, M. (2011). Accountability-assessment under no child left behind: Agenda, practice, and future. *Language Testing, 28*(3), 307-321.

Dewey, J. (1990). *The school and society: The child and the curriculum.* Chicago: The

University of Chicago Press.

DiMarco, L.A. (2009). The U.S. Army General Staff: Where is it in the twenty-first century? *Small Wars Journal*, 1-8. www.smallwarsjournal.com

Feeney, E. J., (2009). Taking a look at a school's leadership capacity: The role and function of high school department chairs. *Leadership Capacity, 82*(5), 212-218.

Fetterman, D. M., (2010). *Ethnography step-by-step* (3rd ed.). Thousand Oaks, CA: Sage Publications Inc.

Flowers, N., & Carpenter, D. (2009). You don't have to be a statistician to use data: A process for data based decision-making in schools. *Kappan, 91*(2), 64-67.

Fox, D. (2013). The principal's mind-set for data. *Leadership, 42*(3), 12-36.

Friese, S. (2012). *Qualitative data analysis with ATLAS.ti.* Thousand Oaks, CA: Sage Publications Inc.

Fullan, M. (2011). *Choosing the wrong drivers for whole system reform*. Seminar Series Paper, (204). East Melbourne Victoria, Australia: Center for Strategic Education.

Fullan, M. (2009). Leadership development: The larger context. *Educational Leadership, 67*(2), 45-49.

Fullan, M., Hill, P., & Crevola, C. (2006). *Breakthrough*. Thousand Oaks, CA: Corwin Press.

Fullan, M. (2003). *The moral imperative of school leadership*. Thousand Oaks, CA:

Corwin Press.

Fullan, M. (2001). *Leading in a culture of change*. San Francisco, California: Jossey-Bass.

Fullan, M. (1993). Change forces. Bristol, Pennsylvania: The Falmer Press, Taylor & Francis.

Gay, L.R., & Airasian, P. (2000). *Educational research: competencies for analysis and application*. Upper Saddle River, New Jersey: Prentice Hall.

Gay, L.R., Mills, G.E, & Airasian, P. (2006). *Educational research: competencies for analysis and application*. Upper Saddle River, New Jersey: Prentice Hall.

Geertz, C. (1973). *The interpretation of cultures.* New York: Basic Books.

Glickman, C. D. (1993). *Renewing America's schools: A guide for school-based action.* San Francisco, California: Jossey-Bass.

Goodwin, Bryan. (2009). Culture the secret sauce of school improvement. *Changing Schools, Mid-continent Research for Education and Learning* **(**McREL): Summer, 1-3.

Gray, D.L., & Lewis, J. (2013). Preparing principals to become instructional leaders. *Review of Higher Education and Self-Learning, 6*(18), 142-149

Goren, M. (2012). NCLB-the educational accountability paradigm in historical perspective. *American Educational History Journal, 39*(1), 1-14.

Halverson, R. Grigg, J. Pritchett, R. & Thomas, C. (2005). The new instructional leadership: creating data-driven instruction in schools. *Prepared for The Annual Meeting of The,*

National Council of Professors of Education Administration, 1-49. National Science Foundation, (Award 0347030).

Henry, C. (2012). A new doctrine framework for the land component forces. *Military Review, 92*(1), 68-73.

Hess, F, M. & Mehta, J. (2013). Data: No deus ex machina. *Educational Leadership,* (70) 5, 71-75.

Humpert, U. (2007). A German officer's perspective on the U.S. Army's MDMP. *Armor,* (116) 6, 20-22.

Ingram, D., Louis, K., & Schroeder, R. G. (2004). Accountability policies and teacher decision making: Barriers to the use of data to improve practice. *Teachers College Record,* 106(6), 1258-1287.

Jenkins, D.M., & Cutchens, A.B., (2011). Leading critically: A grounded theory of applied critical thinking in leadership studies. *Journal of Educational Leadership, 10* (2), 1-21.

Johnson, J. H. (1997). Data-driven school improvement. *Eric Digest,* 1-5. Retrieved from http://www.ericdigest.org/1997-3/data.html

Kaniuka, T. (2009). "NCLB, School-based instructional policy and decision-making: A proposed research agenda." *College Student Journal*, 43.3, 787-799.

Karlsen, P. M., & Kaspar, V. (2008). Who should do the talking? The proliferation of dialogue

as governmental technology. *Culture and Organization*, *14*(4), 345-363. doi: 10.1080/14759550802489680

Kensler, L.A., Reames, E., Murray, J., & Patrick, L, (2012). Systems thinking tools for improving evidence-based practice: A cross case analysis of two high school leadership teams. *High School Journal 95*(2), 32-53

Kilbourn, B. (2006). The qualitative doctoral dissertation proposal. *Teachers College Record*, 108 (4), 529-576.

Klein, F. (2001). The myth of the Prusso-German general staff. *Baltic Defense Review 5.* 133-144.

Kotter, J. P., (2008). *A sense of urgency*. Boston, Massachusetts: Harvard Business Press.

Kruger, M. (2009). The big five of school leadership competencies in the Netherlands. *School Leadership and Management, 29*(2), 109-127.

Lapkoff, S., & Li, R., (2007). Five trends for schools. *Best of Educational Leadership. Summer, 64,* 8-15.

Lambert, L., (1998). *Building leadership capacity in schools*. Alexandria, VA: Association for Supervision and Curriculum Development.

Lange, C., Range, B., &Welsh, K. (2012). Conditions for Effective Data Use to Improve Schools: Recommendations for School Leaders. *International Journal of Educational*

Leadership Preparation 7(3), 1-11.

Learning Point Associates. (2004). Guide to using data in school improvement efforts: A compilation of knowledge from data retreats and data use at learning point associates. Retrieved from http://www.learningpt.org/pdfs/datause/guidebook.pdf

LeCompte, M. D., & Schensul, J. J. (2010). *Designing & conducting ethnographic research* (2nd ed.) Lanham, Maryland: AltaMira Press.

Levin, B.B., & Schrum, L. (2013). Using systems thinking to leverage technology for school improvement: Lessons learned from award-winning secondary schools/districts. *Journal of Research on Technology in Education, 46*(1), 29-51.

Ljungberg-Koro, M. & Hayes, S. (2012). Proposing an argument for research questions that could create permeable boundaries within qualitative research. *Journal of Ethnographic & Qualitative Research, 4*(3), 114-124.

Mandinach, E. B., (2012). A Perfect Time for Data Use: Using Data-Driven Decision Making to Inform Practice. *Educational Psychologist, 47*(2), 71–85.

Marazza, L.L., (2003). *The 5 essentials of organizational leadership*. Thousand Oaks, CA: Corwin Press.

Marino, J. J., (2007). New paradigm for organizational change: Involving customers and stakeholders in the improvement process. *The Journal for Quality & Participation, 30*(1)

10-12.

Marsh, J. A., Pane, J. F., & Hamilton, L. (2006). Making sense of data-driven decision making in education. *RAND Corporation, Education Occasional Paper*, 1-15. www.rand.org

Marshall, C., & Gerstl-Pepin, C. (2005). *Re-framing Educational Politics for Social Justice.* Boston, MA: Pearson.

Marzano, R. J., Waters, T., & McNulty, B. A. (2005). *School leadership that works.* Alexandria, VA: Association for Supervision and Curriculum Development.

McGuinn, P. (2011). Stimulating Reform: Race to the Top, Competitive Grants and the Obama Education Agenda. *Educational Policy*, *26* (1), 136-159.

McREL. (2003). Sustaining school improvement: Data driven decision making. *Mid-continent Research for Education and Learning.* Retrieved from http://www.mcrel.org/PDF/LeadershipOrganizationDevelopment/5031TG_data folio.pdf

Miles, M. B., Huberman. M. A., & Saldana, J. (2014). *Qualitative data analysis: A methods sourcebook* (3rd ed.). Thousand Oaks, CA: Sage Publications Inc.

Morrow, S. (2012). Engineer doctrine and doctrine 2015. *Engineer, 42*(1), 31-33.

Mulnix, J, W., (2011). Thinking critically about critical thinking. *Educational Philosophy and Theory, 44,* (*5*), 464-479.

Murphy, J., Smylie, M., Mayrowetz, D., & Seashore Louis, K. (2009). The role of the principal in fostering the development of distributed leadership. *School Leadership and Management, 29* (2), 181-214.

Nelson, T.B., Deuel, A., Slavit, D., & Kennedy, A., (2010). Leading deep conversations in collaborative inquiry groups. *The Clearing House, 83*(5), 175-179.

Nelson, J. L., Palonsky, S. B., & McCarthy M. R. (2004). *Critical issues in education: dialogues and dialectics.* Boston, MA: McGraw-Hill.

Oliffe, J. (2005). Why not ethnography? *Urologic Nursing, 25* (5), 395-398.

Ornstein, A. C. (2003). *Pushing the envelope critical issues in education*. Upper Saddle River, NJ: Merrill-Prentice Hall.

Paparone, C. R., (2001). U.S. Army decision-making: Past present and future. *Military Review*, *81*(4), 45-53.

Park, V., & Datnow, A. (2009). Co-constructing distributed leadership: district and school connections in data-driven decision-making. *School Leadership and Management*, *29*(5), 477-494.

Pars, M., (2013). Six strategy lessons from Clausewitz and Sun Tzu. *Journal of Public Affairs 13* (3), 329-334.

Payne, R. K. (1996). *A framework for understanding poverty*. Highlands, TX: aha! Process.

Peery, A. (2011). *The data teams experience*: *A guide for effective meetings.* Englewood, Colorado: Lead + Learn Press.

Prytula, M., Noonan, B., & Hellsten, L. (2013). Toward instructional leadership: Principals' perceptions of large-scale assessment in schools. *Canadian Journal of Educational Administration and Policy*, (140), 1-30.

Reeves, D. B. (2009). *Leading change in your school*. Alexandria, VA: Association for Supervision and Curriculum Development.

Reeves, D. B. (2006). Guidelines for data walls or "The science fair for grownups". The Leadership and Learning Center. Retrieved January 3, 2012, from http://www.leadandlearn.com

Reeves, D.B. (2004). *Accountability for learning*. Alexandria, VA: Association for Supervision and Curriculum Development.

Reeves, D.B. & Flach, T. (2012). Data: Meaningful analysis can rescue schools from drowning in data. *Journal of Staff Development, 32*(4), 34-38.

Rudner, L. M., & Boston, C. (2003, February). Data warehousing: Beyond disaggregation. *Educational Leadership, 60*(5), 62-65.

Sallee, M.W. & Flood, J.T. (2012). Using qualitative research to bridge research, policy, and practice. *Theory Into Practice, 51*(2), 137-144.

Schmoker, M. (2003, February). First things first: Demystifying data analysis. *Educational Leadership, 60*(5), 22-24.

Schmoker, M. (2006). Results now. Alexandria, VA: Association for Supervision and Curriculum Development.

Schoen, L. & Teddlie, C., (2008). A new model of school culture: a response to a call for conceptual clarity. *School Effectiveness and School Improvement,* 19(2), 129-153.

Senge, P. (2012). Schools that learn: A fifth discipline field book for educators, parents, and everyone who cares about education. New York, NY: Double Day.

Shen, J., & Cooley, V.E., (2008). Critical issues in using data for decision-making. *Leadership In Education, 11* (3), 319-329.

Shen, J., Cooley, V.E., Ma, X., Reeves, P.L., Walter, B.L., & Yuan, W. (2012). Data-informed decision making on high-impact strategies: Developing and validating an instrument for principals. *The Journal of Experimental Education, 89* (1), 1-25.

Singer, J. B., (2009). Ethnography. *Journalism & Mass Communication Quarterly*, 86 (1), 191-198.

Spillane, J.P., (2012). Data in Practice: Conceptualizing the Data-Based Decision-Making Phenomena. *American Journal of Education, 118* (2), 113-141.

Spring, J. (2010). Political Agendas For Education: From change we can believe in to putting

America first. New York, NY: Taylor and Francis.

Stichweh, R.S. (2000). Systems theory as an alternative to action theory? The rise of 'communication' as a theoretical option. *Acta Sociologica, 43*(1), 5-13.

Stronge, J.H. (2013). Principal evaluation from the ground up. *Educational Leadership, 70*(7), 60-65.

Taylor, Rizvi, Lingard, and Henry. (1997). Educational *policy and the politics of change.* New York, NY: Routledge Falmer.

Traxler, R.N. (1961). A model of modern administrative organization: The German General staff. *Journal of the Academy of Management, 4*(2), 108-114.

Trolian, T.L., & Fouts, K.S. (2011). No child left behind: Implications for college student learning. *About Campus, 16* (3), 2-7.

Ugurlu, C.T., (2013). School management related knowledge levels of Primary School Teachers. *Educational Sciences: Theory & Practice - 13*(2), 907-14.

Unluer, S. (2012). Being an insider researcher while conducting case study research. *Qualitative Report, 17*(58), 1-14.

U.S. Department of the Army, Field Manual 3-21-20, (2006). *The Infantry Battalion.* Retrieved from http://armypubs.army.mil/doctrine/Active_FM.html

U.S. Department of the Army, Field Manual (FM) 101-5. (1997). Staff organization and

operations. Retrieved from http://www.fs.fed.us/fire/doctrine/genesis and_evolution/source_materials/FM-101-5_staff_organization_and_operations.pdf

U.S. Department of the Army, Doctrinal Publication, 2-0. (2012). Intelligence. Retrieved from http://armypubs.army.mil/doctrine/DR_pubs/dr_a/pdf/adp2_0.pdf

U.S. Department of the Army, Doctrinal Publication, 5-0. (2012). The *Operations Process*. Retrieved from http://armypubs.army.mil/doctrine/DR_pubs/dr_a/pdf/adp5_0.pdf

U.S. Department of the Army, Tactics, Techniques, and Procedures (ATTP) No. 5-0.1. (2011). *Commander and Staff Officer Guide*. Retrieved from http://armypubs.army.mil/doctrine/DR_pubs/dr_a/pdf/attp5_0x1.pdf

U.S. Department of Education. (2002). Executive *Summary NCLB.* Retrieved from https://www2.ed.gov/nclb/overview/intro/execsumm.html

U.S. Department of Education. (2009). *Race To The Top Executive Summary*. Retrieved from http://www2.ed.gov/programs/racetothetop/executive-summary.pdf

U.S. Department of Education. (2010a) *Race to the Top Program Guidance and Frequently Asked Questions.* Retrieved from http://www2.ed.gov/programs/racetothetop/faq.pdf

U.S. Department of Education, Office of Planning, Evaluation, and Policy Development. (2010b). *Use of Education Data at the Local Level From Accountability to Instructional Improvement.* Retrieved from http://www2.ed.gov/rschstat/eval/tech/use-of-education-

data/use-of-education-data.pdf

Vergun, D. (2009). NCO pride & heritage run deep. *Soldiers,* 10-16. Retrieved January 3, 2014, from http://www.army.mil/soldiers/archives/

van Ameijde, J. D. J., Nelson, P. C., Billsberry, J., & van Meurs, Nathalie. (2009). Improving leadership in higher education institutions: a distributed perspective. *Higher Education*, 58, 763-779.

Waddell, J. N. (2006). Battle tracking tips for Junior Leaders. *Engineer, 36*(3), 14-16.

Waldron, N. L., & Mcleskey, J. (2010). Establishing a collaborative school culture through comprehensive school reform. *Journal of Education and Psychological Consultation*, 20, 58-74.

Wang, D., Waldman, D. A., & Zhang, Z. (2013). A meta-analysis of shared leadership and team effectiveness. *Journal of Applied Psychology, 99*, (2), 181-198. Doi: 10.1037/a0034531

Watson, W.R. & Watson, S.L. (2013). Exploding the ivory tower: systemic change for higher education. *Tech Trends, 57* (5), 42-46.

Wayman, J. C. (2005). Involving teachers in data driven decision-making: Using computer data systems to support teacher inquiry and reflection, 10(3), 295-308.

White, S.H. (2011). *Beyond the numbers: Making data work for teachers & school leaders.* (2nd ed.). Englewood Colorado: Lead + Learn Press.

Wiliam, D. (2010). Standardized testing and school accountability. *Educational Psychologist*, *45*(2), 107-122.

Zachary, L. J. (2005). *Creating a mentoring culture: The organizations guide*: San Francisco, CA. Jossey-Bass.

Zepeda, S. J. (2003). The principal as instructional leader: A hand book for supervisors: Larchmont, NY. Eye on Education.

Appendix A

Interview Protocol

Interview Protocol: Creswell, J. W. (1998). *Qualitative inquiry and research design: Choosing among five traditions.* Thousand Oaks, CA: SAGE.

Project: Data Driven Decision-Making for School Improvement Planning

Time of Interview:

Date:

Place:

Interviewer:

Interviewee:

Position of Interviewee:

(Briefly describe the project)

Questions:

RESEARCH INTERVIEW QUESTIONS

1. What decision making model is used to conduct the decision making process?

A. What decision making model do you use to conduct your decision making process?

B. What other leaders in your organization use this same decision making model and why?

C. Why do you feel it is necessary to use this model?

2. How is the decision making model structured and why?

A. How would you explain the steps or parts of your decision making model?

B. How are leaders trained or developed to make use of this model?

3. How does the decision making model facilitate the decision making process?

A. How does this decision making model facilitate the concepts of distributed and collaborative leadership?

B. How does this decision making model support or influence the concept shared decision making?

4. What participant roles and responsibilities exist for the decision making process?

A. What qualifies a particular participant to be included in the decision making process?

B. How is the process initiated?

C. What is the role of the next highest level of leadership in the process?

D. What is the role of the leader in the process?

E. What are the roles of staff in the process?

F. What are the roles of subordinate leaders in the process?

5. What relationships exist among the participants of the decision making process?

A. What relationships exist between the leader and staff?

B. What relationships exist between the various staff members and how does this relationship differ from their relationship with the leader?

C. How are these relationships interdependent and interconnected?

6. What informs the participants of the various types of data needed for the decision making process?

    A. What determines the type of data to be collected?

    B. How are the leaders and staff involved in the data collection process?

7. How is the data collected and analyzed for the decision making process?

    A. What roles exist for the leader and staff in the data analysis phase of the decision making process?

8. How are solutions or courses of actions developed following the data analysis phase?

    A. What determines who participates in the development of a solution or course of action and why?

9. What interim assessments and/or bench marks are utilized to monitor organizational progress for a particular solution or courses of action?

    A. How do you measure or assess organizational progress for particular solution or course of action?

    B. What types of control measures are used to facilitate the coordination and synchronization of the events to occur within a particular solution or course of action?

    C. What is the format and purpose of each control measure?

10. What happens if multiple solutions or courses of actions are developed?
    A. Describe the process for selecting the best possible solution or course of actions from many proposals.
11. What is the approval/selection procedure for the best solution or course of action?
    A. How would you describe the approval process?
    B. What options exist for the leader and staff if the leader rejects the course of presented to him for approval?

12. How and in what format is the approved solution or course of action distributed to the organization?
    A. Who is responsible for distribution?
    B. How do you ensure distribution to all levels of the organization?
    C. Does distribution of the approved course of action end the decision-making process or is there a continuous effort to improve the course of action as new data is discovered?

Appendix B

Observation Protocol

Observation Protocol: Crabtree, B.F., & Miller, W. L. (1992). *Doing Qualitative Research*. Newberry Park, California: SAGE Publications.

Date of Activity:

Length of Activity:

Descriptive Notes	Reflective Notes / Diagrams

Appendix C

Code Book Excerpt

Current Codes with Comments, Definitions, and Atlas.ti7 Identifiers

---

HU: Decision Making Project

File: [C:\Users\parham\Desktop\Alfred Parham Project Folder\Decision Making Project.hpr7]

Edited by: Super

Date/Time: 2014-07-12 13:15:42

CHANGE

Created: 2013-07-06 14:55:25 by Super

Modified: 2013-07-13 22:47:49

Families (1): CHANGE

Quotations: 0

Comment:

The dynamics and complexities of the change process.

---

change agents

Created: 2013-07-06 15:17:34 by Super

Modified: 2013-09-29 00:06:18

Families (1): CHANGE

Quotations: 19

Comment:

General items and issues affecting the organizations ability to change or adapt to change.

---

change buy-In

Created: 2013-07-06 14:55:25 by Super

Modified: 2013-07-13 22:48:03

Families (1): CHANGE

Quotations: 3

Comment:

> Specific issues affecting the organizations ability to change or adapt to change. Buy-In, is when the leader creates a climate and/or culture that facilitates individual and organizational acceptance of his plan or vision.

---

change contingency planning

Created: 2013-07-07 00:21:44 by Super

Modified: 2013-09-29 00:06:18

Families (1): CHANGE

Quotations: 6

Comment:

> The contingency plans are for change or conditions that result from events; such as, the time an event occurs, an increase in money, resources, or actions on the part of opposing forces. A contingency plan is for an event that is likely, but not definitely going to occur, however, a delay in reacting to the event by not planning can lead to mission failure or an undesired end state.

---

change flexibility

Created: 2013-07-06 14:55:25 by Super

Modified: 2013-09-29 00:06:18

Families (1): CHANGE

Quotations: 5

Comment:

> Specific issue affecting the organizations ability to change or adapt to change. Flexibility is an individuals or organizational desire and ability to accept or adapt to change.

---

change respect

Created: 2013-07-06 14:55:25 by Super

Modified: 2013-07-13 22:48:23

Families (1): CHANGE

Quotations: 2

Comment:

Specific issue affecting the organizations ability to change or adapt to change. The amount or level of referent power given to a leader by others individuals in the organization. Respect is defined by the culture within the organization. Respect and the amount of respect given to an individual must be earned.

---

change transparency

Created: 2013-07-06 14:55:25 by Super

Modified: 2013-09-29 00:06:18

Families (1): CHANGE

Quotations: 22

Comment:

Specific issue affecting the organizations ability to change or adapt to change. The degree to which the leader believes that he has made his plans and visions know to his followers. Also, the degree to which the followers believe the leaders has made his plans and vision known to them.

---

change trust

Created: 2013-07-06 14:55:25 by Super

Modified: 2013-09-29 00:06:18

Families (1): CHANGE

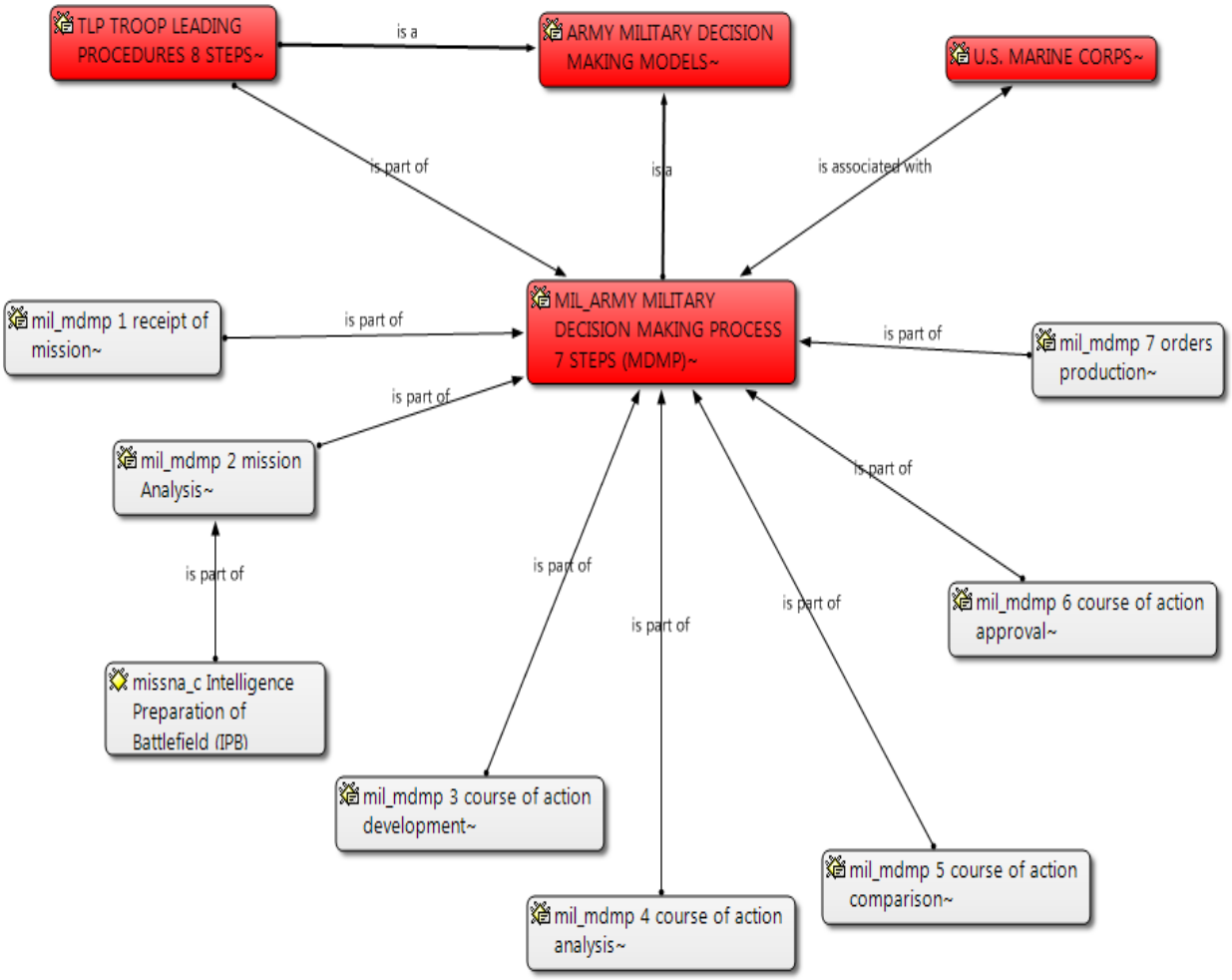
Quotations: 23

Comment:

Specific issue affecting the organizations ability to change or adapt to change. The degree to which individuals within the organization expect each other and the organization to follow through on agreed upon promises and completing task assigned to them. Trust and the amount of trust given to an individual has to be earned.

Appendix D

ATLAS.TI Sample Network View



Appendix E

Informed Consent

(NOTE: DO NOT AGREE TO PARTICIPATE UNLESS AN IRB APPROVAL STAMP WITH CURRENT DATES HAS BEEN APPLIED TO THIS DOCUMENT.)

INFORMED CONSENT

for a Research Study entitled

"Data Driven Decision Making for School Improvement Planning"

You are invited to participate in a research study to explore data driven decision making and how differing cultural practices may be decribed, interpreted, and possibly incorporated into your current model to help improve your data driven decision-making process. The study is being conducted by Alfred Parham, a Doctoral Candidate, under the direction of Dr. James S. Kaminsky, Advisor, and Mildred Cheshire Fraley Distinguished Professor in the Auburn University Department of Educational Foundations, Leadership, and Technology (EFLT). You were selected as a possible particiapant because of your leadership position and experience.

What will be involved if you participate? If you decide to participate in this study, you will be asked to answer a few questions concerning data driven decision-making, your organizational decision making model, and your organizational decision making process. The interiew session is approxiamatley one hour long. You may also be asked to allow the researcher to observe the conduct of atleast one organizational decision-making process and conduct a brief follow up session at the end of the research period to confirm any data that has been collected. Your total time commitment will be approxiamately one hour for the interview, the time you will need to conduct an organizational decision-making process, and approxiamately one hour for the follow-up session.

Paticipant's initials_____ Page 1 of 3

Are there any risks or discomforts? The risks associated with participating in this study are the possible breach of confidentiality. To minimize these risks, we will keep all information confidential and not request any information regarding name, social security number, or any other specific information.

Are there any benefits to yourself or others? If you participate in this study you will better understand the decision-making model of the other participating organization, and how they incorporate data, distributed leadership, and shared decision-making into their decision making process.

Will you receive compensation for participating? No compensation will be given for your participation.

Are there any costs? If you decide to participate, you will not be asked to incur any cost to participate in this study.

If you change your mind about participating, you can withdraw at any time during the study. Your participation is completely voluntary. If you choose to withdraw, your data can be withdrawn as long as it is identifiable. Your decision about whether or not to participate or to stop participating will not jeopardize your future relations with Auburn University, the Department of EFLT, or your organization.

Your privacy will be protected. Any information obtained in connection with this study will remain anonymous. Information obtained through your participation may be used to fulfill an educational requirement, published in a professional journal, or presented at a professional meeting/conference.

If you have questions about this study, please ask them now or contact Alfred Parham at 706-569-3759, 706-748-2920, or Dr. James Kaminsky at 334-844-3592. A copy of this document will be given to you to keep.

Participant's initials_____ Page 2 of 3

If you have questions about your rights as a research participant, you may contact the Auburn University Office of Human Subjects Research or the Institutional Review Board by phone (334)-844-5966 or e-mail at hsubjec@auburn.edu or IRBChair@auburn.edu .

HAVING READ THE INFORMATION PROVIDED, YOU MUST DECIDE WHETHER OR NOT YOU WISH TO PARTICIPATE IN THIS RESEARCH STUDY. YOUR SIGNATURE INDICATES YOUR WILLINGNESS TO PARTICIPATE.

_____	_____
Participant's signature Date	Investigator obtaining consent Date
_____	_____
Printed Name	Printed Name

Appendix F

Auburn University Institutional Review Board (IRB) Approval

Reply IRB Administrator, 10/17/2011. AP

Handcarried 8/31/2011

AUBURN UNIVERSITY INSTITUTIONAL REVIEW BOARD for RESEARCH INVOLVING HUMAN SUBJECTS

RESEARCH PROTOCOL REVIEW FORM

For Information or help contact **THE OFFICE OF RESEARCH COMPLIANCE**, 115 Ramsay Hall, Auburn University
Phone: 334-844-5966 **e-mail:** hsubjec@auburn.edu **Web Address:** http://www.auburn.edu/research/vpr/ohs/

Revised 03.26.11 – DO NOT STAPLE, CLIP TOGETHER ONLY. Save a Copy

1. **PROPOSED START DATE of STUDY:** Oct 3, 2011

PROPOSED REVIEW CATEGORY (Check one): FULL BOARD ✓ EXPEDITED EXEMPT

2. **PROJECT TITLE:** Data Driven Decision making for School Improvement Planning: Toward a model and process for distributive leadership and shared decision making.

3. Alfred Parham	Doctoral Candidate	EFLT	706-221-9743	parhaal@auburn.edu
PRINCIPAL INVESTIGATOR	TITLE	DEPT	PHONE	AU E-MAIL
5001 Mint Drive Columbus, GA. 31907				alfredparham@knology.net
MAILING ADDRESS			FAX	ALTERNATE E-MAIL

4. **SOURCE OF FUNDING SUPPORT:** ✓ Not Applicable Internal External Agency:_____ Pending Received

5. **LIST ANY CONTRACTORS, SUB-CONTRACTORS, OTHER ENTITIES OR IRBs ASSOCIATED WITH THIS PROJECT:**
N/A

6. **GENERAL RESEARCH PROJECT CHARACTERISTICS**

6A. Mandatory CITI Training

Names of key personnel who have completed CITI:
Alfred Parham
Dr. James Kaminsky

CITI group completed for this study:
✓ Social/Behavioral Biomedical

PLEASE ATTACH TO HARD COPY ALL CITI CERTIFICATES FOR EACH KEY PERSONNEL

6B. Research Methodology

Please check all descriptors that best apply to the research methodology.

Data Source(s): ✓ New Data Existing Data
Will recorded data directly or indirectly identify participants? ✓ Yes No
Data collection will involve the use of:
Educational Tests (cognitive diagnostic, aptitude, etc.)
✓ Interview / Observation
Physical / Physiological Measures or Specimens (see Section 6E.)
Surveys / Questionnaires
Internet / Electronic
✓ Audio / Video / Photos
Private records or files

The Auburn University Institutional Review Board has approved this document for use from 11-2-11 to 11-1-12 Protocol # 11-280 EP 1111

6C. Participant Information

Please check all descriptors that apply to the participant population.
✓ Males ✓ Females AU students
Vulnerable Populations
Pregnant Women/Fetuses Prisoners
Children and/or Adolescents (under age 19 in AL)
Persons with:
Economic Disadvantages Physical Disabilities
Educational Disadvantages Intellectual Disabilities
Do you plan to compensate your participants? Yes ✓ No

6D. Risks to Participants

Please identify all risks that participants might encounter in this research.
✓ Breach of Confidentiality* Coercion
Deception Physical
Psychological Social
None Other:

RECEIVED OCT 17 2011

*Note that if the investigator is using or accessing confidential or identifiable data, breach of confidentiality is always a risk.

Do you need IBC Approval for this study? ✓ No Yes - BUA #_____ Expiration date _____

FOR OHSR OFFICE USE ONLY

DATE RECEIVED IN OHSR: revisions 10/17/11 by GB
DATE OF IRB REVIEW: 3/11/2/11 by KJE
DATE OF IRB APPROVAL: _____ by _____
COMMENTS: original 8/30/11 - not approved KJE

PROTOCOL # 11-280 EP 1111
APPROVAL CATEGORY: 45CFR 46.110(7)
INTERVAL FOR CONTINUING REVIEW: 1 year