

PROFESSIONAL LEARNING COMMUNITY DIMENSIONS IN A NORTH TEXAS ELEMENTARY
SCHOOL'S CULTURE AND THEIR IMPACT ON READING AND MATH STUDENT GROWTH SCORES

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The purpose of this mixed methods study was to determine which dimensions, as represented by the Professional Learning Community Assessment – Revised dimensions, are present in the environment of North Texas elementary schools and their impact on student growth.

A survey design was utilized in which elementary principals and teachers in a selected school district completed the Professional Learning Community – Revised survey developed by Hipp and Huffman (2009), to gather perceptions of PLC implementation within their school environments as well as reflect strengths and needs regarding each dimension. The results of the survey were analyzed and one-to-one interviews were completed to clarify and support survey results. Bivariate and multiple regression analysis were used to determine correlations between dimensions present in a school's environment and their impact on student growth.

The study found a statistically significant relationship between the dimensions of shared values and vision and shared personal practice and math growth. Although PLCA-R dimensions were not found to be statistically significant in predicting reading and math growth, the effect sizes were notable at 22.4% for reading growth and 15.8% for math growth.

This study's findings provide important information which educators can use to implement practical application of Professional Learning Communities within their schools and districts. By understanding which dimensions are present within a school's environment as well

as their impact on student growth, educators can continue to increase knowledge and develop a focused plan for implementing strategies which are effective in strengthening teaching and learning in order to increase student achievement.

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By

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CHAPTER 1

INTRODUCTION

Twenty-first century schools are confronted with an enormous task. Not only are educators asked to ensure all students meet national demands for academic standards, which have risen to the highest levels in history, but they are confronted with this task amid decreasing resources and increasing student diversity with regard to language, culture and socioeconomic differences.

With increasing pressure to improve student achievement, educators and policymakers have a continued interest in determining what is needed to close the achievement gap in the United States. “Recent studies released through the National Center for Education Statistics (NCES) shows that students at various educational levels in the United States continue to lag behind those in other countries and behind expectations here at home in mathematics and science literacy, in problem solving and in reading achievement” (U.S. Department of Education, 2005, p. 10). Additionally, the U.S. has one of the highest college dropout rates in the world as well as has more than one-third of its high school graduates enter college having to take remedial courses (DuFour & Marzano, 2011). It is these statistics that continue to fuel efforts to reform schools. Dufour and Marzano (2011) state public schools lack “the collective capacity to promote learning for all students in the existing structures and cultures of the systems in which they work” (p. 15). It is within this context that this study seeks to investigate the school organizational structure and culture that exists within successful schools.

Theoretical Framework

Schools are comprised of complex structures and cultures that must be understood in order to achieve sustained school improvement efforts. Organizational structure involves how a school shares leadership responsibilities and practices and who is involved in leading and managing the school including formal and informal positions. “Organizational culture is composed of shared beliefs, expectations, and values and norms of conduct of members” (Hanson, 2003, p. 60). It is how people work together and interact with each other. Education has long been thought to follow the structure of a bureaucracy in which “experts are hired for defined roles and are grouped according to task specialization” (Hanson, 2003, p. 5). Although this bureaucratic structure has long defined educational environments, the belief that it is the most effective structure has diminished due to increasing challenges related to student achievement and school improvement expectations. As school demands for improvement continue to increase, schools must find a way to develop and sustain structures that maximize individual and collective capacity while creating and maintaining environments that focus on shared beliefs and collaborative efforts for continuous improvement. The theoretical framework for this study is grounded in the literature of distributed leadership as an effective organizational structure, as well as teacher leadership, and Professional Learning Communities as a way of creating shared practice and a collaborative school culture.

Distributed Leadership

It is widely accepted that school leadership makes an impact on student achievement. Traditionally, school leadership was viewed under the guidance of Frederick Taylor’s scientific management system. This organizational system looked at the educational system as a vertical

hierarchy that flowed in a top down fashion. In this way, the principal served as the sole instructional leader, responsible for running all areas of school life as well as ensuring the highest levels of student achievement. Staffing, discipline, professional development, parent/community programs, special education, student achievement and instructional leader are just a few of the complex daily requirements of the principal (Grubb & Flessa, 2006). In a world where there are increasingly rigorous national and state student achievement expectations, increasing numbers of students coming to U.S. schools with multiple social, emotional, physical and academic needs, and decreasing monetary resources, the organizational structure of the school as having just one leader is called into question. In order for schools to be successful today, leadership must no longer be placed singly in the hands of the principal. Linda Lambert (1998) notes leadership in our schools “needs to be embedded in the school community as a whole” (p. 5). To this end, it is imperative and expected that the principal distribute leadership effectively.

Distributed or shared leadership is a way in which effective schools become “increasingly focused on enabling people throughout the organization to take the lead in identifying and solving problems” (Marzano, 2011, p. 57). The concept of distributed or shared leadership was derived from researchers Peter Gronn and James Spillane. They viewed leadership as an activity that is distributed or “stretched over” multiple people (Mayrowetz, 2008). In this way, leadership is interactive and becomes a tool for empowerment of other influential members to combine their expertise in a school-wide effort toward school improvement. Spillane, Halverson, and Diamond (2004) note “leadership involves mobilizing school personnel and clients to notice, face, and take on the tasks of changing instruction as

well as harnessing and mobilizing the resources needed to support the transformation of teaching and learning” (p. 11).

Teacher leadership

Teacher leadership is a form of distributed leadership. Katzenmeyer and Moller’s (2001) definition of teacher leadership is “teachers who are leaders lead within and beyond the classroom, identify with and contribute a community of teacher learners and leaders, and influence others toward improved educational practice” (p. 5). Research conclusions support that, since teachers have direct interactions with students in the classroom, their effect outweighs that of the principal when holding family educational culture constant (Leithwood & Jantzi, 1998; Muijs & Harris, 2003). The study further confirmed a positive impact on teacher effectiveness and student engagement when a large portion of leadership activities are distributed to teachers (Muijs & Harris, 2003). Although principals are powerful leaders of learning, it is transformational when principals and teachers work together to mobilize change and ensure deeper learning for the students they serve (Fullan, 2002). When teachers are empowered to lead, self-confidence, motivation and work satisfaction are enhanced which has a direct correlation to student motivation and growth (Muijs & Harris, 2003).

Increasing teacher leadership is a way for principals to distribute leadership; however, is the sharing of leadership responsibilities in the twenty-first century enough to increase and sustain student achievement? The restructuring of an organization from a top-down model to a horizontal model where all participants become leaders at one time or another is an important aspect of school success; however, it is but one part. Harris (2012) asserted “just distributing leadership is not enough, it is how leadership is distributed that matters” (p. 3). To have

sustained school improvement, “both new structures and a professional culture are needed” (Deal & Peterson, 1999, p. 6).

Professional Learning Communities

School leadership must “design a culture in which leadership is distributed in an emergent and benevolent way – so the community engages in robust dialogue, in an evidence-informed and experience-grounded manner, about the best means to promote the goals of deep and broad student learning for all” (Hargreaves & Fink, 2008, p. 232). Habegger (2008) stated “a positive school culture is the underlying reason why the other components of successful schools were able to flourish” (p. 43). Katzenmeyer and Moller (2001) asserted the main reason for teacher leadership is to transform schools into Professional Learning Communities.

While there may be numerous interpretations of Professional Learning Communities, for this study the following definition is used. Professional Learning Communities are defined as “professional educators working collectively and purposefully to create and sustain a culture of learning for all students and adults” (Hipp & Huffman, 2010, p. 12).

Research shows shared norms and values as well as strong collegial relationships among teachers are important in generating positive change and school improvement (Muijs & Harris, 2003). Professional Learning Communities address the need to reform organizational structure and culture in schools in order to increase student learning and are seen as an effective practice for lasting change and successful reform (Hipp & Huffman, 2010).

Statement of the Problem

At no time in history have educators been asked to meet such high academic standards with fewer resources. Principals have increased their use of distributing leadership responsibilities through teacher leadership; however, this structural change in the way responsibilities are delegated is not enough to increase and sustain student achievement. Harris (2003) states “if it remains the case that the head distributes leadership responsibilities to teachers, then distributed leadership becomes nothing more than informed delegation” (p. 319).

Despite increasing research which describes Professional Learning Communities, their attributes and impact on successful schools, much less is known about how a school’s culture is developed and sustained through Professional Learning Communities and the impact PLCs have on student achievement. More empirical studies are needed to investigate daily implementation and practice of teacher leadership through Professional Learning Communities as they are fostered and developed to create and sustain a collaborative culture which leads to school improvement (Muijs & Harris, 2003). The problem for this study was to identify dimensions present in a North Texas elementary school’s environment. Additionally, this study determined the relationship and effect dimensions have on student reading and math growth in order to improve school practices that lead to increased student achievement.

Purpose of the Study

The purpose of this study was to analyze factors in a school’s culture, as represented by professional learning community dimensions, which allow the “stretching of work” over multiple people in a school and which positively influence student achievement. The study

used the six dimensions of the Professional Learning Community Assessment – Revised (PLCA-R) by Huffman and Hipp, 2003, to determine dimensions present in a schools environment that impact student achievement. The six dimensions of the PLCA-R include: 1) shared and supportive leadership, 2) shared values and vision, 3) collective learning and application, 4) shared personal practice, 5) supportive conditions (structures), and 6) supportive conditions (relationships). This study provides information to assist school leaders to gain understanding of how effective distribution of leadership and collaborative school cultures can impact and sustain student achievement.

Research Questions

This study was designed to address three questions related to school culture and student reading and math achievement. The questions answered were:

1. Which dimensions, as measured by the Professional Learning Community Assessment – Revised, are present in a North Texas elementary school's environment, and to what extent?
2. If dimensions are identified, what specific actions can be implemented to positively affect student reading and math growth?
3. What is the impact of each dimension on student reading and math growth?

Significance of the Study

In this new era of accountability, schools are faced with increasing pressure to ensure students achieve at high levels. With severe consequences imposed on schools that do not meet higher accountability measures, schools continue to seek out reform efforts that will

effectively foster and sustain student achievement. Research studies have linked effective leadership to successful organizations. Although principals remain a vital piece to the school leadership puzzle, the historical view of the principal as sole decision maker is shifting to a shared model. A distributed leadership model is effective where leadership roles and responsibilities are spread across multiple leaders within a school (Timperley, 2005; Spillane et al., 2004). Research shows increasing teacher influence in schools, in addition to principal leadership, has a powerful effect on school improvement and can be seen as an effective reform measure in schools (Mayrowetz, Murphy, Louis, & Smylie, 2007). Study findings may reveal other factors in schools that impact student achievement. When teachers are closely involved in decision making and have close relationships with colleagues, they are empowered to implement and sustain change for school improvement. Despite what we know about the impact Professional Learning Communities have on school improvement, there are few studies that have produced quantitative and qualitative data. The findings of this study add to the literature on the impact of professional learning community dimensions and process. By analyzing the effect Professional Learning Communities have on student growth and by investigating the day-to-day practices that foster and sustain them, this study adds empirical data regarding Professional Learning Communities as a valid reform measure related to lasting change.

Definition of Terms

For the purpose of this study, the following terms were defined:

Collective learning and application: “The staff share information and work collaboratively to plan, solve problems, and improve learning opportunities” (Hipp & Huffman, 2010, p. 13).

Elementary school: A public school structured Kindergarten through Grade 5.

MAP: Measure of Academic Progress. This is a computerized test developed by the Northwest Evaluation Association. With this assessment the difficulty of the test is adjusted to a student’s performance. The assessments report a Rausch unit (RIT) score in the range of 100-300 and this RIT score can be used to measure growth from year to year.

EGS: Expected growth score. The expected growth score takes individual student scores and computes the difference between the student’s RIT score and the student’s typical growth RIT score on the NWEA MAP assessment.

Professional learning community: “Professional educators working collectively and purposefully to create and sustain a culture of learning for all students and adults” (Hipp & Huffman, 2010, p. 12).

School culture: A school’s own unwritten rules and traditions, norms, expectations values and beliefs, that make up the persona of the school (Deal & Peterson, 1999).

School leadership: Spillane et al. (2004) define school leadership “as the identification, acquisition, allocation, co-ordination, and use of the social, material, and cultural resources necessary to establish the conditions for the possibility of teaching and learning” (p. 11).

Shared personal practice: “Peers meet and observe one another to provide feedback on instructional practices, to assist in student learning, and to increase human capacity” (Hipp & Huffman, 2010, p. 13).

Shared values and vision: “The staff share visions that have an undeviating focus on student learning and support norms of behavior that guide decisions about teaching and learning” (Hipp & Huffman, 2010, p. 13).

Supportive conditions: “Relationships include respect, trust, norms of critical inquiry and improvement, and positive, caring relationships among the entire school community. Structures include systems and resources to enable staff to meet and examine practices and student outcomes” (Hipp & Huffman, 2010, p. 13).

Supportive and shared leadership: “School administrators share power, authority, and decision making, while promoting and nurturing leadership” (Hipp & Huffman, 2010, p. 13).

Organization of the Study

Chapter 1 of this study gave a brief historical context of the problems that exist within the American education system, the theoretical framework, the statement of the problem, the purpose of the study, the research questions that will guide this study, the significance of the study, definition of terms, organization of the study and the summary. Chapter 2 of this study presents the literature review on teacher leadership as a form of distributed leadership and school culture as practiced through Professional Learning Communities. Chapter 3 of this study details the methodology and procedures of the study. In addition, it explains the data collection procedures and data analysis. Chapter 4 of this study reports the findings of the data analysis. Chapter 5 of this study provides discussion, conclusions, implications, summary, and areas for future research.

CHAPTER 2

REVIEW OF LITERATURE

Increased expectation to improve student achievement for all students has led to a continuation of government mandates and accountability through high-stakes testing. “Dramatic changes in the world and the increased pressures placed on schools to support the nation’s economy create a context that makes it impossible to respond as we have in the past” (Katzenmeyer & Moller, 2001, p. viii). This literature review includes information related specifically to four areas. First, as we look toward new ways of responding to an age old issue, we must first reflect on past reform efforts that have not been able to produce the desired results of sustained student achievement. By reflecting on the past, we can avoid repeating failed efforts. Uncovering reform measures that may be effective and sustainable turns us toward the second part of this review of literature which is an examination of distributed leadership as a viable reform effort. School improvement requires that people with multiple sources of expertise collaborate and work together focused on a common vision, mission, goal, or problem. This distribution of expertise allows leadership to become the responsibility of every individual within the school (Spillane, Halverson, & Diamond, 2001). By sharing the enormous job of leadership among many, the goal of meeting increased demands may be achieved. It is becoming more common for principals to relinquish the top-down bureaucratic leadership style and share leadership with teachers who make up the largest portion of members within the school house.

As a third focus, this literature review explored teacher leadership and its relationship to student achievement. As teachers are encouraged to take a larger part in leadership roles

within the school, it is important to understand the characteristics and implementation strategies that will make the most difference in utilizing this important resource. A fourth area explored Professional Learning Communities as a way of practicing distributed leadership through increased teacher leadership. Research suggests Professional Learning Communities benefit schools by encouraging a collective responsibility of meeting school achievement goals. Additionally, decreased isolation, increased motivation and job satisfaction are experienced by all (Stoll et al., 2006). Little (2002) stated “this is a timely moment to unpack the meaning and consequences of professional community at the level of practice” (p. 944). With increasing interest in the practice of Professional Learning Communities in schools, there is a need for further study to determine the impact on student growth.

School Reform Efforts

As far back as 1966 when the Coleman Report was released, there was a concerted effort to determine what reforms are needed to sustain increased student achievement. The Coleman Report (1966) used aggregated measures of school inputs in terms of facilities, teacher characteristics, and student population characteristics to investigate the effect of schools on students' educational achievement (Gallagher, 2002). The findings of the report suggested that student characteristics had a greater impact on student achievement than did the teacher and the school environment (Gallagher, 2002). It noted “black children started out school trailing behind their white counterparts and essentially never caught up – even when their schools were as well equipped as those with predominantly white enrollments” (Viadero, 2006, p. 4). This report gave way to the belief that teachers and the school environment had little to do with student achievement. Later, a large body of research done by researchers such

as Brophy, Darling-Hammond, and Haycock supported the Coleman findings that external factors have a great impact on student achievement with the caveat that “when those differences are controlled for, teachers are the most important determinants of student achievement” (Gallagher, 2002). With this new information, researchers began to seek out schools that showed success despite external factors. Edmonds and Lezotte found seven characteristics of effective schools which include:

- Strong and effective instructional leadership
- Clear and focused mission
- Safe and orderly environment
- Climate of high expectations for success
- Frequent monitoring of student progress
- Positive home-school relations
- Opportunity to learn and time on task (Lezotte, 2005, p. 179)

This information was powerful and gave educators hope that schools could be successful despite negative or challenging external factors. President Johnson, during his administration, assisted Congress in passing the 1965 Elementary and Secondary Education Act (ESEA) which increased federal aid to schools to focus more on supporting schools with higher numbers of disadvantaged children. Despite these efforts, Cuban (2004) believes the lack of progress caused continued criticism of public education and its failures to “transmit the societal core values to the next generation” (p. 23).

The National Commission on Excellence was created on August 26, 1981 under the direction of Secretary of Education T. H. Bell. The Commission released the 1983 report

entitled *A Nation at Risk* in an effort to inform the public of the failing educational system and to solicit support in establishing reform efforts to improve the quality of education in the United States. The report opens with:

Our Nation is at risk. Our once unchallenged preeminence in commerce, industry, science, and technological innovation is being overtaken by competitors throughout the world. This report is concerned with only one of the many causes and dimensions of the problem, but it is the one that undergirds American prosperity, security, and civility. We report to the American people that while we can take justifiable pride in what our schools and colleges have historically accomplished and contributed to the United States and the well-being of its people, the educational foundations of our society are presently being eroded by a rising tide of mediocrity that threatens our very future as a Nation and a people. What was unimaginable a generation ago has begun to occur—others are matching and surpassing our educational attainments. (p. 13)

With the publication of this report, a wave of school reform efforts began as an attempt to address widespread deficiencies in public education. There was a demand to make education a priority through higher standards for all students. The report reminded the public of the necessity to increase levels of education which prove vital to individuals being able to obtain employment, as well as continue to advance our free and democratic nation.

Recommendations from the report included, a call for more rigorous curriculum standards, and improved teacher preparation programs to ensure that quality teachers are attracted to the profession of education and are prepared to educate our students in all curricular areas.

DuFour and Eaker (1992) reported:

A Nation at Risk (1983) was tremendously effective as a catalyst for a flurry of school improvement initiatives throughout the U.S., initiatives that came to be known as the excellence movement. Within two years of the report, more than 300 national and state task forces had investigated the condition of public schooling in America. In 41 states, legislatures mandated that students take more courses in designated academic area. Many states raised requirements for teacher certification and tenure, and took steps to standardize curriculum, and mandated testing. (p. 1)

Since this 1983 report, the national agenda has been focused on school reform. American presidents as well as other national education leaders have sought to implement standards-based initiatives calling for high expectations and increased student achievement. Although some progress has been made toward school improvement set out in the *Nation at Risk* report, many of the issues still remain. This report, however, did spark continued reform efforts, including America 2000, Goals 2000, No Child Left Behind and Race to the Top, as strategies and programs to restructure and reinvent public education.

Outcomes-Based Reform

President Bush established six goals in 1989 as a national strategy to reform education in America. The goals were:

- All children in America will start school ready to learn
- The high school graduation rate will increase to at least 90 percent
- All students will leave grades 4, 8, and 12 having demonstrated competency over challenging subject matter including English, mathematics, science, foreign languages, civics and government, economics, the arts, history and geography, and every school in America will ensure that all students learn to use their minds well, so they may be prepared for responsible citizenship, further learning and productive employment in our nation's modern economy
- United States students will be first in the world in mathematics and science achievement
- Every adult American will be literate and will possess the knowledge and skills necessary to compete in a global economy and exercise the rights and responsibilities of citizenship
- Every school in the United States will be free of drugs, violence and the unauthorized presence of firearms and alcohol and will offer a disciplined environment conducive to learning

- The nation's teaching force will have access to programs for the continued improvement of their professional skills and the opportunity to acquire the knowledge and skills needed to instruct and prepare all American students for the social, emotional and academic growth of children
- Every school will promote partnerships that will increase parental involvement and participation in promoting the social, emotional, and academic growth of children

The first six goals were known as America 2000 as they were to be accomplished by the year 2000. Later, two additional goals would be added and the eight goals total would become known as the Goals 2000: Educate America Act signed into law by President Bill Clinton on March 31, 1994. Although these goals focused on schools and teachers, the authorization for the goals was withdrawn with the enactment of The No Child Left Behind Act of 2001. Although some progress had been made toward the outcomes-based eight education 2000 goals, with the enactment of the No Child Left Behind Act, otherwise known as NCLB, the focus would turn toward standards-based education and the learning efforts of both students and educators.

Standards-Based Reform

The No Child Left Behind Act was signed into law in January 2002 and established the mandate that all students score at or above proficiency levels on state standardized assessments. This standards-based education effort focused on rigorous standards in all grade levels and academic subject areas and a performance measurement against which all students should be compared. The goals of the act were to increase accountability for student performance, focus on efforts that work, reduce bureaucracy and increase flexibility and empower parents with knowledge to be able to do more to provide a quality education for their children (Bush, 2001). This legislation requires every student to be proficient in academic

subject areas by the end of the 2013-14 school year. Schools that do not make Adequate Yearly Progress (AYP) are subject to sanctions such as loss of federal funding as well being taken over by a state education agency to provide intervention.

President Barrack Obama's 2010 Race to the Top Program (RTTP) is a competitive attempt at increasing student achievement. The Administration divided up \$4.35 billion among states as an incentive to improve schools along four education reform goals: (a) including the use of internationally-benchmarked standards and assessments; (b) the recruitment and retention of effective teachers and principals, (c) the adoption of data systems to track student progress; and (d) the improvement of low-performing schools.

Despite reform efforts since 1983, the United States has had some gains in the area of student achievement but still lags in the area of sustaining achievement gap closure among students groups in public education. The challenge still remains to improve the education for all students while eliminating achievement gaps and increasing teacher quality. Schools continue to look for new ways to reform schools for lasting educational change and improvement. Fullan (2002) noted “the inside story is that there is no substitute for internal school development. We have an increasingly clear idea about what is needed, but we don’t know how to do it on a wide scale” (p. 18). With this in mind, as schools begin to look at the literature on ensuring the organizational structure and culture of a school are able to bring about collaboration and shared practice, the idea of distributed leadership, teacher leadership and Professional Learning Communities become a key foci.

Distributed Leadership

Leadership responsibilities as well as increased external pressure and demand on the principal for academic achievement have become such that there are not enough hours in the day to sufficiently meet the demands of the job. As reform efforts have become more complex and challenging, the role of the principal must change to meet those demands. Because the principal is required to be an instructional leader as well as a manager, an approach garnering interest is distributed leadership. A positive school environment and effective school leadership enhances student achievement (Helterbran, 2010). Increasing studies show “that distributed leadership is one potential contributor to positive change and transformation in school systems” (Harris, Leithwood, Day, Sammons, & Hopkins, 2007, p. 338). Additionally, Helterbran (2010) confirmed “leadership at its best takes place in the interactions between people in the school and the situations they face; therefore for leadership to be effective, it must be shared or distributed” (p. 364). A distributed leadership perspective moves away from the idea of a single leader at the top of the hierarchy to one that involves multiple people contributing to leadership in a school. Gronn (2002) explained that the distributed perspective requires “implications of a dynamic understanding of the unit of analysis [which] includes[s] a view of leadership as less the property of individuals and more as the contextualized outcome of interactive, rather than unidirectional causal processes” (p. 444). Distributed leadership “offers a new way of thinking about leadership in schools and provides a powerful tool for transforming leadership practice” (Harris et al., 2007, p. 338).

Gronn and Spillane currently are the leaders in theoretical work related to distributed leadership. While during the mid-1990s an increased focus on the idea of distributed

leadership began, the idea is not new. Gronn (2008) voiced that although C.A. Gibb was the first to use the words distributed leadership in the 1950s, he was not the first to hint at the idea of it (p. 145). Benne and Sheats voiced the idea of distributed leadership back in 1948. In their descriptions of leader and member functions, they distinguished that “groups may operate with various degrees of diffusion of ‘leadership’ functions among group members or of concentration of such functions in one member or a few members. Ideally, of course, the concept of leadership emphasized here is that of a multilaterally shared responsibility” (Benne & Sheats, 1948, p. 41). With this point, the authors sought to develop the idea of a whole group training which would result in all members sharing responsibility in effective growth and production.

Gibb used the term distributed leadership while writing for the *Handbook of Social Psychology* in 1954. Gibb (1958) wrote “there is still a tendency among psychologists and sociologists to think of every group as having a leader...however...unequivocal unipersonal leadership rarely, if ever, occurs” (p. 103). Gibb (1958) elaborated that leadership is no longer centered on one person since leaders and followers often change roles depending on the circumstance and situation involved. Additionally, it was noted that the connection between leaders and followers is similar and often difficult to delineate the difference between them (Gibb, 1958).

Since Gibb, there have been many definitions of distributed leadership. Yukl (2002) outlined:

Another way to view leadership is in terms of an influence process that occurs naturally with a social system and is diffused among the members. Writers with this perspective believe it is more useful to study ‘leadership’ as a social process rather than as a specialized role that a small number of individuals in a group or organization are

expected to perform by the remaining members. According to this view, any member of the social system may exhibit leadership at any time, and there is no clear distinction between leaders and followers. Various leadership functions may be carried out by different people who influence what the group does, how it is done, and the way people in the group relate to each other. (p. 4)

Copland (2003) described distributed leadership as:

A set of functions or qualities shared across a much broader segment of the school community that encompasses administrators, teachers and other professionals and community members both internal and external to the school. Such an approach imposes the need for school communities to create and sustain broadly distributed leadership systems, processes and capacities. (p. 376)

Fletcher and Kaufer (2003) noted distributed leadership involves direction-setting and influence practices “enacted by people at all levels rather than a set of personal characteristics and attributes located in people at the top” (p. 22). Gronn (2002) defined distributed leadership as an “emergent property of a group or a network of interacting individuals” (p. 317).

Of the various definitions of distributed leadership, Spillane’s model is the most developed (Harris et al., 2007). Spillane (2005) described distributed leadership as having a leader-plus aspect. With the leader-plus aspect, there is recognition that in addition to the school principal, leadership involves multiple leaders including those in both formal and informal positions sharing in the responsibility of leadership routines and functions. This provides for all members to share in the success or failure of the organization.

Spillane (2005) noted the importance of the leader-plus aspect; however, he also noted it cannot accomplish what is necessary on its own. If leadership is to be distributed, it is important to focus on the leader-plus aspect but also those responsibilities and practices that will make a difference in increasing student achievement. In fact, Spillane (2005) voiced

“leadership is not simply a function of what a school principal, or indeed any other individual or group of leaders, knows and does. Rather, it is the activities engaged in by leaders, in interaction with others in particular contexts around specific tasks” (p. 5). As a result, “the social context and the inter-relationships therein, is an integral part of the leadership activity” (Harris et al., 2007, p. 339).

Both managerial and leadership tasks engaged in by the school principal are numerous and can be complex and challenging. Management tasks often become the focus of the day-to-day for principals often at the expense of neglecting instructional leadership activities (Spillane et al., 2004). Spillane et al. (2004) elaborated “what leaders do in the managerial and political realms, though often not directly and explicitly connected to changing some aspect of school life, may be an essential component of leadership in general, and leadership for instruction in particular” (p. 12). Spillane labeled these leadership functions and managerial tasks as macro-functions and micro-tasks. He established that “tasks designed to promote change may depend, in substantial measure, on the successful execution of tasks designed to preserve the status quo. In this way, it is important to determine and understand the leadership responsibilities and practices that are important in improving student achievement. In fact, in a study commissioned by the National Governors Association, Elmore (2003) concluded:

Knowing the right thing to do is the central problem of school improvement. Holding schools accountable for their performance depends on having people in schools with the knowledge, skills, and judgment to make the improvements that will increase student performance. (p. 9)

The literature provides an exhaustive list of leadership responsibilities that are important to successful schools. It is these leadership responsibilities and practices that are distributed across leaders and followers in an organization. Leithwood and Jantzi (1998)

conducted a study to determine the effects of 7 mediating school conditions on student outcomes (p. 11). Those conditions thought to be important included: mission and goals, culture, school planning, instructional services, structure and organization, information collection and decision making and policies and procedures.

Leithwood, Mascall, Strauss, Sacks, Memon and Yashkina (2007) conducted a study regarding distributed leadership functions and determined that fundamental practices involved in quality leadership are setting direction, developing people, redesigning the organization, and managing the instructional program. Leithwood et al. (2007) suggested setting direction involves a group effort in identifying and developing shared goals and vision. Developing people involves the interactions between and among members in an organization that lead to intellectual stimulation and motivation. With redesigning the organization, practices of designing an organizational structure that supports collaboration and trust between and among all members is critical (Leithwood et al., 2007). Finally, managing the instructional program involves: “staffing the instructional program; monitoring the progress of students and the school’s improvement strategies; buffering staff from unproductive external demands for attention; and allocating resources to foster the schools improvement efforts” (p. 45).

Locke (2003) provided another view of leadership responsibilities. He believes leaders at the top of the organization should be involved in and have the responsibility for creating the vision and ensuring that supports are in place to ensure successful implementation. Additionally, Locke advises shared leadership tasks can include goal setting, intellectual stimulation, individualized support, and building a collaborative culture.

Walters, Marzano and McNulty (2005) used meta-analysis to determine 21 leadership responsibilities and practices that have a positive effect on student achievement. Mid-continent Research for Education and Learning (McRel) used 69 studies in their meta-analysis spanning 23 years – 1978-2001. Their studies involved 2,802 schools, 14,000 teachers, and 1.4 million students. From their study, McRel identified 21 leadership responsibilities and their correlations to student achievement. Responsibilities with the most effect on student achievement were situational awareness, intellectual stimulation, input, being a change agent, creation of a positive culture, monitoring and evaluating and outreach to the community.

Walters et al. (2005) go on to establish that 12 of the 21 responsibilities should be distributed throughout the leadership team including the principal. Of those responsibilities that should be delegated are: monitoring/evaluating, knowledge of curriculum, instruction and assessment, involvement in curriculum, instruction, and assessment, focus, intellectual stimulation, flexibility, resources, contingent rewards, outreach, discipline, change agent and order.

Spillane (2005) also noted it is not enough to just delegate or share leadership, but equally important is how the leadership is practiced. “Leadership roles, functions, and structures are important, but leadership practice is paramount” (Spillane, 2005, p. 174). It is through the interactions among staff and the situations they encounter that bring about leadership practice from a distributed perspective. It is not simply that leadership responsibilities and tasks are delegated or distributed, but it is about how it is distributed (Spillane, 2005, p. 385). Distributed leadership is a product of “the interactions among leaders and followers, and their situation” (Spillane, 2005, p. 385). While there is increasing knowledge about what structures and programs are necessary for lasting school reform, “we know

relatively little about the how of school leadership, that is, knowledge of the ways in which school leaders develop and sustain those conditions and processes believed necessary for innovation” (Spillane et al., 2004, p. 4).

There are multiple opinions regarding which members of an organization should be involved in carrying out distributed leadership responsibilities and practices. Distributed leadership focuses on “engaging expertise wherever it exists within the organization rather than seeking this only through formal position or role.” (Harris, 2003, p. 13). Katz and Kahn (1978) discussed leadership not in terms of leaders and followers but as “the exercise of influence on organizationally relevant matters by any member of the organization noting that organizations are more likely to be effective when the leadership tasks are distributed” (p. 571). In this way, leadership results in a school’s being able to take advantage of a wide range of individual and collective strengths of its members. Research shows that “without the support of the principal, distributed leadership is unlikely to flourish or be sustained” (Harris, 2012, p. 2). Further, it is the principal who is key in instituting the change process with regard to the way leadership is redesigned to empower and encompass a more inclusive form of leadership. Harris (2012) highlights “it implies the relinquishing of some authority and power, which is not an easy task, and a repositioning of the role from exclusive leadership to a form of leadership that is more concerned with brokering, facilitating and supporting others in leading innovation and change” (p. 2). When distributing leadership, the principal must recognize that he or she is still ultimately responsible for school performance; however, he or she must be purposeful and focused when giving members increased responsibility and accountability within the organization to achieve positive outcomes.

When focusing on sharing responsibility and accountability for student achievement, it is important to recognize that teachers have a powerful impact on the students they serve. When we focus on development through teacher leadership, the result is improved pedagogical knowledge as well as increased motivation to succeed in creating and maintaining a successful school. Leithwood and Jantzi (1998) suggested the effects of teacher leadership outweigh that of principal leadership when holding constant family culture (p. 26). Elmore (2003) claimed "instructional improvement requires that people with multiple sources of expertise work in concert around a common problem; this distributed expertise leads to distributed leadership (p. 10). In this way, teacher leadership can be a powerful tool in increasing student achievement. Studies show that teachers are the most important influence on student learning (Ding & Sherman, 2006). "Leadership must create changes that are embraced and owned by the teachers who are responsible for implementation in classrooms" (Heck & Hallinger, 2009, p. 662). Further, Harris (2003) stated "teacher leadership provides an important starting point in understanding and illuminating how distributed leadership actually works in schools" (p. 318).

There are many benefits gained from distributing leadership. Harris et al. (2007) maintained "distributed leadership has a greater impact upon organizational development where certain structural and cultural barriers are removed" (p. 340). Muijs and Harris (2003) suggested "collegial interaction lays the groundwork for developing shared ideas and for generating forms of leadership that promote improvement" (p. 444). Additionally, they argue "even more forcibly for teacher collegiality and collaboration as a means of generating positive change in schools" (Muijs & Harris, 2003, p. 444). Leithwood and Jantzi (2000) reported a quantitative study of leadership practices in schools and concluded "distributing a larger

proportion of leadership activity to teachers has a positive influence on teacher effectiveness and student engagement" (Harris et al., 2007, p. 342). A study done by Silins and Mulford (2002) concluded, where teachers believe they are empowered in areas of importance to them especially in school where there are collaborative, co-operative, and consultative decision-making process in place, teachers will respond to reform as actors and leaders" (p. 604). The Distributed Leadership Study is the largest study done with regard to distributed leadership. This study concluded "the school rather than the individual leader is the most appropriate unit for thinking about the development of leadership expertise" (Harris et al., 2007, p. 343). If this is the case then we must look to teacher leadership as a means to empower teachers to assume increasing roles and responsibilities in all areas of school life.

Teacher Leadership

Katzenmeyer and Moller (2001) purported "the enormous task of meeting the school's challenges requires that teachers assume roles and responsibilities that were previously reserved for school principals" (p. 2). Since distributed leadership involves empowering individuals within the school house to become more involved in decision-making and improved instructional practice, it would make sense that teacher leadership would be a form of distributed leadership. In fact, Harris (2003) confirmed "teacher leadership is centrally concerned with forms of empowerment and agency which are also at the core of distributed leadership theory" (p. 316). Harris (2003) emphasized "collective action, empowerment and shared agency [which] is reflected in distributed leadership theory" (p. 317). Further, Harris (2003) stated "teacher leadership provides operational images of conjoint agency in action and illustrates how distributed forms of leadership can be developed and enhanced to contribute to

school development and improvement (p. 318). To increase student achievement, all members of the school community must become involved in leadership. We must awaken the ‘sleeping giant’ of teacher leadership to institute reform that can change the organizational structure and culture of twenty-first century schools (Katzenmeyer & Moller, 2001).

Definition of teacher leadership

A review of the literature confirms teacher leadership has many definitions. Little (1988) said “teachers who lead leave their mark on teaching. By their presence and their performance, they change how other teachers think about, plan for and conduct their work” (p. 84). Lambert (1998) defined teacher leadership as “broad based, skillful involvement in the work of leadership” (p. 12). Muijs and Harris (2006) discussed “teacher leadership is conceptualized as a set of behaviours and practices that are undertaken collectively. It is centrally concerned with the relationships and connections among individuals within a school” (p. 961). York-Barr and Duke (2004) defined teacher leadership as “the process by which teachers, individually or collectively, influence their colleagues, principals, and other members of school communities to improve teaching and learning practices with the aim of increased student learning and achievement” (pp. 287-288). Katzenmeyer and Moller (2001) affirmed teacher leaders as: “teachers who are leaders lead within and beyond the classroom, identify with and contribute to a community of teacher learners and leaders, and influence others toward improved educational practice (p. 5).

No matter the variation in definitions, there is consistency in that teacher leadership involves “collective action towards a common goal” (Harris, 2005, p. 202). Through pursuit of a

common goal, teacher leaders take on different roles both inside and outside of the classroom as they pursue change efforts that lead to sustainable school improvement.

Roles of teachers

Teacher leadership roles have evolved since the 1980s. Many interpretations viewed teacher leadership only through formal roles such as team leader, grade level chair, instructional coach, coordinator, department head etc. As the idea of teacher leadership has evolved, there is recognition that teachers can be informal leaders as well by taking initiative to identify problems and seek solutions to those problems on their own accord. Leithwood et al. (1999) noted:

Teachers exercise informal leadership ... by sharing their expertise, volunteering for new projects and bringing new ideas to the school ... by helping their colleagues to carry out their classroom duties, and by assisting in the improvement of classroom practice through the engagement of their colleagues in experimentation and the examination of more powerful instructional techniques. Teachers attribute leadership qualities, as well, to colleagues who accept responsibility for their own professional growth, promote the school's mission, and work for the improvement of the school or school system. (p. 117)

According to Harris (2003) teacher leadership is centrally and exclusively concerned with the idea that all organizational members can lead and that leadership is a form of agency that be distributed or shared. Moller and Pankake (2006) suggested "rather than advocating for specific roles for teacher leaders, we need to seek teacher leadership that best supports the improvement of teaching and learning; this may vary from school to school" (p. 27).

Katzenmeyer and Moller (2001) noted "each school's culture sets the expectations of other adults in the organization with regard to appropriate teacher leader roles" (p. 11). In this way, leadership is flexible and allows both principals and teachers to share the responsibility of leadership and to share in the ownership of increasing student achievement. Katzenmeyer and

Moller (2006) maintained that whether through formal or informal roles, teacher leadership roles have three distinct functions: leadership of students or other teachers, leadership of operational tasks, and leadership through decision making or partnerships.

Teachers lead students when they provide support and feedback as they serve as facilitators or coaches in the classroom as well as coordinate “academic programs that extend beyond the regular curriculum”(Katzenmeyer & Moller, 2001, p. 12). Further, colleagues benefit from teacher leaders when they provide support to improve pedagogy and practice techniques through instructional coaching, mentoring of new teachers as well as veteran teachers, peer visits and observations. Providing “critically needed support to beginning teachers, to those who are teaching a different subject area, or to experienced teachers who are new to the school” are other examples of how teacher leadership is operationalized amongst colleagues (Katzenmeyer & Moller, 2001, p. 12).

Leadership of operational tasks involves “keeping the school organized and moving toward its goals” through roles such as “department or grade-level chairperson, team leader, and faculty council or staff development chairperson (Katzenmeyer & Moller, 2001, p. 12). Other tasks include “teachers as action researchers working in collaboration with a local university” as well as teachers serving on “task forces, boards, or commissions that have a voice in the design of state or district curriculum and assessment” (Katzenmeyer & Moller, 2001, p. 12). Additionally, other functions such as “grant writers, project managers, or technology experts” abound.

Leadership through decision making was previously reserved for the principal. However, as reform efforts spread to include teachers and parents in increased decision

making, new opportunities came about for educators. Muijs and Harris (2007) “operationalized teacher leadership as increased teacher participation in decision-making, and opportunities for teachers to take initiative and lead school improvement” (p. 113). Weiss (1993) conducted a longitudinal study which concluded that where teacher leadership was encouraged and supported, there was increased morale, professionalism and input in decision-making. With the idea that teachers be more involved in decision making regarding student learning, the focus was on broadening their roles and empowering them to take on more involvement in leadership to strengthen instructional practices. Roles that allow for this include school improvement team member, serving on textbook selection committees, school advisory councils, steering committees, “or other elected positions in the governance structure” (Katzenmeyer & Moller, 2001, p. 13).

Whatever leadership roles are taken on by teachers, there is consistent agreement that positive outcomes result when there is increased teacher leadership. In fact, Frost and Durrant (2003) asserted “teachers can make a major difference to the personal and interpersonal capacities of themselves and their colleagues, to pupils’ learning and to the organizational structures and cultures of their schools” (p. 4).

Characteristics of Teacher Leadership

Teacher leadership provides multiple opportunities for teacher and student growth. Katzenmeyer and Moller (2001) indicated “teacher leadership holds the potential for significant school change, and there are fundamental reasons for expending energy to promote teacher leadership” (p. 20).

One characteristic of teacher leadership is the opportunity to increase teacher efficacy.

Pellicer and Anderson (1995) confirmed teacher leadership provides “the best and most abundant source of leadership available to schools” (p. 21). Further, Katzenmeyer and Moller (2001) stated “teachers who believe that they can make a difference in educating their students are empowering and generate an increased sense of ownership in the outcomes accomplished at the school” (p. 32). When teachers have high levels of efficacy they assume ownership and take responsibility for ensuring all students learn. “This sense of efficacy encourages teachers to move the locus of control for student results back into the teaching profession and to place less blame on factors beyond their control, such as students’ home environments” (Katzenmeyer & Moller, 2001, p. 32). This ownership and acceptance of personal and professional responsibility can have powerful effects on the entire school community.

A second characteristic of teacher leadership is the opportunity to retain more teachers in the profession. There is data which confirms many teachers leave the profession within their first three years of teaching (Bowman, 2004). “Approximately 50 percent of new teachers in any given year leave the profession with five years” (Emerick, Hirsch, & Berry, 2005, p. 2). Additionally, Katzenmeyer and Moller (2001) suggested “teacher isolation, the absence of career ladders, low salaries, and the lack of leadership responsibilities contribute to this attrition” (p. 32). Teachers are an important resource and it goes without saying that it is imperative schools create supportive systems to foster inclusive and collaborative environments. “Evidence from the literature suggests that generating teacher leadership, with its combination of increased responsibility, has positive effects on transforming schools as organizations and on helping to diminish teacher alienation” (Muijs & Harris, 2003, p. 441).

Teacher leadership “enhances teachers’ self-esteem and work satisfaction, which in turn leads to higher levels of performance due to higher motivation, as well as possibly higher levels of retention in the profession” (Harris, 2005, p. 208). As a result, to break the long-standing chains of teacher isolation, teacher leaders must “reach out, model for others, and help colleagues develop skills and understanding” (Ackerman & Mackenzie, 2006, p. 68). Katzenmeyer and Moller (2001) added “teacher leadership opportunities can promote teaching as a more desirable career and help to retain outstanding teachers for the complex tasks of school change” (p. 32).

A third characteristic of teacher leadership has to do with influence. Teachers who model leadership create influence beyond their own classroom doors. Katzenmeyer and Moller (2001) imparted teacher leaders “can improve their own skills by helping other practitioners” (p. 33). Harris and Lambert (2003) stated:

Teacher leadership is primarily concerned with developing high-quality learning and teaching in schools. It has as its core a focus on improving learning and is a mode of leadership premised on the principles of professional collaboration, development, and growth. Teacher leadership is not a formal role, responsibility or set of tasks. It is more a form of agency where teachers are empowered to lead development work that impacts directly on the quality of teaching and learning. Teacher leaders lead within and beyond the classroom. They identify with and contribute to a community of teachers and influence other towards improved educational practice (p. 43).

Teachers who lead within and beyond the classroom are adept at honing their professional expertise in teaching and learning. These teachers are interested in improving their instructional techniques and encourage collaborative processes to do so. Danielson (2006) stated ‘possibly the most important aspect of a school’s culture from the point of view of encouraging teacher leadership is the culture of professional inquiry (p. 54). They take initiative to develop and enhance knowledge and skills through professional inquiry and are motivated to

take risks for the sake of improving student performance (Phelps, 2008). In this way “education leaders guide their colleagues by engaging in collective conversations, invoking symbolic gestures that reveal relationship, modeling professionalism beyond the label of one’s role, championing evocative ideas in both the classroom and the workplace, and being ‘in influence’ as opposed to being ‘in control’ (Bowman, 2004, p. 188). Fullan (2001) advised “the litmus test of all leadership is whether it mobilizes people’s commitment to putting their energy into actions designed to improve things. It is individual commitment, but is above all collective mobilization” (p. 9).

A fourth characteristic of teacher leadership is the impact it can have on students. Although the principal plays a key role in the school as instructional leader, it is understood that “no matter how deep a principal’s understanding of instruction, only classroom teachers have the day-to-day knowledge of specific students in specific classroom settings” (Lashway, 2003, p. 4). Principals cannot be an expert in everything; however, a group of teachers can provide a wide range of experience and expertise in a variety of areas.

Teachers make up the largest portion of members within the school building. In this way, teacher leadership has the potential to maximize the collective knowledge and skills in an organization which can have a powerful effect on student achievement. “Teacher leadership has been shown to be centrally important in achieving both school and classroom improvement” (Muijs & Harris, 2003, p. 440). Teacher leadership equates with instructional leadership (Leithwood & Duke, 1999). When teachers continually improve their instructional practice, they provide leadership to their students as they help them grow academically. Bowman (2004) purported “teachers as leaders must devise and maintain an atmosphere in

which students can succeed” (p. 188). Newman and Wehlage (1995) confirmed when teachers are engaged in leadership and collaboration, students learn:

They are expected to work hard to master academic material, staff and peers have confidence that, in the long run, students will be successful if they work hard on academic tasks; and staff will give them help and support, both through individual teaching/tutoring and by establishing classroom norms where learning is taken seriously, where peers are expected to help one another, and where students have the opportunity to make mistakes and try again without being judged “stupid.” (p. 39)

Teachers that assume ownership of instructional practices are ones which “better understand how they are responsible for student outcomes” (Katzenmeyer & Moller, 2001, p. 34). While it is clear there are many benefits of teacher leadership, there is still much to be learned about supporting and sustaining teacher leadership.

Supporting and Sustaining Teacher Leadership

In (2005), Harris reported “teacher leadership contributes to school development and improvement by ‘building institutional capacity’” (p. 208). Principals must recognize that teacher leaders are an important key to school reform and must take steps to support their growth. A study done by Ovando (1996) looked at the dual role of teaching and leading. She found that although teachers increased their professional growth, they needed continued feedback and opportunities to grow their leadership skills. Silva, Gimbert, and Nolan (2000) conducted a similar study to look at teacher leadership in the classroom. Their study confirmed teacher leadership results in improved relationships, professional growth and commitment to a common purpose. Their study also found that school principals must figure out a way to reconfigure organizational structure to allow for time needed to establish and maintain collaborative cultures. Intentional focus must be placed on dimensions in the school

environment which will allow teacher leadership to thrive. Katzenmeyer and Moller (2001) acknowledged “the success of teacher leadership depends on the context in which it takes place” (p. 85). What must principals do to support and sustain teacher leadership? In order to support and sustain increased teacher leadership to improve student learning, there must be concerted efforts directed toward “building positive relationships, distributing power and authority, and aligning teacher leadership with teacher learning” (Moller & Pankake, 2006, p. 8). They believe these factors are necessary in the development and maintenance of teacher leadership. Moller and Pankake (2006) purported teacher leadership thrives when these three principles are embedded in the culture of a school.

Building positive relationships

As teachers share the role of leadership, the need for collaboration and collective action come to the forefront. It is through shared purpose that teachers pool their expertise to improve instructional practice. Katzenmeyer and Moller (2001) further stated “teacher leadership is influencing others toward improved educational practice” (p. 7). Teacher leadership involves building relationships among peers that are grounded in trust, collaborative efforts and positivity. Trust is “a crucial element of social capital which is clearly necessary for the successful development of teacher leadership” (Frost & Harris, 2003, p. 490). When teachers share values and beliefs through collegial relationships grounded in trust and positivity, influence can be observed in the way colleagues are motivated to improve their practice, try new and innovative ideas, and share their experiences with peers (Moller & Pankake, 2006). Collaboration occurs when teachers who are perceived as experts in their own classroom share their knowledge and expertise with other teachers. Frost and Harris (2003)

noted “professional authority based on ‘informed craft knowledge and personal expertise’ is powerful in that teachers seem prepared to trust the practitioner with a reputation for excellence in the classroom” (p. 491). Teachers who consistently demonstrate and model these traits can be an influence on their peers to improve student performance and educational practice as a whole. According to Moller and Pankake (2006) “the essence of teacher leadership is relationships – administrator to teacher, teacher to teacher, teacher to student, administrator and teacher to community” (p. 9).

Leadership that is “socially constructed and culturally sensitive” (Harris, 2003, p. 314), is often lead by principals who are leaders in encouraging positive relationships inside and outside of the building. Thus, as teacher leaders seek an increased role in leadership, principals must have the primary focus on building and maintaining positive relationships throughout the school. When positive relationships exist, principals gain confidence in sharing power and authority with teacher leaders to make decisions that will bring about effective school reform.

Distributed power and authority

Smylie (1992) conducted a study to determine factors involved in a teacher’s willingness to participate in school level decision making. The results of the study determined that teachers are more willing to participate in decision making when they have a collaborative and supportive relationship with their principal. Another study conducted by White (1992) noted that, when teachers are involved in decision-making at a high degree, the school is better able to overcome long-standing hierarchical organizational patterns. Additionally, it was found that through increased decision-making, teachers felt less isolated, teachers had increased interest in improving their field as well as increased self-esteem about their ability to contribute to the

success of the school. Smylie, Lazarus, and Brownlee-Conyers (1996) conducted a study to determine instructional outcomes when teachers participate in decision making. Smylie et al. (1996) found a positive effect on instruction and student learning as a result of their study.

Antiquated bureaucratic management structures in schools “are a major impediment to the development of teacher leadership, as they militate against teachers attaining autonomy and taking on leadership roles within the school” (Muijs & Harris, 2003, p. 442). These top-down leadership styles will need to be replaced with a focus on shared and collaborative efforts from all stakeholders. “The principal must move from retaining power over others, which is based on rules, to giving power to others, which is goal directed” (Moller & Pankake, 2006, p. 10). There must be an understanding that “for real change to occur, teachers must become agents of change (Thornton, 2010, p. 41). “Recent assessments suggest that enabling others to exercise leadership is an essential dimension of ‘capacity building’ in which the emphasis shifts from creating and managing structures as a means of control, to a view of structure as the means to build the cultures that nourish learning and achievement at all levels in the organisation” (Frost & Harris, 2003, p. 479). When principals are willing to distribute power and authority to teacher leaders, professional learning opportunities arise.

Teacher leadership and professional learning

The complex task of educating for our future needs is focused and reliant upon teaching and learning. If teachers are to educate our children, they must be open to learning themselves. “Leading and learning are symbiotic” (Moller & Pankake, 2006, p. 12). With increasing pressure to meet higher academic standards, an important part of any principal’s job is to ensure the staff is intentionally focused on increasing their knowledge and skills necessary

to help all students acquire critical thinking skills to be successful in this twenty-first century and beyond. If teachers do not possess the knowledge and skill they need, it will be difficult to help the students meet and exceed their highest potential. Moller and Pankake (2006) noted “the complexity of teaching and learning today demands the involvement of teachers in determining their learning needs based on student data within established Professional Learning Communities where everyone can learn together” (p. 12). Principals are a key starting point for developing and maintaining dimensions in the environment which support and sustain Professional Learning Communities.

Teacher Leadership and Professional Learning Communities

As schools seek to increase teacher leadership opportunities, many teacher leaders “are seldom provided with the necessary support” needed to be successful in leadership endeavors (Katzenmeyer & Moller, 2001, p. 38). As research has informed, “teacher leaders are part of a community of learners and leaders” (Katzenmeyer & Moller, 2001, p. 6). Since this is the case, the professional learning community model is a way to provide teacher leaders with the necessary vision and support needed to reform schools. Katzenmeyer and Moller (2001) state the principle reason for teacher leadership is to transform schools into Professional Learning Communities and to empower teachers to become involved closely in decision making within the school, thus contributing to the democratization of schools. Katzenmeyer and Moller (2001) remind us that “Professional Learning Communities, although few in number are healthy school contexts for teacher leadership” (p. 6). Hirsh (2013) declared “developing shared beliefs provides a platform for accelerating improvement efforts” (p. 1). Harris (2003) extended:

if we are serious about building Professional Learning Communities within and between schools then we need forms of leadership that support and nourish meaningful collaboration among teachers. This will not be achieved by clinging to models of leadership that, by default rather than design delimits the possibilities for teachers to lead development work in schools." (p. 322)

Harris (2003) continued "the principal of teacher leadership is at the core of building Professional Learning Communities in schools quite simply because it is premised upon teachers working in collaboration to learn with and from each other" (p. 321). Thornton (2010) described Professional Learning Communities as:

collaborative cultures in which groups of teachers meet to lead change by focusing on student learning, making changes to improve their teaching practices, and evaluating the success of these changes. This allows PLCs to act as ideal situations for developing teacher leaders." (p. 42)

Professional learning community "implies a focus on shared leadership but also the creation and maintenance of a collaborative school-wide culture" (Harris, 2003, p. 321) as "within these settings, teachers are learning in social context rather than learning individually" (Katzenmeyer & Moller, 2001, p. 6).

Professional Learning Communities

The structure of schools has long fostered an environment of isolation and individual autonomy. This norm has hindered productive relationships and dialogue regarding rich experiences that can result in learning for both teacher and student. In 1989, discussions about teacher quality were linked to conditions in the workplace "maintaining that teachers who felt supported in their own ongoing learning and classroom practice were more committed and effective than those who did not" (Hord, 1997, p. 10). According to Spillane et al. (2004), building a collaborative culture in a school is critical to school improvement. When teachers

understand the power that lies in their ability to build and maintain collaborative relationships with one another, they will begin to more fully recognize the depth their influence has in increasing student achievement. It is therefore important to view a school's organizational structure and organizational culture through the lens of a professional learning community. Organizational structure "shapes and defines relationships in organisations, including the patterns of interactions therein" (Murphy, Smylie, Mayrowetz, & Louis, 2009, p. 185). PLCs provide for a school culture that supports "teacher learning in order to increase student learning" (Capers, 2004, p. 151). Additionally, creating and managing culture "balances all stake-holders' interests; focuses on people rather than systems; makes people believe they can change their environment; makes time for learning; takes a holistic approach to problems; encourages open communication; believes in teamwork; and has approachable leaders" (Stoll, Bolam, McMahon, Wallace, & Thomas, 2006, p. 236). Stoll et al., (2006) maintained "to be successful in a changing and increasingly complex world, it is suggested that whole communities need to work and learn together to take charge of change, finding the best ways to enhance young people's learning" (p. 222).

Research confirms teacher leadership flourishes in cultures which have shared norms, as well as trust and collaboration among colleagues (Muijs & Harris, 2007). A study done in 1995 by Newmann and Wehlage revealed student achievement increases in schools which foster collaborative work cultures through Professional Learning Communities (Katzenmeyer & Moller, 2001). In this way both organizational structure and organizational culture of a school's environment need to be considered together to have a greater effect on student achievement. Through Professional Learning Communities, teachers are able to share leadership

responsibilities as well as engage in collaborative practice that can foster and sustain a healthy school culture. In order to better understand how PLCs support an effective organizational structure and a collaborative culture, it is important to review the background regarding the development of Professional Learning Communities.

Professional Learning Communities have been a concept since the early 1960s as a way to decrease teacher isolation. It was during the late 1980s and early 1990s that researchers began to study the concept and its effect more explicitly. With the publication of Peter Senge's book, *The Fifth Discipline* (1990), the idea of a learning organization in the business world was implanted. Senge (1990) defined learning organizations as "organizations where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people continually learn how to learn" (p. 3). Senge's work "emphasizes the importance of nurturing and celebrating the work of each individual staff person and of supporting the collective engagement of staff in such activities as shared vision development, problem identification, learning, and problem solving" (Hord, 1997, p. 12). As more and more businesses and corporations embraced the idea of a learning organization, the educational community grabbed on to the idea in their efforts to bring about reform in America's schools. "As Senge's paradigm shift was explored by educators and shared in educational journals, the label became learning communities" (Hord, 1997, p. 18). With a litany of information on Professional Learning Communities and their importance, many proclaim they practice PLCs in their schools; however, they are unable to specifically define it.

Professional Learning Communities have been characterized in many ways. In 1994 Sergiovanni commented, “the bonding together of people in special ways and the binding of them to shared values and ideas are the defining characteristics of schools as communities” (p. 4). He elaborated “communities are defined by their centers of values, sentiments, and beliefs that provide the needed conditions for creating a sense of ‘we’ from ‘I’” (p. 4). Newman and Wehlage (1995) characterized Professional Learning Communities as having “shared purpose, collaborative activity, and collective responsibility among staff (p. 37). Louis, Kruse and Bryk (1995) viewed professional community as a framework concerned with “creating schools where all teachers are learners together with their colleagues – or, in the currently fashionable parlance, of creating schools that are learning organizations” (p. 5). Muijs and Harris (2003) defined PLCs as “a community where teachers participate in leadership activities and decision-making, have a shared purpose, engage in collaborative work and accept joint responsibility for the outcomes of their work” (p. 440). Additionally, Hargreaves (2002) described Professional Learning Communities as leading “to strong and measurable improvements in students’ learning. Instead of bringing about ‘quick fixes’ or superficial change, they create and support sustainable improvements that last over time because they build professional skill and the capacity to keep the school progressing” (p. 3). Hord (2008) described a professional learning community as “professionals coming together in a group – a community – to learn” (p. 10). DuFour (2004) suggested a professional learning community ensures students learn, creates a culture of collaboration and focuses on results. “DuFour and Eaker (2006) characterized such intentional communities as environments with a shared mission, vision, and values; collective inquiry; collaborative teams; action orientation/experimentation; commitment to continuous

improvement; and results orientation as a professional learning community" (Habegger, 2008, p. 44).

Despite the variations in definitions, there are consistent undertones which persist that note Professional Learning Communities are a group of people who work in a supportive school culture to collect and interpret data in order to investigate teaching practices through collaboration, reflection and on-going inquiry so that learning occurs for all stakeholders (Stoll et al., 2006). Due to the variety of interpretations that describe Professional Learning Communities, for the purpose of this research study, we will use the definition from Hipp and Huffman. Hipp and Huffman (2010) defined Professional Learning Communities as "professional educators working collectively and purposefully to create and sustain a culture of learning for all students and adults" (p. 12).

Hipp and Huffman (2010) warned establishing "a true PLC is complex" (p. xii). Additionally, they note "PLCs require creativity and thoughtful and coordinated planning, implementation, and maintenance to continually advance student achievement" (p. 21). Further, Hipp and Weber (2008) echoed "creating PLCs in schools is difficult, but sustaining them is even more challenging, particularly in complex urban school districts" (p. 46). It is important to determine what is necessary to establish and maintain the practice of Professional Learning Communities.

The attributes of a professional learning community

Hord (1997) described attributes which are the heart of Professional Learning Communities. These attributes include supportive and shared leadership, shared values and vision, collective learning and application of learning, supportive conditions, and shared

personal practice. When Professional Learning Communities have these attributes present, teacher leaders are empowered to improve their instruction so that the result is increased student achievement (Katzenmeyer & Moller, 2001).

Hipp and Huffman (2010) modified the five dimensions of Professional Learning Communities developed by Hord to include: (a) supportive and shared leadership; (b) shared values and vision; (c) collective learning and application; (d) shared personal practice; and (e) supportive conditions. These dimensions are examined in the following paragraph.

Supportive and shared leadership is an important aspect of Professional Learning Communities. McLaughlin and Talbert (2001) concluded “for better or worse, principals set conditions for teacher community by the ways in which they manage school resources, relate to teachers and students, support or inhibit social interaction and leadership in the faculty, respond to the boarder policy context, and bring resources into the school” (p. 98). The principal is the driving force of the school and has a significant role in nurturing the development of a professional learning community. Murphy et al. (2009) affirmed “principals are in the right position and have the requisite influence to create school structures conducive to distributed leadership” (p. 186). Principals must relinquish sole control and share power, authority and decision making with all professionals in the school. When principals see themselves not as the sole leaders, but as learners alongside their peers -- teachers and colleagues working toward the same goal -- the right environment for the creation of a professional learning community is developed. “Under these conditions, teachers and principals become reciprocal leaders engaged collectively in leadership” (Riordan, 2003, p. 4). “A school whose staff is learning together and participating in decisions about its operation

requires a campus administrator who can let go of power and his/her own sense of omnipotence and omnicompetence and thereby share the leadership of the school" (Hord, 2008, p. 17).

Storey (2004) asserted "the fundamental premise advanced by proponents of the concept of distributed leadership is that leadership activities should not be accreted into the hands of a sole individual but, on the contrary, they should be shared between a number of people in an organization or team (p. 252). Hipp and Huffman (2010) added "principals adept at building leadership capacity and achieving school goals disperse power, gather input into decisions, and encourage staff to focus on a common vision and mission" (p. 14). Printy and Marks (2006) summed it up with:

principals alone cannot provide sufficient leadership influence to systematically improve the quality of instruction or the level of student achievement. Nor can teachers, even collectively, supply the required leadership to improve teaching and learning. Best results occur in schools where principals are strong leaders who also facilitate leadership by teachers; that is, principals are active in instructional matters in concert with teachers whom they regard as professionals and full partners. Where schools have the benefit of shared instructional leadership, faculty members offer students their best efforts and students respond in kind; they are organizations that learn and perform at high levels. (p. 130)

In sharing the role of leadership with the principal, teachers contribute to creating a collaborative environment and culture where a shared vision can be realized.

Another important attribute of Professional Learning Communities is shared values and vision. "Sharing vision is not just agreeing with a good idea; it is a particular mental image of what is important to an individual and to an organization" (Hord, 1997, p. 19). "An unrelenting attention to student learning success is the core characteristic of the learning community of professionals" (Hord & Sommers, 2008, p. 10). Hord (1997) discussed when "students are

pictured as academically capable, and staff envision learning environments to support and realize each student's potential achievement... [This is when] these shared values and visions lead to binding norms of behavior that the staff shares (p. 19). Much progress can be made toward school goals when the group has a strong sense of collective agency centered around common vision and goals. When schools lack a common vision, it is difficult to achieve outcomes and goals (Hipp & Huffman, 2010). Additionally, DuFour and Eaker (1998) stated "the lack of a compelling vision for public schools continues to be a major obstacle in any effort to improve schools" (p. 64). It is not enough to create a vision and impose it on an organization, but it is necessary to involve all stakeholders in creating and carrying out the vision for the school. In this way, the vision will be bought in and internalized by all members thus being "sufficiently compelling to pull everyone toward its realization" (Hipp & Huffman, 2010, p. 16). Fullan (2002) echoed "transforming culture – changing what people in the organization value and how they work together to accomplish it – leads to deep, lasting change" (p. 18).

A shared vision for school improvement is realized when relationships that involve trust and open communication as well as a genuine caring for one another occur. Bandura (1997) stated "teachers' beliefs in their collective efficacy contribute significantly to how well their schools perform academically after controlling for the socioeconomic and racial composition of the student bodies, teachers' experience level, and prior school-level achievement" (p. 469). Through collective action and responsibility as well as an intentional focus on student learning outcomes, goals can be realized.

Collective learning and application is yet another attribute of Professional Learning Communities. Leithwood and Mascall (2008) emphasized "this is the learning that is required

on the part of small groups and whole schools as they attempt to understand the meaning of an improvement effort, what might be entailed in its implementation in their setting, and how to acquire new skills that may be needed to alter their existing practices” (p. 536). The principal must insist on continuous learning among its staff. “If school leaders are to facilitate the growth of a community it will be essential that they focus on promoting professional learning as fundamental to the change process” (Stoll et al., 2006, p. 236). “When teachers learn together, by engaging in open dialogue, opportunities arise to collaborate and apply new knowledge, skills, and strategies (Hipp & Huffman, 2010, p. 17). When teachers see the work they undertake as relevant and applicable in their own classrooms as well as for their own growth and development, then collaboration and collective learning become routine practices (Cameron, 2005). Further, mature PLCs “recognize that student learning [is] a function of teacher learning. In other words, teachers [see] themselves as the *first learners*” (Olivier, Pankake, Hipp, Cowan, & Huffman, 2005, p. 35). “The significant factor here is that the learning and reflection of the professionals is continuous and focuses on students and their benefit” (Hord & Sommers, 2008, p. 12). Studies showed “in schools where teachers work in self-managing teams to develop goals, curricula, instructional strategies, budgets, and staff development programs, students often achieve at higher levels” (Scribner et al., 2007, p. 71). “Eventually, the collective capacity of the organization will increase to the point that the school can address its own shortcomings” (Mayrowetz, 2008, p. 431).

Teaching is a social practice. A fourth attribute of PLCs is shared personal practice. “A key purpose of PLCs is to enhance teacher effectiveness as professionals, for students’ ultimate benefit” (Stoll et al., 2006, p. 229). According to Hipp and Huffman (2010) shared personal

practice “involves observing and providing feedback and sharing new practices in both formal and informal settings” (p. 18). Through frequent interactions, discussions and shared practice, teachers come to know and understand their focus and purpose as well as gain clarity around the values they support in their work together (Printy & Marks, 2006). Hipp and Huffman (2010) stressed that “the PLC members’ learning is not only collegial – that is, they are learning in their community group – but it is *intentional*” (p. x). This intentionality is centered around student needs and learning outcomes (Hipp & Huffman, 2010). Hord (2008) noted the question centered around professional practice is “what should we intentionally learn in order to become more effective in our teaching so that students learn well?” (p. 12). Scribner et al. (2007) claimed “sharing knowledge is a critical function of the collaborative process because it leads to common understanding” (p. 88). Teachers visit each other’s classrooms and engage in dialogue about what was observed (Hord, 1997). Grounded in trustworthiness and mutual respect as well as school-wide improvement, peer visits serve as a “peers helping peers process” (Hord, 1997, p.23). Just as our students need appropriate learning environments, so do teachers need ‘an environment that values and supports hard work, the acceptance of challenging tasks, risk taking, and the promotion of growth’” (Hord, 1997, p. 24). “This process is grounded in individual and community improvement, but can only be done meaningfully if there is mutual respect and trust among the members of the staff” (Hord & Sommers, 2008, p. 15).

Hord (1997) stated “supportive conditions determine *when* and *where* and *how* the staff regularly come together as a unit to do the learning, decision making, problem solving, and creative work that characterize a professional learning community” (p. 20). Hipp and Huffman

(2010) coined this “the glue that holds all other dimensions together” (p. 19). Hord (1997) named the two types of supportive conditions that must be present as: the physical or structural setup and the human qualities/capacities of the people involved. Hipp and Huffman (2010) identified these supportive conditions as structural conditions and relationships. Structure may include: (a) time to meet and dialogue; (b) physical proximity of staff to one another in departments or grade-level groups; (c) small school size; (d) collaborative teaching roles and responsibilities; (e) effective communication programs; (f) autonomous school units that are connected in meaningful ways to the district office and personnel, and; (g) intentional arrangements for teachers to influence decision making (Hipp & Huffman, 2010, p. 19). Of the structural conditions, time presents the most difficult condition to address. “This problem is a significant issue for faculties that wish to work together collegially, and it has been cited as both a barrier (when it is not available) and a supportive factor (when it is present) by staffs engaging in school improvement” (Hord, 1997, p. 21). If Professional Learning Communities are to be effective, schools must take the time to rearrange schedules to allow for adequate staff engagement and discussion centered around student learning. Although these structural changes are important, Schlechty (1997) indicated “structural change that is not supported by cultural change will eventually be overwhelmed by the culture, for it is in the culture that any organization finds meaning and stability” (p. 136). Relationships are an important aspect in creating a positive school culture. Cultural factors that describe such an environment include “teacher attitudes that are consistently positive; norms that support ongoing learning and improvement, not the status quo, teachers who share and learn with each other; and a sense of responsibility for student learning and success” (Hipp & Huffman, 2010, p. 20). Trust plays a

significant role in developing and maintaining positive relationships. “Trust provides the basis for giving and accepting feedback in order to work toward improvement” (Hord & Sommers, 2008, p. 14). As relationships are strengthened, there is an increase in confidence and an increase in commitment and responsibility to the school-wide vision and goals. Increased risk taking and attempts at new ideas are seen as motivators to find ways to improve student outcomes.

Benefits of Professional Learning Communities

There are many benefits to schools which embed Professional Learning Communities into their environment. Hord (1997) reviewed several studies which reported findings of the outcomes of Professional Learning Communities of students and staff. Positive outcomes for staff include:

- Reduction of isolation of teachers
- Increased commitment to the mission and goals of the school and increased vigor in working to strengthen the mission
- Shared responsibility for the total development of students and collective responsibility for students’ success
- Powerful learning that defines good teaching and classroom practice, that creates new knowledge and beliefs about teaching and learners
- Increased meaning and understanding of the content that teachers teach and the roles that they play in helping all students achieve expectations
- Higher likelihood that teachers will be well informed, professionally renewed, and inspired to inspire students
- More satisfaction and higher morale, and lower rates of absenteeism
- Significant advances into making teaching adaptations for students, and changes for learners made more quickly than in traditional schools

- Commitment to making significant and lasting changes
- Higher likelihood of undertaking fundamental, systemic change

Positive outcomes for students include:

- Decreased dropout rate and fewer classes “cut”
- Lower rates of absenteeism
- Increased learning that is distributed more equitably in the smaller high schools
- Larger academic gains in math, science, history, and reading than in traditional schools
- Smaller achievement gaps between students from different backgrounds (p. 33-34)

There has been increased study into Professional Learning Communities and their impact on school culture and student achievement. “When staff members work together as a PLC, the typical isolation experienced by teachers and administrators is reduced” (Hord & Sommers, 2008, p. 18). When professionals collaborate around common goals, there is an increased commitment to ensuring success for all. This includes helping all students reach their highest potential. “Staff who are involved in a PLC provide higher intellectual learning tasks for their students” (Hord & Sommers, 2008, p. 20). Additionally, Louis and Marks (1998) noted that in schools that had positive professional communities, students achieved at higher levels. To date, there are a small number of studies which have reported positive academic gains when PLCs are practiced in schools. One such study was conducted by Burdett (2009) in which he examined the effect of PLC dimensions on student math and reading achievement and found a statistically significant effect. Other studies have shown that schools that participate in

Professional Learning Communities have higher levels of staff morale and performance as well as increased levels of staff commitment to improving student achievement (Kelley, Thornton, & Daugherty, 2005). Studies revealed “in schools where teachers work in self-managing teams to develop goals, curricula, instructional strategies, budgets, and staff development programs, students often achieve at higher levels” (Scribner, Sawyer, Watson, & Myers, 2007, p. 71). Hord and Sommers (2008) advised “more studies are needed that trace the academic outcomes of students in schools where the staff members are organized and work as a professional learning community” (p. 21). Due to limited empirical knowledge, this research aims to add to the gap that currently exists.

Summary

The challenges and complexities that exist in public education have continued to fuel the search to find reform methods that hold promise for sustainable change. In a world where top-down bureaucratic structures exists within the school, our nation asks the question: How do we improve our schools to increase student achievement and close the achievement gap once and for all?

With the multitude of legislation that exists today, one would think our nation would no longer be searching for the answer. Continuing to view public education through the old lens of top-down, bureaucratic structures will not develop the knowledge and skills necessary to transform public education. In fact, “traditional principal hierarchies tend to go hand in hand with schools that foster ‘a culture of isolation’” (Allen, 2003, p. 3). Deep seeded roots connected to old structures are difficult to change; however, if a more collaborative approach to leadership is to be embraced, we must commit to restructuring and reculturing schools.

Muijs and Harris (2006) noted the importance of “future studies to explore the relationship between teacher leadership and Professional Learning Communities focusing particularly on impact measures at school and student level” (p. 969). Additionally, according to Hord (2008), “more studies are needed to follow the development of communities and their outcomes on student performance.” Mayrowetz (2008) purported “the idea of distributed leadership as a human capacity development strategy, much like a professional learning community, has promise as a link to school improvement, but the empirical evidence is still too thin” (p. 432).

Harris (2005) stated “this idea of Professional Learning Communities implies a commitment to teachers sharing learning and working collaboratively” (p. 207). This vertical versus top-down approach is descriptive of distributed leadership. Additionally, Harris (2005) elaborated Professional Learning Communities “also embraces the notion of teacher leadership, as it assumed that teachers will be the catalysts for change and development within a professional learning community” (p. 207). Teacher collaboration has the capacity to transform school culture and affect instructional improvement which has the capacity to translate to improve student achievement (Harris, 2005, p. 208). “More work is required to explore distributed forms of leadership, including teacher leadership, in much more depth. If we are serious about building Professional Learning Communities within and between schools then we need forms of leadership that support and nourish meaningful collaboration among teachers” (Harris, 2003, p. 322). Therefore, further study should be undertaken to determine how dimensions of Professional Learning Communities impact student achievement.

CHAPTER 3

METHODOLOGY

Introduction

This chapter describes the methods and procedures used in this mixed methods study which explored the factors in a school's culture and their impact on student growth. The chapter begins with a restatement of the problem, purpose and questions posed in the study. Next, the research design is described followed by the location of the study and the school sample and interview participants. Then the development, reliability and validity of the Professional Learning Community Assessment-Revised (PLCA-R) questionnaire and the interview protocol are described. Finally, procedures for gathering and analyzing data are described. The chapter concludes with a summary.

Problem Statement and Purpose

Despite increasing research which describes Professional Learning Communities, their attributes and impact on successful schools, much less is known about how a school's culture is developed and sustained through Professional Learning Communities and the impact PLCs have on student achievement. More empirical studies are needed to investigate daily implementation and practice of teacher leadership through Professional Learning Communities as they are fostered and developed to create and sustain a collaborative culture which leads to school improvement (Muijs & Harris, 2003). This study describes dimensions present in a North Texas elementary school's environment and uses qualitative interviews to verify findings related to dimensions present. Additionally, this study seeks to determine the relationship and

effect dimensions have on student reading and math growth in order to improve school practices that lead to increased student achievement.

The purpose of this study was to analyze factors in a school's culture, as represented by professional learning community dimensions, to determine the dimensions present in a school's environment and their impact on student growth. The six dimensions of the Professional Learning Community Assessment- Revised include: 1) shared and supportive leadership, 2) shared values and vision, 3) collective learning and application, 4) shared personal practice, 5) supportive conditions – structures and 6) supportive conditions - relationships.

Research Questions

This study was designed to address three questions related to school culture and student reading and math achievement:

1. Which dimensions, as measured by the Professional Learning Community Assessment – Revised, are present in a North Texas elementary school's environment, and to what extent?
2. If dimensions are identified, what specific actions were implemented to positively affect student reading and math growth?
3. What is the impact of each dimension on student reading and math growth?

Research Design

A mixed-methods approach structured this investigation. Johnson and Onwuegbuzie (2004) defined mixed-methods research as “the class of research where the researcher mixes

or combines quantitative and qualitative research techniques, methods, approaches, concepts or language into a single study” (p. 17). The mixed-methods approach enables the researcher to combine quantitative and qualitative studies about the same phenomenon which “can provide richer insights and raise more interesting questions for future research than if only one set of studies is considered” (Gall, Gall, & Borg, 2007, p. 32).

This study utilized the Professional Learning Community Assessment – Revised (PLCA-R) questionnaire developed by Hipp and Huffman (2009) to identify factors in a school’s culture and their impact on student growth. The factors in a school’s culture correspond to the “critical attributes” of each PLCA-R dimension (Hipp & Huffman, 2010, p. 24). The questionnaire produced data which was quantified and compared through descriptive statistics. Principals and teachers from selected schools were interviewed through one to one conversations to verify the finding produced from the PLCA-R questionnaire and to “elicit responses that are couched in the unique words of the respondents” (Gall et al., 2007, p. 229).

Location and School Sample Selection

The participants in this study consisted of elementary principals and teachers from a suburban school district in the North Central Texas region of the United States served by Region 10 Education Service Center (ESC). Region 10 ESC is the second largest of the 20 ESCs in Texas. ESCs were created by the Texas Legislature in 1967 to provide technical assistance and training to teachers and administrators to aid in school improvement. Region 10 ESC, located in Richardson, Texas, serves 80 public schools and 44 public charter schools and the 2012-2013 student enrollment was approximately 775, 618. Additionally, 91,739 personnel were employed in schools systems in Region 10 during the 2012-2013 school year. All elementary

schools in the selected district were invited to participate in the study; however, 42 of the 44 elementary schools participated. A total number of 449 elementary principals and teachers participated in this study.

Data Collection

Professional Learning Community Assessment Revised Questionnaire

The survey instrument used in this study was the Professional Learning Community Assessment-Revised (PLCA-R) developed by Hipp and Huffman (2010). The survey was developed to “assess everyday classroom and school-level practices in relation to PLC dimensions” (Hipp & Huffman, 2010, p. 30). Further, the assessment assists “educators and researchers in determining the strength of practices in their own schools within each dimension” (Hipp & Huffman, 2010, p. 30).

The online version of the PLCA-R survey was completed by participants. Cultural factors, as measured by the six dimensions on the PLCA-R questionnaire include shared and supportive leadership, shared values and vision, collective learning and application, shared personal practice and supportive conditions – relationships and structures (Hipp & Huffman, 2010). Each of the six PLCA-R dimensions had related statements which describe characteristics of the dimension. The PLCA-R survey consists of 52 statements in all which describe practices of Professional Learning Communities. Table 1 shows a breakdown of the 52 statements by dimension as well as a descriptor for each of the six dimensions.

Table 1

Characteristics of the PLCA-R Questionnaire

Dimensions	Number of Statements	Descriptor
Shared and Supportive Leadership	11	Decision-making, power and authority shared democratically with staff
Shared Values and Vision	9	Decision making based on student learning as a central school value
Collective Learning and Application of Learning	10	Organizational learning through collaboration, planning and problem solving
Shared Personal Practice	7	Increasing competence individually and organizationally through peer observation and support
Supportive Conditions – Relationships	5	Collegial and caring relationships based in trust and respect within a context of improvement and critical inquiry
Supportive Conditions – Structures	10	School structures (for example: time, proximity to staff, and communication systems) supporting collective and collaborative school improvement

Adapted from Hipp, K.A., & Huffman, J.B. (2010). Demystifying Professional Learning Communities.

Participants completed the questionnaire according to their perceptions of the strength of each dimension practiced in their school by marking *strongly disagree (SD)*, *disagree (D)*, *agree (A)*, or *strongly agree (SA)*. The Likert scale used to qualify their perceptions were assigned a value of 1 point for SD, a value of 2 points for D, a value of 3 points for A, and a value of 4 points for SA.

The PLCA-R has been used in a number of studies. In fact, Hipp and Huffman (2010) stated “the measure has been administered to professional staff in numerous school districts at varying grade levels throughout the United States” (p. 30). The questionnaire was assessed by a panel of experts consisting of “school administrators and teachers, district and regional education supervisory personnel, university faculty and staff, educational consultants, and doctoral students studying PLCs” (Hipp & Huffman, 2010, p. 31). Cronbach’s alpha reliability coefficients for factored subscales were used to confirm internal consistency (Hipp & Huffman, 2010).

Expected Growth Scores

The second source of data was the expected growth score (EGS) from the 2013-14 Reading and Math Measures of Academic Progress (MAP) scores. This is a computerized test developed by the Northwest Evaluation Association. With this assessment the difficulty of the test is adjusted to a student’s performance. The assessments report a Rausch unIT (RIT) score in the range of 100-300 and this RIT score can be used to measure growth from year to year. This EGS score takes individual student scores and computes the difference between a student’s RIT score and typical growth RIT scores of students on the NWEA MAP assessments. Expected growth score is a term used in place of the original term in order to mask the identity of the participating school district.

Interviews

After analyzing PLCA-R survey results, one to one interviews were conducted to verify PLCA-R survey findings. Bogdan and Biklen (1998) stated an interview is a “purposeful

conversation, usually between two people that is directed by one in order to get information from the other” (p. 93). One principal from each of three campuses was selected to participate in one to one interviews based upon the level of development of professional learning community dimensions on their campus. Gill et al. (2008) asserted “qualitative methods, such as interviews, are believed to provide a ‘deeper’ understanding of social phenomena than would be obtained from purely quantitative methods, such as questionnaires” (p. 2). The researcher contacted each of the selected principals and decided upon an agreed upon time for the interview. Additionally, the principal was asked to nominate one teacher who had completed the PLCA-R survey, to participate in the interview. Prior to beginning the interviews, the researcher gained informed consent from the interviewee and gained permission to tape record the interviews for transcription and analysis. Interviews lasted approximately 30-45 minutes. Interview questions were predetermined. There were six interview questions which were aligned to the PLCA-R questionnaire. These interview questions were derived from a previous study done by Phillip Jeffrey Blacklock (2009), relating to professional learning community dimensions. The teacher interview questions included:

1. How do you and other staff members participate in leadership roles on campus?
2. How do you collaborate with others to create a vision of learning for all students?
3. What are the most important wants you work with others at your school to improve teaching and student learning?
4. What strategies do you use to improve and share your teaching practices with others?
5. How does your school create caring relationships which supports trust and respect?
6. What are the key organizational (school) structures which help you work with others to improve student achievement?

The 6 principal questions asked during the interview included:

1. How do you share and encourage leadership roles on your campus?
2. What does your school value the most and how do you work with your staff to build a common values and vision?

3. What do you think are the most important ways teachers learn together and what is the main outcome you hope to achieve?
4. How do your teachers collaborate to improve their own practice of teaching?
5. What do you think are the most important things to consider in developing relationships on your campus?
6. How have you changed physical aspects of your school to help teachers work together to improve student learning (p. 157).

After completion of all interviews, the conversations were transcribed and analyzed to determine any apparent themes with regard to the professional learning community dimensions as well as strategies for implementation on the selected campus.

Procedures for Data Gathering

The purpose of this study was to determine which dimensions, as measured by the Professional Learning Community Assessment – Revised, are present in a school's environment as well as their impact on student growth. A University of North Texas IRB application was submitted and approved. Following IRB approval, the researcher sought approval to conduct this study in the selected district. Once permission was granted, the researcher contacted each school principal in the selected district and invited them to participate in the study. The researcher emailed the link to the online survey to each principal for distribution to their respective staff. The researcher followed up with a phone call to each principal to answer any questions they had with regard to the PLCA-R questionnaire. Once the questionnaire deadline was reached, individual scores for the PLCA-R were recorded and analyzed using descriptive statistics. Based upon data analysis, the researcher selected campuses to participate in one-to-one interviews in order to verify initial findings gained from the PLCA-R surveys. Once all interviews were completed, the researcher analyzed the data to determine which dimensions were present and their degree of development on the participant campuses. Additionally, the

researcher used Pearson's r statistic and multiple regression to determine if a relationship existed between dimensions present within a school's environment and their student growth as measured by EGS scores as well as the strength of that relationship, if present.

Data Analysis

This study was designed to address three questions related to school culture and student reading and math achievement. Since the study used the mixed methodology approach, data analysis used the same approach based upon the nature of the research question. The research questions are as follows:

Research Question 1 - Which dimensions, as measured by the Professional Learning Community Assessment-Revised, are present in a school's environment?

The PLCA-R questionnaire and one-to-one interviews were used to answer this question.

Descriptive statistics including the mean, median and standard deviation were calculated to analyze the PLCA-R results and determine the level of engagement of schools in each PLC dimension. Hipp and Huffman (2010) commented "when analyzing PLCA-R results, descriptive statistics are beneficial in determining the strength of the dimensions, as well as reviewing teacher responses for each individual item.

Research Question 2 - If dimensions are identified, what specific actions can be implemented to positively affect student reading and math growth?

One-to-one interviews were utilized to verify PLCA-R findings and to confirm specific strategies implemented on the school campus, relative to PLCA-R dimensions found, that

positively affect student reading and math growth. Interview questions were pre-determined and aligned to each of the PLC dimensions.

Research Question 3 - What is the impact of each cultural factor on student growth?

Descriptive statistics including correlational analysis were utilized to determine the impact of each cultural factor on student growth. Measures of Academic Progress (MAP) and EGS scores in the areas of reading and math were used as the measure of student growth in this study.

MAP is a test of student achievement in the areas of reading, language usage, mathematics and science. This test was developed by Northwest Evaluation Association (NWEA) and is used in over 2,200 school districts. The content of the test is aligned to the Texas Essential Knowledge and Skills (TEKS) and when given in other states can be aligned to their adopted standards. MAP scores are reported on a scale that shows the progression of learning from fundamental concepts and skills to very demanding concepts and skills. The scale is not dependent on grade level but is built on the appropriate learning sequence of concepts and skills. The scale is called the RIT scale (Rausch unit) and has a range of 100 to 300. The same scale is used across the tests administered to kindergarten and first grade (MAP primary), through elementary (MAP 2-5). The validity and reliability of the tests have been confirmed by methods prescribed in The Standards for Educational and Psychological Testing (1999); jointly developed by the American Educational Research Association, the American Psychological Association, and the National Council on Measurement in Education. Because MAP was designed to measure progression or growth along a learning path, the most relevant

interpretation of a RIT score is to compare it to a previous RIT scores. Typical growth targets are indicators of the progress most students should make in an academic year.

The Expected Growth Score (EGS) provides evidence of how well groups of students have progressed along a learning continuum in the general domains of reading, mathematics, and science. The underlying measures used to assess student progress are the Measures of Academic Progress (MAP) tests. The computation of typical growth is done in stages. First, the typical growth RIT score is uniquely computed based on the student's initial RIT score and the enrolled grade. Next, each student's growth with respect to the typical growth RIT score is computed by comparing the final RIT score to the typical growth RIT score. Finally, the individual student differences between the final RIT score and the typical target RIT score are averaged to arrive at the grade-subject Expected Growth Score. Students who exceeded the typical growth RIT score will positively contribute towards the EGS score. The typical growth scores used for comparison were updated this 2013-14 school year, using data from academic years 2010-11 and 2011-12. Using the combined data from two recent cohorts of students provided information on approximately 8,000 students per grade level to more reliably assess typical performance in each subject area. EGS scores are computed by averaging the difference values for all students in a grade level group. Students excluded from EGS are Grades K-2 special education students, Grades 3-8 students taking any Modified State of Texas Assessments of Academic Readiness (STAAR) test, students not enrolled on campus at the PEIMS snapshot date in October, and students whose growth scores are extreme outliers (lowest and highest 1%).

Question 3 was approached by analyzing data from the PLCA-R from participant schools to identify the degree to which the PLC dimensions were developed on that campus. The researcher wanted to determine patterns of high, medium and low scores within each dimension section for each grade level and campus. The researcher then sought to look at participant school EGS scores to determine the difference in means between scores. Bivariate correlation coefficient “is a statistic that enables us to describe in mathematical terms the strength of the relationship between two variables” (Gall et al., 2007, p. 137). “Product-moment correlation is the most widely used bivariate correlational technique because most educational measures yield continuous scores and because r has a small standard error” (Gall et al., 2007, p. 347). Therefore, bivariate correlational statistics were used to analyze the degree of relationship between PLC dimensions and student growth.

Multiple regression was used to determine the correlation between reading and math growth as dependent variables and the six PLCA-R dimensions as independent variables. This statistic is popular due to “its versatility and the amount of information it yields about relationships among variables” (Gall et al., 2007, p. 353). In multiple regression analysis, the first step is “to compute the correlation between the best single predictor variable and the criterion variable. This procedure yields a multiple correlation coefficient (R)... (Gall et al., 2007, p. 356). The multiple correlation coefficient (R) measures the “magnitude of the relationship between a criterion variable and some combination of predictor variables” (Gall et al., 2007, p. 358). “The value of R can range from 0.00 to 1.00; negative values are not possible. The larger the R , the better the prediction of the criterion variable” (Gall et al., 2007, p. 359). Further, Gall (2007) stated “if R is squared, it will yield a statistic known as the coefficient of determination

(R^2) R^2 s expresses the amount of variance in the criterion variable that is explained by a predictor variable or combination of predictor variables" (p. 359).

"Two tests of statistical significance are commonly done in multiple regression analysis. One test is done to determine whether the obtained value of R is significantly different from zero. The other test...is done to determine whether the R^2 is statistically significant" (Gall et al., 2007, p. 359).

Beta weights are regression weights in standard score form (Gall et al., 2007, p. 359).

"Some researchers prefer beta weights because they form an absolute scale" (Gall et al., 2007, p. 360). Beta weights evaluate a given unit of change, they do not measure relationship (Courville & Thompson, 2001). Beta weights can be positive or negative or large and nonzero (Courville & Thompson, 2001). Beta weights can be misleading on their own since they are context specific, therefore, they should be interpreted along with structure coefficients.

Structure coefficients are the correlation between the predicted outcome and each independent variable or predictor. Structure coefficients indicate the best predictor in determining a predicted outcome. "The two sets of coefficients Beta weights and structure coefficients – provide us with a more insightful stereoscopic view of dynamics within our data" (Courville & Thompson, 2001, p. 245).

Summary

This chapter described the research design and methodologies used to answer the proposed research questions of this study. Student growth was examined using correlational statistics to determine the relationship between factors in a school's environment as measured by the PLCA-R and student growth. Chapter 4 presents findings from the study.

CHAPTER 4

RESULTS AND ANALYSIS

The purpose of this study was to analyze factors in a school's culture, as represented by professional learning community dimensions, to determine the dimensions present in a school's environment and their impact on student growth. The research questions for this study sought to determine the following:

1. Which dimensions, as measured by the Professional Learning Community Assessment – Revised, are present in a North Texas elementary school's environment, and to what extent?
2. If dimensions are identified, what specific actions can be implemented to positively affect student reading and math growth?
3. What is the impact of each dimension on student reading and math growth?

The six independent variables represented by cultural factors, consisted of dimensions of Professional Learning Communities as identified by Hipp and Huffman (2010). These variables included practices in schools centered around: a) shared and supportive leadership; b) shared values and vision; c) collective learning and application; d) shared personal practice; e) supportive conditions – relationships; and f) supportive conditions – structures. The dependent variable was the Expected growth scores (EGS) used to measure student reading and math growth for each participating elementary campus in grades one through five.

This chapter presents a descriptive analysis of PLCA-R findings in relation to the purpose of the study as well as a summary of data findings related to the research questions.

Quantitative data from the PLCA-R survey as well as the qualitative data from principal and teacher interviews are also included.

Procedure

Survey administration began with an email to the district Research Review Committee explaining the study and the intent to survey elementary teachers in the district. A research proposal application was completed and submitted to the Research Review Committee to explain the problem, methodology, and procedures to be used in the study. The Research Review Committee reviewed the application and granted permission for the researcher to conduct the research study.

The researcher sent an email to principals explaining the purpose and nature of the study in order to gain consent to survey teachers in grades one through five in their schools. Included in the email was the survey web address. Principals were asked to forward the email to teachers in their schools grades one through five. One week later, a second email was sent asking principals to forward the email to teachers in Grades 1 through 5. The email asked teachers to complete the survey within seven days. Since the survey was distributed near the end of the school year, response rates were negatively impacted. An email was sent to principals for a third time asking them to encourage their teachers to respond to the online PLCA-R survey if they had not already had an opportunity to do so. Three principals replied to my email stating their staff was stressed due to end of year activities and those who were able to complete the survey had already done so. This was an indication that the upper limits of teacher participation had been reached.

Participants consisted of elementary principals and teachers in Grades 1 through 5 from public elementary schools in a large suburban school district in the Region 10 area of North Texas during the 2013-2014 school year. Participants completed the PLCA-R online survey regarding PLC practices during the 2013-2014 school year. The district student population was approximately 55,000. All 44 elementary schools were invited to participate in this study, and participation data and response rates by teacher and principals and school are shown in Table 2.

2. Participants completed an online survey about their participation in PLC practices during the 2013-2014 school year. There were 449 teacher/principal responses from a pool of 1063 potential participants, which resulted in a response rate of 42%. A school participation rate of 95% was yielded as a result of participation from 42 of 44 elementary schools.

Table 2

<i>Participation Rates</i>			
	Possible	Frequency	Percent Participation
Elementary Teachers and Principals	1063	449	42%
Elementary Schools	44	42	95%

Although there was a total of 449 elementary teachers and principals responding to the survey, there was a wide range of respondents from as few as one from three schools, to 32 respondents from another school (see Table 3). There was only one elementary campus that did not participate. Twelve schools had 15 or more participants.

Table 3

School	Possible	Frequency	Percentage
Campus _024	21	18	86%
Campus _042	29	21	72%
Campus _58	23	8	35%
Campus _62	22	3	14%
Campus _095	25	25	100%
Campus _63	20	6	30%
Campus _64	33	5	15%
Campus _65	29	6	21%
Campus _018	19	19	100%
Campus _66	20	3	15%
Campus _68	32	6	19%
Campus _70	21	1	5%
Campus _025	32	21	66%
Campus _82	19	4	21%
Campus _037	57	57	100%
Campus _86	24	8	33%
Campus _006	24	21	88%
Campus _002	15	11	73%
Campus _90	22	7	32%
Campus _92	17	5	30%
Campus _080	27	27	100%
Campus _93	21	3	14%
Campus _99	22	5	23%
Campus _103	15	3	20%
Campus _104	29	12	41%
Campus _061	29	27	93%
Campus _045	21	13	62%
Campus _108	23	1	4%
Campus _112	25	9	36%
Campus _089	47	47	100%
Campus _115	26	3	12%
Campus _057	32	32	100%
Campus _073	29	26	90%
Campus _116	21	5	24%
Campus _118	16	3	19%
Campus _053	26	19	73%
Campus _100	18	9	50%
Campus _121	21	4	19%

(table continues)

Table 3 (*continued*).

Participation Rates by Individual Schools

School	Possible	Frequency	Percentage
Campus_126	21	8	38%
Campus_134	28	6	21%
Campus_136	30	0	0
Campus_007	21	14	67%
Campus_141	22	6	27%
Campus_056	20	15	75%

Demographic Characteristics of Participants

The PLCA-R online survey contained demographic information which included participants' gender, highest education level, experience in education, and number of years in current schools. Table 4 contains demographic characteristics for all 449 participants and shows the average years of teaching experience reported by the 449 participants as 15 years with a standard deviation of 9.

Table 4

Descriptive Statistics for Years in Education and Years in Current School

	N	Mean	Standard Deviation
Total Years in Education	449	15.06	9.22
Years in Current School	449	7.98	6.02

Table 5 reports gender and education data from the 449 participants. Of the 449 participants, 429 were female (95.5%). Additionally, half of the participants earned their Bachelor's degree while one-third had earned their Master's degree.

Table 5

Gender and Education

		Frequency	Percentage
Gender	Female	429	95.5%
	Male	20	4.5%
Education	Bachelor's	239	53.2%
	Master's	169	37.6%
	Master's +	39	8.7%
	Doctoral	2	.5%

Table 6 reports participants by grade level taught. More than half of the participants taught grades 3-5 (61%) while 40% worked primarily with first and second graders.

Table 6

Specific Grade Level Taught

1 st	115	25.6
2 nd	60	13.4
3 rd	73	16.3
4 th	88	19.6
5 th	113	25.1

Table 7 identifies subjects taught by participants. The majority of participants (67.5) taught all subjects. Math teachers made up only 10.9% of participants. Integrated Curriculum, which consists of a combination of social studies and science, was taught by 8.9% of the participants.

Table 7

Subject Area Taught

All Subjects	341	67.5
Reading/LA	64	12.7
Math	55	10.9
Integrated Curriculum (IC)	45	8.9

Two schools (Campus _089 and Campus _037) had administered the PLCA-R to their staff prior to this research study and noted that they did not want to ask their staff to re-take

the survey. In this case, the researcher was able to gain access to their data from the SEDL PLCA-R database. The researcher included their data separately since the data filters the schools used to set up their demographic data were slightly different from those established by the researcher.

Tables from Campus _089 and Campus _037

Table 8

Campus _089 Specific Grade Levels Taught

Kindergarten	14
1 st	14
2 nd	19
3 rd	15
4 th	16
5 th	16

Table 9

Campus _089 Years of Teaching Experience

1-2	14
3-4	14
5-10	19
11-20	15

Table 10

Campus _089 Departments

Grade Level Teacher	23
Instructional Coach	7
Support Staff	1
Special Education	8
Specials	4
Administration	0

Table 11

Campus _089 PLCA-R Survey Means and Standard Deviations

	Mean	Standard Deviation
Shared and Supportive Leadership	2.99	0.83
Shared Values and Visions	3.15	0.68
Collective Learning and Application	3.12	0.73
Shared Personal Practice	2.87	0.83
Supportive Conditions – Relationships	3.10	0.73
Supportive Conditions – Structures	3.19	0.73

Table 12

Campus _037 Departments

Teaching Assistants	6
Academic Support Teachers	11
Intermediate Teachers	19
Primary Teachers	21

Table 13

Campus _037 PLCA-R Survey Means and Standard Deviations

	Mean	Standard Deviation
Shared and Supportive Leadership	3.17	0.71
Shared Values and Visions	3.20	0.62
Collective Learning and Application	3.29	0.61
Shared Personal Practice	3.36	0.61
Supportive Conditions – Relationships	3.30	0.64
Supportive Conditions – Structures	3.25	0.58

First Research Question Data Analysis

The first research question addressed in this study was: Which dimensions, as measured by the professional learning community assessment-revised, are present in a school's environment and to what extent?

Data from Table 14 shows cultural factors as measured by PLC dimensions for all participating schools. This data indicates general agreement with PLC dimensions being practiced in all schools participating in this study. Based on the scale of 1-4, a score of 3.0 or higher shows general agreement. Collectively, all participating schools indicate the practice of collective learning and application as well as supportive conditions – relationships as developed in with mean scores the highest at 3.42.

Table 14

Cultural Factors as measured by PLC Dimensions for all participating schools

PLC Dimensions	N	Mean	Standard Deviation
Shared and Supportive Leadership	42	3.35	0.65
Shared Values and Visions	42	3.38	0.62
Collective Learning and Application	42	3.42	0.60
Shared Personal Practice	42	3.21	0.68
Supportive Conditions – Relationships	42	3.42	0.64
Supportive Conditions – Structures	42	3.33	0.62

N = number of participating schools

According to Hipp and Huffman (2010), “when analyzing PLCA-R results, descriptive statistics are beneficial in determining the strength of the dimensions, as well as reviewing teacher responses for each individual item” (p. 35). The following tables will look more closely at individual campuses to determine strengths and weaknesses of practices within PLC dimensions. The researcher sought to gain more understanding of strengths and weaknesses of school level practices in order to determine if relationships exist between the strengths of practices and Expected Growth Scores. As identified previously, survey participation rates ranged from 0 to 32 at individual schools. The researcher, however, decided to use data from schools that had a participation rate of at least 50% which would provide for a more inclusive representation of data within each school.

Compared to the group mean, Table 15 shows there were several schools whose mean scores suggest their school's overall development for the six dimensions were strong as their mean scores were at or above the group mean. Campus _042, Campus _006, Campus _080 and Campus _056 Elementary Schools reported means at or above the group mean in all six dimensions, while Campus _095, Campus _100, and Campus _007 Elementary Schools reported means at or above the group mean in five out of the six dimensions.

Table 15

Means and standard deviations of schools against group mean and Expected Growth Scores (EGS)

	Shared and Supportive Leadership	Shared Values and Visions	Collective Learning and Application	Shared Personal Practice	Supportive Conditions – Relationships	Supportive Conditions – Structures	EGS Reading	EGS Math
Group = 42 participating schools	3.35	3.38	3.42	3.21	3.42	3.33		
Campus _024	3.26	3.27	3.30	3.06	3.38	3.22	1.7	1.1
Campus _042	3.61*	3.63*	3.72*	3.47*	3.85*	3.53*	2.6	2.2
Campus _018	3.33	3.42*	3.50*	3.29*	3.36	3.26	2.8	1.7
Campus _025	3.09	3.20	3.26	2.90	3.18	3.06	0.4	0.2
Campus _006	3.49*	3.52*	3.54*	3.39*	3.66*	3.55*	0.3	1.3
Campus _002	3.14	3.18	3.31	3.16	3.09	3.26	2.8	2
Campus _080	3.35*	3.41*	3.42*	3.29*	3.50*	3.44*	2.1	0.7
Campus _061	2.97	3.02	3.23	2.85	3.17	3.21	0.1	0
Campus _045	3.26	3.44*	3.39	3.25*	3.32	3.35*	2.6	2.9
Campus _057	3.22	3.30	3.31	3.29	3.41	3.20	1.5	1.7

(table continues)

Table 15 (*continued*)

Means and standard deviations of schools against group mean and Expected Growth Scores (EGS)

	Shared and Supportive Leadership	Shared Values and Visions	Collective Learning and Application	Shared Personal Practice	Supportive Conditions – Relationships	Supportive Conditions – Structures	EGS Reading	EGS Math
Campus _053	3.06	3.13	3.07	2.87	3.03	3.20	0.3	0.5
Campus _100	3.63*	3.60*	3.61*	3.13	3.69*	3.34*	1	1.7
Campus _007	3.53*	3.47*	3.42*	3.26*	3.41	3.37*	-0.2	-0.1
Campus _056	3.52*	3.72*	3.67*	3.45*	3.75*	3.56*	1.2	2.9

*denotes campus means at or above the group mean

The researcher conducted interviews with the principal and one teacher from selected schools whose staff indicated strong development in at least five of the six dimensions in order to verify and enrich the data collected from the PLCA-R survey (Bogdan & Biklen, 1998). Appendix A provide teacher responses for individual items from schools which reported means higher than the group mean in at least five of the six dimensions.

Second Research Question

The second research question sought to determine strategies, relative to dimensions identified within a school's environment, implemented in schools which positively affect student reading and math growth. The researcher interviewed the principal and one teacher from two of the schools, Campus _042 and Campus _056, which had mean scores above the group mean in all six dimensions as well as the principal and one teacher from one of the schools, Campus _100, which had mean scores above the group mean in five of six dimensions.

The principal from Campus _042 has been in education for thirteen years and this was her second year at this campus. The teacher interviewed from Campus _042 has been in education for eight years with all her experience at Campus _042. The principal from Campus _100 had a total of twenty-seven years in education and this was her second year at this campus. The teacher interviewed from Campus _100 has eleven years in education with all of her experience being on this campus. The principal from Campus _056 has a total of thirty-nine years in education with eleven years at her current campus. Both principals and teachers had notable years of experience in education and were knowledgeable about dimensions within their school environment.

Collective learning and application as well as shared values and vision were overlapping themes reported by principals and teachers from all three campuses. This is also a reflection of individual teacher responses reported from each school. Staff agreed or strongly agreed with all or almost all statements in each of the dimensions of shared values and vision and collective learning and application.

Collaboration as a support for collective learning was evident during all three school interviews. The Campus _042 principal noted collaboration as a key dimension when it comes to practical application of Professional Learning Communities. She acknowledged “Whenever there is something to be decided or a plan we are making or something with the curriculum or whatever it is we’re working on as a school – we make it a common goal.” The Campus _100 teacher also confirmed collaboration with her team is of high importance as she stated, “The first group I always collaborate is with my team. We plan together. We meet several times a week and then definitely both the PLC and vertical team...because you get perspective from

people on both levels . . . ” Additionally, both teacher and principal at Campus _056 agreed collaboration is important. The Campus _056 principal confirmed:

Our teams are very good about meeting more than once a week and not just exchanging lesson plans. I hear them . . . really discussing . . . how I do this and here is the way I presented it to my students so they hear from each other, learn from each other . . . and so I think that is one of the biggest ways they can learn from each other rather than from me . . . ”

Campus _056’s teacher added “I truly believe just collaborating with others is a huge benefit and positive aspect of how we improve our teaching practices.” All three schools confirmed weekly grade-level planning meetings, monthly leadership team meetings, monthly staff meetings and professional learning community team meetings allowed for sharing valuable information and guiding collective decision making toward a focused vision on improving teaching and learning for student achievement.

Shared values and vision characterized the manner in which all three campuses approach learning for all stakeholders. Both principals and teachers interviewed touted support for statements 14 and 15 within the PLCA-R dimension of shared values and visions. They echoed that sharing a vision and making decisions in alignment with the vision were important to the success of the overall community. The Campus _056 teacher provided “we are always evaluating as a team how can we make this better. We have a vision of not only just doing something to do it but it needs to be valuable and meaningful and worthwhile, so we see a positive outcome for those students . . . ” The Campus _100 principal suggested, “when we began . . . this year, I reviewed my vision and I also told them these are the things that are heavy on my heart, and that we need to work on this year when you look at the data and look at how our kids perform.”

Using data to make informed decisions and prioritize actions was also evident in all three schools. The Campus _100 teacher confirmed this practice saying, “I would say that we’re really data driven. We always take the math data from the end of the last year and from this year, and make decisions on what we would use for tutoring, whose going to be invited, what we are going to target, how we’re going to separate the groups to target, and what we need to do.” All three principals interviewed confirmed the importance of a focused vision grounded in use of multiple data. Taking the time necessary to analyze data available provides for increased opportunities to positively affect teaching and learning practices. The teacher interviewed from Campus _056 discussed the practice of reviewing and analyzing student MAP scores and tailoring their instruction and independent practice to specifically focus on areas of need as indicated by the data. This allows for each individual student to have a targeted instruction focus toward improvement.

It was evident from the interviews that shared values and vision were undergirded by strong caring relationships among the faculty. Respect and trust were repeatedly verbalized from both principals and teachers during interviews as important attributes to a successful school. Through fostering supportive conditions – relationships, all stakeholders felt safety and open dialogue through new learning related to risk-taking, challenging the status quo, and instructional coaching for best practices that result in increased student achievement. The Campus _100 teacher stated, “we are really like a family...we’re always willing to help each other.” The Campus _042 principal added:

I think the key thing was building trust. And I think when they see kind of a servant leadership like I’m in this with you and . . . I want to partner with you as long as you’re doing your part I’ll do my part. And I think when they feel trusted to do their job and trusted as a professional, they rise to that level without the micromanaging piece that

sometimes happens. And I think time and visibility in the relationship, being in the classroom, and having conversations with them, asking about their family.

The Final Analysis for Research Questions 1 and 2

In the final analysis for research questions 1 and 2, all schools participating in the study had a mean score above 3.0 for all six professional learning community dimensions, suggesting these dimensions to be developed within their school environment. Collective learning and application, supportive conditions – relationships and shared values and vision were perceived to be the most developed with the highest mean value of 3.42, 3.42, and 3.38 respectively. Principal and teacher interviews provided qualitative data which confirmed and enriched the understanding of strategies used on all campuses to enhance development and sustainability of practices which improve teaching and learning and result in increased student achievement.

Third Research Question Data Analysis

The third research question addressed in this study was: What is the impact of each cultural factor on student growth? PLCA-R dimension scores for each school were correlated to student reading and math growth through use of Pearson's r statistic in SPSS. Since every participant completed the same questionnaire, no distinction was made between principal and teacher responses. Table 17 outlines the correlations between PLCA-R dimensions and reading and math growth.

There was a significant positive relationship between math and reading ($r=.832$, $p<.001$), which suggests that students scoring high in the area of math tend to score high in the area of reading and vice versa with .832 or 69% of the shared variance. Shared values and visions and

shared personal practice reflect a statistically significant relationship with math growth, .314 and .319 respectively.

Table 17

Pearson R Correlations for the Relationship Between PLCA-R Dimensions and Reading and Math Growth

		Math	Reading
Shared and Supportive Leadership	Pearson Correlation	.240	.160
Shared Values and Visions	Pearson Correlation	.314*	.290
Collective Learning and Application	Pearson Correlation	.285	.254
Shared Personal Practice	Pearson Correlation	.319*	.225
Supportive Conditions – Relationships	Pearson Correlation	.242	.212
Supportive Conditions – Structures	Pearson Correlation	.278	.236
Math	Pearson Correlation	1	.832**
Reading	Pearson Correlation	.832**	1

Note. * $p < .05$, ** $p < .001$

There are many variables that can affect a student's reading and math growth. In this study it is important to assess the impact of the six PLCA-R dimensions on student reading and math growth. Tables 18 and 19 show regression models measuring the relationship between reading and math growth as dependent variables and the six PLCA-R dimensions as independent variables. The F-test for ANOVA was computed to determine if the model was significantly better in predicting reading and math growth. This F-test for ANOVA analysis was not statistically different from 0, [$F(6,35) = 1.684, p > .05$] for reading growth and [$F(6,35) = 1.098, p > .05$] for math growth and is therefore not statistically significant in predicting reading

and math growth. Even though the six dimensions are not statistically significant in predicting reading or math growth, effect size is still notable at 22.4% for reading growth and 15.8% for math growth. Effect sizes are used to assess program effects. In the case of multiple regression, R-squared tells the effect of the predictor variables in explaining the outcome variables of math and reading growth (Henson, 2006).

The next model in the multiple regression analysis used b values to tell us about the relationship between the dimensions and reading and math growth. The b values indicated individual contributions of each dimension to reading and math growth. Although b values are important Beta weights are a better predictor of individual contributions.

Though there is no statistical significance of the six variables, the Beta Coefficients suggest shared values and vision is most effective in predicting reading and math growth. The least effective predictor for math growth is supportive conditions – structures. However, predictor variables are often correlated. This impacts the standardized beta values and may be misleading (Courville & Thompson, 2001). In these cases, structure coefficients are a better option in determining variable importance. Therefore, we will analyze structure coefficients to examine each dimensions contribution to reading and math growth.

In analyzing the structure coefficients in Tables 18 and 19, shared values and visions ($r_s^2=.375$) was the best predictor for reading growth followed by collective learning and application ($r_s^2=.288$) and supportive conditions ($r_s^2+.248$) respectively. Individual contributions for math growth are shared personal practice ($r_s^2 = .644$), shared values and visions ($r_s^2= .624$) and collective learning and application ($r_s^2= .511$).

Table 18

Reading Regression Coefficients						
	B	Std. Error	Beta	T	r _s	r _s ²
Constant	-5.363	2.925		-1.834	1	1
Shared and Supportive Leadership	-3.725	1.687	-.986	-2.209	.337	.113
Shared Values and visions	4.351	1.787	1.093	2.435	.613	.375
Collective Learning and Application	1.710	1.221	.439	1.400	.537	.288
Shared Personal Practice	-.746	1.221	-.229	-.611	.476	.226
Supportive Conditions – Relationships	-.509	1.256	-.154	-.405	.449	.201
Supportive Conditions - Structures	.724	1.290	.157	.561	.498	.248

Dependent Variable: Reading Growth
Note. R² = .224, p>.05

Table 19

Math Regression Coefficients						
	B	Std. Error	Beta	t	r _s	r _s ²
Constant	-4.154	3.177		-1.308	1	1
Shared and Supportive Leadership	-1.886	1.832	-.479	-1.029	.603	.363
Shared Values and visions	2.926	1.941	.705	1.508	.790	.624
Collective Learning and Application	.730	1.327	.180	.551	.715	.511

(table continues)

Table 19 (continued)

Math Regression Coefficients

	B	Std. Error	Beta	t	r_s	r_s^2
Shared Personal Practice	.568	1.326	.167	.429	.803	.644
Supportive Conditions – Relationships	-.804	1.364	-.234	-.589	.607	.368
Supportive Conditions – Structures	.065	1.401	.013	.046	.698	.487

Dependent Variable: Math Growth

Note. $R^2 = .158$, $p > .05$

Final Summary

The purpose of this study was to determine which dimensions are present in a school's environment as well as identify specific strategies implemented that can positively affect student reading and math growth. Additionally, the purpose of this study was to determine the impact of dimensions on reading and math growth. A survey instrument (PLCA-R), which measures six dimensions of Professional Learning Communities was used to determine dimensions present in a schools' environment. The survey was completed by 449 participants from 42 schools in a large suburban district in North Texas. Reading and math EGS growth scores were used from students in grades 1-5 to determine the relationship between the six PLCA-R dimensions and reading and math growth.

Findings indicated that of the PLCA-R dimensions, shared values and vision, collective learning application and supportive conditions – relationships were collectively the dimensions most prevalent in their schools' environments. Findings further uncovered that collectively the six PLCA-R dimensions do not have a statistically significant relationship with reading and math growth. Even though the findings indicated no significant relationship to reading and math

growth, the effect size was notable in that the six dimensions account for 22.4% of variation in reading growth scores and 15.8% variation in math growth scores.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

Introduction

Educational reform has been a topic of public interest since the release of the Coleman Report in 1966. This report discussed reform efforts needed to increase student achievement and sparked the nation's continual search to address deficiencies in public education. Both outcomes-based reform and standards-based reform were efforts resulting in small gains in student achievement; however, changes resulting in lasting educational change were illusive. With school leadership operating in a traditionally top-down model, researchers began to explore a different model of leadership Hord, 1997; DuFour and Eaker, 1999; Gronn, 2002; Spillane, 2005; Harris et al., 2007; and Hipp and Huffman, 2010). With the increasing complexities of the job of principal, it is necessary to redistribute leadership responsibilities from the idea of a single leader to leadership from multiple individuals within a school. This notion of distributed leadership offers a collaborative effort among all stakeholders to ensure student success. Distributed leadership is one component of Professional Learning Communities.

Professional Learning Communities are an effective way to focus on learning on behalf of the students and staff. "A true professional learning community is a way of organizing the educational staff to engage in purposeful, collegial learning" (Hord, 2008). This form of learning maximizes individual and collective capacity and has been described to have a significant effect on student achievement. By creating and maintaining purposeful, collaborative learning, stakeholders can increase their knowledge of effective instructional practices that make a

lasting difference in student achievement. There are many research studies which provide qualitative data related to professional learning communities and student achievement (Newmann and Wehlage, 1995; Lee & Smith, 1996; Louis and Marks, 1998; Wiley 2001; Vischer & Witizers, 2004). While these studies exist, there are relatively few studies which lend quantitative data related to the effect Professional Learning Communities have on student achievement.

Burdett (2009), however, conducted a study which used a multilevel growth model to examine the effect of PLC dimensions on math and reading student achievement. His study examined the Early Childhood Longitudinal Study: Kindergarten Class of 1998-99 (ECLS-K) to determine if a correlation to student achievement existed. Burdett's study found specific PLC dimensions had a statistically significant impact on student reading and math achievement (Burdett, 2009). Studies such as Burdett's are limited. This study was employed due to the limited quantitative data related to the effects of Professional Learning Communities on student achievement. This study's purpose was also to determine cultural factors, as represented by the six PLC dimensions, were present in a school's environment and also to determine the PLC dimensions effects on student growth. This chapter provides a summary of key findings of this study and reviews implications for school leaders. Additionally, recommendations for further research are included.

Key Findings and Interpretations

This study found all schools participating in the survey to have general agreement that all cultural factors, as indicated by PLCA-R dimensions, were developed within their school environments. Additionally, it was found that out of the six dimensions, the practices of

collective learning and application as well as supportive conditions – relationships were the dimensions that were indicated as most developed.

Pearson correlations were calculated to determine if there was a relationship between dimensions and student growth. Shared values and visions and shared personal practice showed a statistically significant relationship with math growth. Regression models measuring the relationship between reading and math growth as dependent variables and the six PLCA-R dimensions as independent variables were utilized; however, the F-test for ANOVA analysis proved not statistically significant in predicting reading and math growth. Though there was no statistical significance in predicting reading and math growth, the effect size was notable at 22.4% and 15.8% for reading and math growth respectively. Beta Coefficients suggested shared values and vision is the most effective predictor of reading and math growth while structure coefficients were analyzed for additional support of findings. Shared values and vision were determined to be the best predictor for reading growth while shared personal practice was a strong predictor for math growth.

Fullan (2002) stated “only principals who are equipped to handle a complex, rapidly changing environment can implement the reforms that lead to sustained improvement in student achievement” (p. 16). Professional Learning Communities are a reform known to lead to improved instructional strategies that ultimately affect student achievement (Stoll et al, 2006). PLCs are a relatively recent application in surveyed district. For the past three years, the district has been focused on Professional Learning Communities. In February 2012, a few principals attended a conference sponsored by ASCD. At this conference, Richard and Rebecca DuFour as well as Robert Eaker were speakers who provided information on establishment and

maintenance of Professional Learning Communities. Principals attending this conference brought back information and provided professional development for district and school leadership which added to the district's understanding of Professional Learning Communities. Each principal in the district was charged with PLC implementation by creating and maintaining a school environment that was increasingly collaborative and one that invites a wide range of teacher leadership opportunities both formal and informal.

Results of this study indicated teachers believe Professional Learning Communities are at work within their buildings thus district efforts are effective in PLC implementation. As noted above, this study found teachers in general agreement that all six dimensions were present in their schools. Principal and teacher surveys and interview responses were consistent with the agreement of implementation of all six cultural dimensions within their school environments. The presence of all six dimensions within the learning environment denotes a school-wide presence of a professional learning community. Further, the results support the importance of the understanding that each cultural dimension is an important aspect of a professional learning community, but due to the "overlapping characteristics found within the dimensions" effective implementation of PLCs should encompass all six cultural dimensions (Hipp & Huffman, 2010). Although there was general agreement that all six dimensions were developed within their school environments, collective learning and application as well as supportive structures – relationships were noted as the most developed within this district's elementary schools. The fact that collective learning and application was well developed in schools surveyed by the PLCA-R may be directly attributed to district practices that have been in place for some time. First, the district provides a daily planning time in which all teachers on a

particular grade level have at least a 45 minute common time for instructional planning or other activities that the teacher deems important to take care of during that time. Often, teachers use this time to meet as a team to plan instruction, analyze data (including district and state wide assessments), and select and discuss samples of student work as a precursor to guide instruction. This common planning time is also used for teams to discuss not only academic practices, but to review and discuss student social concerns as well. Interviews conducted at the three schools confirmed the importance of staff being provided time during the instructional day to discuss and plan for effective instruction. Principals supported the idea that when teachers are provided time to collaborate around specific goals, they are more focused on solutions that can result in student success. It is through these collaborative efforts as well as other teacher leadership opportunities that teachers are able to truly make an impact on their instructional practices that can improve student learning.

The author Scriber et al (2007) suggests: “In schools where teachers work in self-managing teams to develop goals, curricula, instructional strategies, budgets, and staff development programs, students often achieve at higher levels” (p. 71). In addition to team collaboration during common planning times, principals have created professional learning community teams tied to school goals. Although principals have placed teachers on vertical teams and various committees surrounding a particular topic in the past, the general agreement by both principals and teachers that the six cultural dimensions are evident in their buildings supports the work the district has been doing recently to establish and sustain true professional learning community teams within school environments. These professional learning community teams allow teachers to self-select learning communities tied to a school

goal that interests them and plays to their strengths and expertise. These learning teams meet periodically to draft goals and discuss problems and issues as well as craft actions and action steps that will result in school improvement. These self-managing teams encourage leadership opportunities, collaboration, and cumulative efforts that result in creative solutions to problems related to school improvement.

According to Bryk and Schneider (2003), “talking honestly with colleagues about what’s working and what’s not means exposing your own ignorance and making yourself vulnerable. Without trust, genuine conversations of this sort remain unlikely.” Further, Bryk and Schneider (2003) state during a longitudinal study of 400 elementary Chicago schools, they “found that elementary schools with high relational trust were much more likely to demonstrate marked improvements in student learning.” This is affirmation that productive work through collective learning and application should be grounded in trusting relationships. Smylie et al (2007) expanded the notion that from a distributed leadership perspective, the level of trust within a school is related to teacher perception and acceptance of that trust. Schools participating in this study perceive a high level of trust within their school environments. This is supported by the general agreement that in addition to collective learning and application, supportive conditions – relationships were most prevalent in their schools. Results may be attributed to the continued efforts of principals to create and maintain increasingly collaborative relationships within their schools. During principal and teacher interviews, there was consistent agreement that staff is like family and that principals work to create time for relationship building through a variety of community building activities throughout the school year. Additionally, these results may be attributed to the districts continued effort to create

trusting and collaborative environments. The district has made relationship building a priority as they have an established mentoring program within the district. This mentoring program exists to increase opportunities for teachers to reduce feelings of isolation and increase collaborative efforts. This program allows for first year teachers to be assigned a mentor teacher in their building during their first year to serve as a go-to person for questions, thoughts and clarifications. Additionally, the first year teacher is able to observe their mentor teacher and have their mentor teacher observe them, as well as visit other teachers' classrooms within the building, for additional feedback and to enhance their learning opportunities.

Not only do first year teachers have opportunities to visit classrooms of other colleagues, veteran teachers have the same opportunities. Peer observations are a practice district wide. Peer observations allow for teachers to engage in observations of their peers within their own building as well as outside of their building for opportunities to observe best practices and new practices in addition to gaining different ideas and strategies related to effective teaching. These peer observations allow for supportive, reflective non-evaluative feedback and discussion surrounding the observation so that knowledge gained can be effectively applied to increase teacher efficacy. These practices cannot be effective if feelings and perceptions of mistrust, disrespect and negative criticisms exist.

Not only must schools focus on collaborative efforts around aspects of effective teaching practices grounded in trusting relationships, schools must also be effective in determining the work that will make the most difference in student achievement. Elmore (2000) comments “Rosenholtz argues that collegial support and professional development in

schools are unlikely to have an effect on improvement of practice and performance if they are not connected to a coherent set of goals that give direction and meaning to learning and collegiality" (p. 16). DuFour and DuFour (2003) further state "collaborative teams are most effective when members have a clear sense of purpose, specific goals and structured activities that give direction to their work" (p. 8). DuFour and DuFour (2003) continue "these conditions do not emerge by accident. They are the direct result of effective leadership."

The following are examples of strategies/programs that the district's leadership has engaged in to support PLC efforts. As this district moves forward in its development of Professional Learning Communities, it is evident that the district recognizes the relationship between student achievement and school leadership. The district has provided professional development opportunities for principals in the area of leadership including participating in completing a diagnostic assessment framework derived from research by the National Center for Educational Achievement (NCEA). This framework centers around primary themes to improve teaching and learning in order to focus on the most effective work to increase student success. Themes included: curriculum and academic goals, staff selection, leadership and capacity building, instructional tools: programs and strategies, monitoring performance and progress and intervention and adjustment (ACT, 2012). Each theme provides a framework for 15 core practices at the classroom, school and district level. These 15 core practices lists between two to six critical action steps necessary to effective implementation and uses a rubric to identify how well each action is implemented. Although the framework does not provide specific plans for teaching the themes, the 15 core practices provide aligned behaviors and

processes that act as a guide for a long-term approach at the district, school and classroom level.

Implications for Practice

Principals and teachers perceived Collective Learning and Application ($M=3.42$) and Supportive Conditions – Relationships ($M=3.42$) as being dimensions with a strong presence in their school environment. This indicated teachers and principals most often saw their school as a learning community working together to plan and problem solve for student success. Further, the study yielded results that note collective learning and application was a strong predictor in both reading and math growth. This is an important practical finding and adds to the body of knowledge concerning PLCs. As principals hone their skills in creating collaborative learning communities they can increase their effect on student achievement. Caution should be used in generalizing these results due to the limited sample of participating elementary principals and teachers in a single school district. It should be noted, however, that findings of the study provide additional knowledge related to the understanding of Professional Learning Communities and student achievement.

This study supports research that maintains Professional Learning Communities are important to student achievement. It would be advantageous for school districts to take heed to repeated findings regarding links between effective implementation of Professional Learning Communities and student achievement. Although this study found no statistically significant relationship between the six cultural dimensions of Professional Learning Communities as a predictor for reading and math growth, attention must be paid to the notable effect size for reading growth (22.4%) and math growth (15.8%). By developing a full understanding of

effective practices necessary for effective implementation of PLCs and their role in a school environment, principals can focus on creating increasingly collaborative cultures within their school which in turn directly affects student achievement.

With a link between shared values and vision and reading growth as well as collective learning and application and shared personal practice and math growth, this study's results lead way for districts to increase professional development on clarity surrounding campus values and visions so that campuses can focus on the right work which will have the greatest impact on student achievement. Values and visions must be shared – not in the top down traditional fashion – but through collaborative processes involving all stakeholders and grounded in data. This type of leadership is not likely to be effective, unless principals practice it (Harris, 2005). By knowing which dimensions have a strong correlation to student growth, district resources can be directed toward focus on increased professional development in order to enhance principal understating of and effectiveness in these areas of school leadership. Huffman (2001) reminds “the most significant effect on student learning comes through the principals efforts to establish a vision of the school and to develop goals related to the accomplishment of the vision” (p. 18).

As a result, leadership through the lens of PLCs should be a focus early on through higher education courses and university programs, principal certification programs as well as district trainings and coaching opportunities. Additionally, districts should spend more time working with principals to ensure their values and vision are focused on the most productive work as they move away from top-down leadership styles to a style which is collaborative and inclusive of all stakeholders. Establishing learning environments grounded in trusting

relationships and shared practice to improve the instructional techniques is an aspect of focus for principals to play a greater role in. When principals focus on opportunities to improve group dynamics within their buildings while increasing teacher capacity, the potential to impact student growth is increased.

Recommendations for Further Research

Recent research studies have found a relationship between leadership and student achievement (Elmore, 2000), Waters et al., 2004, and Leithwood et al., 2004). Although this study did not find a statistically significant relationship between Professional Learning Communities and reading and math growth, the finding were such that further research is warranted. The following are recommendations for further research:

1. Continue to conduct quantitative research studies to determine the relationship between student achievement and Professional Learning Communities. Additional quantitative research studies in addition to the existing qualitative research studies will add to the understanding of the relationship between effective implementation of Professional Learning Communities and student achievement.
2. This study can be replicated using a larger sample size including multiple districts in multiple regions and states.
3. A similar study can be undertaken using a nested or hierarchical perspective. When looking at a school perspective, teachers are nested within schools and schools are nested within districts. By looking at individual teacher perspectives, teacher teams or grade levels, and school level practices, a different perspective can be gained regarding

professional learning community implementation and their perceived effect on student growth.

4. Many times principals perceive they have effectively communicated the values and vision necessary for school improvement when in fact they have merely communicated expectations. It will be important to continue research on effective methods on how to implement and sustain professional learning community practices through practical application. Since shared values and vision were most effective in predicting reading and math growth, more focus should be placed on teaching principals to understand leadership effectiveness by teaching them how to create shared values and vision through a collaborative process. By focusing on purposeful leadership behaviors central to effective leadership, principals can become increasingly purposeful in leading as they recognize shared values and vision are central to a positive school environment.
5. Focus on leadership skills that move away from traditional top down leadership styles to those that are more collaborative through principal professional development. Additionally, qualitative studies, including case studies, can be employed as a follow up to increase understanding of how relationships within a school culture affect student achievement.

APPENDIX A
TABLES OF PARTICIPANT SCHOOL PLCA-R SURVEY MEANS

Table A.1
Campus _042 Elementary

Shared and Supportive Leadership

Dimension Statements	SD (1)	D (2)	A (3)	SA (4)	Mean	SD	Group Mean
Staff members are consistently involved in discussing and making decisions about most school issues.	(0%)	(0%)	13 (61.9%)	8 (38.1%)	3.38	0.50	3.21
The principal incorporates advice from staff members to make decisions.	(0%)	(0%)	8 (38.1%)	13 (61.9%)	3.62	0.50	3.35
Staff members have accessibility to key information.	(0%)	(0%)	9 (42.9%)	12 (57.1%)	3.57	0.51	3.37
The principal is proactive and addresses areas where support is needed.	(0%)	(0%)	4 (19.0%)	17 (81.0%)	3.81	0.40	3.45
Opportunities are provided for staff members to initiate change.	(0%)	(0%)	7 (33.3%)	14 (66.7%)	3.67	0.48	3.27
The principal shares responsibility and rewards for innovative actions.	(0%)	(0%)	6 (28.6%)	15 (71.4%)	3.71	0.46	3.40
The principal participates democratically with staff sharing power and authority.	(0%)	1 (4.8%)	7 (33.3%)	13 (61.9%)	3.57	0.60	3.28
Leadership is promoted and nurtured among staff members.	(0%)	(0%)	8 (38.1%)	13 (61.9%)	3.62	0.50	3.39
Decision-making takes place through committees and communication across grade and subject areas.	(0%)	(0%)	9 (42.9%)	12 (57.1)	3.57	0.51	3.31
Stakeholders assume shared responsibility and accountability for student learning without evidence of imposed power and authority.	(0%)	(0%)	10 (47.6%)	11 (52.4%)	3.52	0.51	3.21
Staff members use multiple			6	15	3.71	0.46	3.57

sources of data to make decisions about teaching and learning.	(0%)	(0%)	(28.6%)	(71.4%)			
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Shared Values and Vision

Dimension Statements	SD (1)	D (2)	A (3)	SA (4)	Mean	SD	Group Mean
A collaborative process exists for developing a shared sense of values among staff.	(0%)	(0%)	10 (47.6%)	11 (52.4%)	3.52	0.51	3.31
Shared values support norms and behavior that guide decisions about teaching and learning.	(0%)	(0%)	9 (42.9%)	12 (57.1%)	3.57	0.51	3.35
Staff members share visions for school improvement that have an undeviating focus on student learning.	(0%)	(0%)	4 (19.0%)	17 (81.0%)	3.81	0.40	3.39
Decisions are made in alignment with the school's values and vision.	(0%)	(0%)	4 (19.0%)	17 (81.0%)	3.81	0.40	3.45
A collaborative process exists for developing a shared vision among staff.	(0%)	(0%)	8 (38.1%)	13 (61.9%)	3.62	0.50	3.30
School goals focus on student learning beyond test scores and grades.	(0%)	(0%)	10 (47.6%)	11 (52.4%)	3.52	0.51	3.39
Policies and programs are aligned to the school's vision.	(0%)	(0%)	9 (42.9%)	12 (57.1%)	3.57	0.51	3.44
Stakeholders are actively involved in creating high expectations that serve to increase student achievement.	(0%)	(0%)	9 (42.9%)	12 (57.1%)	3.57	0.51	3.31
Data are used to prioritize actions to reach a shared vision.	(0%)	(0%)	6 (28.6%)	15 (71.4%)	3.71	0.46	3.50

Collective Learning and Application

Dimension Statements	SD (1)	D (2)	A (3)	SA (4)	Mean	SD	Group Mean
Staff members work together to seek knowledge, skills and	(0%)	(0%)	6 (28.6%)	15 (71.4%)	3.71	0.46	3.42

strategies and apply this new learning to their work.							
Collegial relationships exist among staff members that reflect commitment to school improvement efforts.	(0%)	(0%)	6 (28.6%)	15 (71.4%)	3.71	0.46	3.40
Staff members plan and work together to search for solutions to address diverse student needs.	(0%)	(0%)	7 (33.3%)	14 (66.7%)	3.67	0.48	3.46
A variety of opportunities and structures exist for collective learning through open dialogue.	(0%)	(0%)	5 (23.8%)	16 (76.2%)	3.76	0.44	3.35
Staff members engage in dialogue that reflects a respect for diverse ideas that lead to continued inquiry.	(0%)	(0%)	6 (28.6%)	15 (71.4%)	3.71	0.46	3.39
Professional development focuses on teaching and learning.	(0%)	(0%)	4 (19.0%)	17 (81.0%)	3.81	0.40	3.48
School staff members and stakeholders learning together and apply new knowledge to solve problems.	(0%)	(0%)	9 (42.9%)	12 (57.1%)	3.57	0.51	3.28
School staff members are committed to programs that enhance learning	(0%)	(0%)	6 (28.6%)	15 (71.4%)	3.71	0.46	3.49
Staff members collaboratively analyze multiple sources of data to assess the effectiveness of instructional practices.	(0%)	(0%)	3 (14.3%)	18 (85.7%)	3.86	0.36	3.48
Staff members collaboratively analyze student work to improve teaching and learning.	(0%)	(0%)	6 (28.6%)	15 (71.4%)	3.71	0.46	3.41

Shared Personal Practice

Dimension Statements	SD (1)	D (2)	A (3)	SA (4)	Mean	SD	Group Mean
Opportunities exist for staff		3	13	5	3.10	0.62	3.20

members to observe peers and offer encouragement.	(0%)	(14.3%)	(61.9%)	(23.8%)			
Staff members provide feedback to peers related to instructional practices.	(0%)	(0%)	15 (71.4%)	6 (28.6%)	3.29	0.46	2.97
Staff informally share ideas and suggestions for improving student learning.	(0%)	(0%)	6 (28.6%)	15 (71.4%)	3.71	0.46	3.49
Staff members collaboratively review student work to share and improve instructional practices.	(0%)	(0%)	10 (47.6%)	11 (52.4%)	3.52	0.51	3.22
Opportunities exist for coaching and mentoring.	(0%)	(0%)	10 (47.6%)	11 (52.4%)	3.52	0.51	3.17
Individuals and teams have the opportunity to apply learning and share the results of their practices.	(0%)	(0%)	7 (33.3%)	14 (66.7%)	3.67	0.48	3.36
Staff members regularly share student work to guide overall school improvement.	(0%)	(0%)	11 (52.5%)	10 (47.6%)	3.48	0.51	3.03

Supportive Conditions – Relationships

Dimension Statements	SD (1)	D (2)	A (3)	SA (4)	Mean	SD	Group Mean
Caring relationships exist among staff and students that are built on trust and respect.	(0%)	(0%)	2 (9.5%)	19 (90.5%)	3.90	0.30	3.54
A culture of trust and respect exists for taking risks.	(0%)	(0%)	3 (14.3%)	18 (85.7%)	3.86	0.36	3.40
Outstanding achievement is recognized and celebrated regularly in our school.	(0%)	(0%)	3 (14.3%)	18 (85.7%)	3.86	0.36	3.42
School staff and stakeholders exhibit a sustained and unified effort to embed change into the culture of the school.	(0%)	(0%)	5 (23.8%)	16 (76.2%)	3.76	0.44	3.30
Relationships among staff members support honest and respectful examination of	(0%)	(0%)	3 (14.3%)	18 (85.7%)	3.86	0.36	3.42

data to enhance teaching and learning.							
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Supportive Conditions – Structures

Dimension Statements	SD (1)	D (2)	A (3)	SA (4)	Mean	SD	Group Mean
Time is provided to facilitate collaborative work.	(0%)	(0%)	14 (66.7%)	7 (33.3%)	3.33	0.48	3.15
The school schedule promotes collective learning and shared practice.	(0%)	(0%)	11 (52.4%)	10 (47.6%)	3.48	0.51	3.21
Fiscal resources are available for professional development.	(0%)	(0%)	6 (28.6%)	15 (71.4%)	3.71	0.46	3.23
Appropriate technology and instructional materials are available to staff.	(0%)	(0%)	10 (47.6%)	11 (52.4%)	3.52	0.51	3.32
Resource people provide expertise and support for continuous learning.	(0%)	(0%)	10 (47.6%)	11 (52.4%)	3.52	0.51	3.33
The school facility is clean, attractive and inviting.	(0%)	1 (4.8%)	6 (28.6%)	14 (66.7%)	3.62	0.59	3.57
The proximity of grade level and department personnel allows for ease in collaborating with colleagues.	(0%)	2 (9.5%)	8 (38.1%)	11 (52.4%)	3.43	0.68	3.42
Communication systems promote a flow of information among staff members.	(0%)	(0%)	10 (47.6%)	11 (52.4%)	3.52	0.51	3.37
Communication systems promote a flow of information across the entire school community including: central office personnel, parents, and community members.	(0%)	(0%)	10 (47.6%)	11 (52.4%)	3.52	0.51	3.33
Data are organized and made available to provide easy access to staff members.	(0%)	(0%)	7 (33.3%)	14 (66.7%)	3.67	0.48	3.42

Table A.2. Campus _095 Elementary
Shared and Supportive Leadership

Dimension Statements	SD (1)	D (2)	A (3)	SA (4)	Mean	SD	Group Mean
Staff members are consistently involved in discussing and making decisions about most school issues.	(0%)	1 (4.0%)	9 (36.0%)	15 (60.0%)	3.56	0.58	3.21
The principal incorporates advice from staff members to make decisions.	(0%)	4 (4.0%)	4 (16.0%)	20 (80.0%)	3.76	0.52	3.35
Staff members have accessibility to key information.	(0%)	1 (4.0%)	13 (52.0%)	11 (44.0%)	3.40	0.58	3.37
The principal is proactive and addresses areas where support is needed.	(0%)	1 (4.0%)	8 (32.0%)	16 (64.0%)	3.60	0.58	3.45
Opportunities are provided for staff members to initiate change.	(0%)	1 (4.0%)	9 (36.0%)	15 (60.0%)	3.56	0.58	3.27
The principal shares responsibility and rewards for innovative actions.	(0%)	1 (4.0%)	9 (36.0%)	15 (60.0%)	3.56	0.58	3.40
The principal participates democratically with staff sharing power and authority.	(0%)	1 (4.0%)	5 (20.0%)	19 (76.0%)	3.72	0.54	3.28
Leadership is promoted and nurtured among staff members.	(0%)	1 (4.0%)	6 (24.0%)	18 (72.0%)	3.68	0.56	3.39
Decision-making takes place through committees and communication across grade and subject areas.	(0%)	2 (8.0%)	8 (24.0%)	15 (60.0%)	3.52	0.65	3.31
Stakeholders assume shared responsibility and accountability for student learning without evidence of imposed power and authority.	(0%)	2 (8.0%)	13 (52.0%)	10 (40.0%)	3.32	0.63	3.21
Staff members use multiple sources of data to make decisions about teaching and learning.	(0%)	1 (4.0%)	6 (24.0%)	18 (72.0%)	3.68	0.56	3.57

Shared Values and Vision

Dimension Statements	SD (1)	D (2)	A (3)	SA (4)	Mean	SD	Group Mean
A collaborative process exists for developing a shared sense of values among staff.	(0%)	1 (4.0)	12 (48.0%)	12 (48.0%)	3.44	0.58	3.31
Shared values support norms and behavior that guide decisions about teaching and learning.	(0%)	1 (4.0)	13 (52.0%)	11 (44.0%)	3.40	0.58	3.35
Staff members share visions for school improvement that have an undeviating focus on student learning.	(0%)	1 (4.0)	11 (44.0%)	13 (52.0%)	3.48	0.59	3.39
Decisions are made in alignment with the school's values and vision.	(0%)	1 (4.0)	13 (52.0%)	11 (44.0%)	3.40	0.58	3.45
A collaborative process exists for developing a shared vision among staff.	(0%)	1 (4.0)	12 (48.0%)	12 (48.0%)	3.44	0.58	3.30
School goals focus on student learning beyond test scores and grades.	(0%)	1 (5.6%)	11 (44.0%)	13 (52.0%)	3.48	0.59	3.39
Policies and programs are aligned to the school's vision.	(0%)	2 (8.0)	11 (44.0%)	12 (48.0%)	3.40	0.65	3.44
Stakeholders are actively involved in creating high expectations that serve to increase student achievement.	(0%)	1 (4.0)	15 (60.0%)	9 (36.0%)	3.32	0.56	3.31
Data are used to prioritize actions to reach a shared vision.	(0%)	1 (4.0)	10 (40.0%)	14 (56.0%)	3.52	0.59	3.50

Collective Learning and Application

Dimension Statements	SD (1)	D (2)	A (3)	SA (4)	Mean	SD	Group Mean
Staff members work together to seek knowledge, skills and strategies and apply this new learning to their work.	(0%)	1 (4.0%)	9 (36.0%)	15 (60.0%)	3.56	0.58	3.42
Collegial relationships exist among staff members that	(0%)	1 (4.0%)	9 (36.0%)	15 (60.0%)	3.56	0.58	3.40

reflect commitment to school improvement efforts.							
Staff members plan and work together to search for solutions to address diverse student needs.	(0%)	1 (4.0%)	9 (36.0%)	15 (60.0%)	3.56	0.58	3.46
A variety of opportunities and structures exist for collective learning through open dialogue.	(0%)	1 (4.0%)	10 (40.0%)	14 (56.0%)	3.52	0.59	3.35
Staff members engage in dialogue that reflects a respect for diverse ideas that lead to continued inquiry.	(0%)	1 (4.0%)	10 (40.0%)	14 (56.0%)	3.52	0.59	3.39
Professional development focuses on teaching and learning.	(0%)	1 (4.0%)	10 (40.0%)	14 (56.0%)	3.52	0.59	3.48
School staff members and stakeholders learning together and apply new knowledge to solve problems.	(0%)	1 (4.0%)	14 (56.0%)	10 (40.0%)	3.36	0.57	3.28
School staff members are committed to programs that enhance learning	(0%)	1 (4.0%)	11 (44.0%)	13 (52.0%)	3.48	0.59	3.49
Staff members collaboratively analyze multiple sources of data to assess the effectiveness of instructional practices.	(0%)	1 (4.0%)	9 (36.0%)	15 (60.0%)	3.56	0.58	3.48
Staff members collaboratively analyze student work to improve teaching and learning.	(0%)	1 (4.0%)	11 (44.0%)	13 (52.0%)	3.48	0.59	3.41

Shared Personal Practice

Dimension Statements	SD (1)	D (2)	A (3)	SA (4)	Mean	SD	Group Mean
Opportunities exist for staff members to observe peers and offer encouragement.	(0%)	3 (12.0%)	15 (60.0%)	7 (28.03%)	3.16	0.62	3.20
Staff members provide feedback to peers related to	(0%)	3 (12.0%)	16 (64.0%)	6 (24.0%)	3.12	0.60	2.97

instructional practices.							
Staff informally share ideas and suggestions for improving student learning.	(0%)	1 (4.0%)	8 (32.0%)	16 (64.0%)	3.60	0.58	3.49
Staff members collaboratively review student work to share and improve instructional practices.	(0%)	1 (4.0%)	13 (52.0%)	11 (44.0%)	3.40	0.58	3.22
Opportunities exist for coaching and mentoring.	(%)	3 (12.0%)	16 (64.0%)	6 (24.0%)	3.12	0.60	3.17
Individuals and teams have the opportunity to apply learning and share the results of their practices.	(0%)	1 (4.0%)	15 (60.0%)	9 (36.0%)	3.32	0.56	3.36
Staff members regularly share student work to guide overall school improvement.	(0%)	1 (4.0%)	18 (72.0%)	6 (24.0%)	3.20	0.50	3.03

Supportive Conditions – Relationships

Dimension Statements	SD (1)	D (2)	A (3)	SA (4)	Mean	SD	Group Mean
Caring relationships exist among staff and students that are built on trust and respect.	(0%)	1 (4.0%)	9 (36.0%)	15 (60.0%)	3.56	0.58	3.54
A culture of trust and respect exists for taking risks.	(0%)	1 (4.0%)	9 (36.0%)	15 (60.0%)	3.56	0.58	3.40
Outstanding achievement is recognized and celebrated regularly in our school.	(0%)	1 (4.0%)	10 (40.0%)	14 (56.0%)	3.52	0.59	3.42
School staff and stakeholders exhibit a sustained and unified effort to embed change into the culture of the school.	(0%)	1 (4.0%)	13 (52.0%)	11 (44.0%)	3.40	0.58	3.30
Relationships among staff members support honest and respectful examination of data to enhance teaching and learning.	(0%)	2 (8.0%)	8 (32.0%)	15 (60.0%)	3.52	0.65	3.42

Supportive Conditions – Structures

Dimension Statements	SD (1)	D (2)	A (3)	SA (4)	Mean	SD	Group Mean
Time is provided to facilitate collaborative work.	(0%)	2 (8.0%)	16 (64.0%)	7 (28.0%)	3.20	0.58	3.15
The school schedule promotes collective learning and shared practice.	(0%)	3 (12.0%)	13 (52.0%)	9 (36.0%)	3.24	0.66	3.21
Fiscal resources are available for professional development.	(0%)	3 (12.0%)	15 (60.0%)	7 (28.0%)	3.16	0.62	3.23
Appropriate technology and instructional materials are available to staff.	(0%)	2 (8.0%)	12 (48.0%)	11 (44.0%)	3.36	0.64	3.32
Resource people provide expertise and support for continuous learning.	(0%)	1 (4.0%)	19 (76.050.0 %)	5 (20.0%)	3.16	0.47	3.33
The school facility is clean, attractive and inviting.	(0%)	4 (16.00%)	16 (64.0%)	5 (20.0%)	3.04	0.61	3.57
The proximity of grade level and department personnel allows for ease in collaborating with colleagues.	(0%)	3 (12.0%)	11 (44.0%)	11 (44.0%)	3.32	0.69	3.42
Communication systems promote a flow of information among staff members.	(0%)	1 (4.0%)	14 (56.0%)	10 (40.0%)	3.36	0.57	3.37
Communication systems promote a flow of information across the entire school community including: central office personnel, parents, and community members.	(0%)	1 (4.0%)	14 (56.0%)	10 (40.0%)	3.36	0.57	3.33
Data are organized and made available to provide easy access to staff members.	(0%)	1 (4.0%)	12 (48.0%)	12 (48.0%)	3.44	0.58	3.42

Table A.3. Campus _006 Elementary
Shared and Supportive Leadership

Dimension Statements	SD (1)	D (2)	A (3)	SA (4)	Mean	SD	Group Mean
Staff members are		1	11	9	3.38	0.59	3.21

consistently involved in discussing and making decisions about most school issues.	(0%)	(4.8%)	(52.4%)	(42.9%)			
The principal incorporates advice from staff members to make decisions.	(0%)	(0%)	9 (42.9%)	12 (57.1%)	3.57	0.51	3.35
Staff members have accessibility to key information.	(0%)	(0%)	11 (52.4%)	10 (47.6%)	3.48	0.51	3.37
The principal is proactive and addresses areas where support is needed.	(0%)	1 (4.8%)	8 (38.1%)	12 (57.1%)	3.52	0.60	3.45
Opportunities are provided for staff members to initiate change.	(0%)	(0%)	11 (52.4%)	10 (47.6%)	3.48	0.51	3.27
The principal shares responsibility and rewards for innovative actions.	(0%)	(0%)	9 (42.9%)	12 (57.1%)	3.57	0.51	3.40
The principal participates democratically with staff sharing power and authority.	(0%)	1 (4.8%)	14 (66.7%)	6 (28.6%)	3.24	0.54	3.28
Leadership is promoted and nurtured among staff members.	(0%)	(0%)	9 (42.9%)	12 (57.1%)	3.57	0.51	3.39
Decision-making takes place through committees and communication across grade and subject areas.	(0%)	(0%)	8 (38.1%)	13 (61.9%)	3.62	0.50	3.31
Stakeholders assume shared responsibility and accountability for student learning without evidence of imposed power and authority.	(0%)	(0%)	13 (61.9%)	8 (38.1%)	3.38	0.50	3.21
Staff members use multiple sources of data to make decisions about teaching and learning.	(0%)	(0%)	9 (42.9%)	12 (57.1%)	3.57	0.51	3.57

Shared Values and Vision

Dimension Statements	SD (1)	D (2)	A (3)	SA (4)	Mean	SD	Group
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							Mean
A collaborative process exists for developing a shared sense of values among staff.	(0%)	1 (4.8%)	10 (47.6%)	10 (47.6%)	3.42	0.60	3.31
Shared values support norms and behavior that guide decisions about teaching and learning.	(0%)	(0%)	11 (52.4%)	10 (47.6%)	3.48	0.51	3.35
Staff members share visions for school improvement that have an undeviating focus on student learning.	(0%)	(0%)	10 (47.6%)	11 (52.4%)	3.52	0.51	3.39
Decisions are made in alignment with the school's values and vision.	(0%)	(0%)	9 (42.9%)	12 (57.1%)	3.57	0.51	3.45
A collaborative process exists for developing a shared vision among staff.	(0%)	1 (4.8%)	10 (47.6%)	10 (47.6%)	3.43	0.60	3.30
School goals focus on student learning beyond test scores and grades.	(0%)	1 (4.8%)	7 (33.3%)	13 (61.9%)	3.57	0.60	3.39
Policies and programs are aligned to the school's vision.	(0%)	(0%)	8 (38.1%)	13 (61.9%)	3.62	0.60	3.44
Stakeholders are actively involved in creating high expectations that serve to increase student achievement.	(0%)	(0%)	11 (52.4%)	10 (47.6%)	3.48	0.50	3.31
Data are used to prioritize actions to reach a shared vision.	(0%)	(0%)	8 (38.1%)	13 (61.9%)	3.62	0.50	3.50

Collective Learning and Application

Dimension Statements	SD (1)	D (2)	A (3)	SA (4)	Mean	SD	Group Mean
Staff members work together to seek knowledge, skills and strategies and apply this new learning to their work.	(0%)	(0%)	9 (42.9%)	12 (57.1%)	3.57	0.51	3.42
Collegial relationships exist among staff members that reflect commitment to school improvement efforts.	(0%)	1 (4.8%)	10 (47.6%)	10 (47.6%)	3.43	0.60	3.40

Staff members plan and work together to search for solutions to address diverse student needs.	(0%)	(0%)	7 (33.3%)	14 (66.7%)	3.67	0.48	3.46
A variety of opportunities and structures exist for collective learning through open dialogue.	(0%)	(0%)	11 (52.4%)	10 (47.6%)	3.48	0.51	3.35
Staff members engage in dialogue that reflects a respect for diverse ideas that lead to continued inquiry.	(0%)	(0%)	10 (47.6%)	11 (52.4%)	3.52	0.51	3.39
Professional development focuses on teaching and learning.	(0%)	1 (4.8%)	6 (28.6%)	14 (66.7%)	3.62	0.59	3.48
School staff members and stakeholders learning together and apply new knowledge to solve problems.	(0%)	(0%)	12 (57.1%)	9 (42.9%)	3.43	0.51	3.28
School staff members are committed to programs that enhance learning	(0%)	(0%)	8 (38.1%)	13 (61.9%)	3.62	0.50	3.49
Staff members collaboratively analyze multiple sources of data to assess the effectiveness of instructional practices.	(0%)	(0%)	9 (42.9%)	12 (57.1%)	3.57	0.51	3.48
Staff members collaboratively analyze student work to improve teaching and learning.	(0%)	(0%)	10 (47.6%)	11 (52.4%)	3.52	0.51	3.41

Shared Personal Practice

Dimension Statements	SD (1)	D (2)	A (3)	SA (4)	Mean	SD	Group Mean
Opportunities exist for staff members to observe peers and offer encouragement.	(0%)	1 (4.8%)	11 (52.4%)	9 (42.9%)	3.38	0.59	3.20
Staff members provide feedback to peers related to instructional practices.	(0%)	2 (9.5%)	11 (52.4%)	8 (38.1%)	3.29	0.64	2.97

Staff informally share ideas and suggestions for improving student learning.	(0%)	(0%)	8 (38.1%)	13 (61.9%)	3.62	0.50	3.49
Staff members collaboratively review student work to share and improve instructional practices.	(0%)	(0%)	14 (66.7%)	7 (33.3%)	3.33	0.48	3.22
Opportunities exist for coaching and mentoring.	(0%)	(0%)	12 (57.1%)	9 (42.9%)	3.43	0.51	3.17
Individuals and teams have the opportunity to apply learning and share the results of their practices.	(0%)	(0%)	12 (57.1%)	9 (42.9%)	3.43	0.51	3.36
Staff members regularly share student work to guide overall school improvement.	(0%)	(0%)	15 (71.4%)	6 (28.6%)	3.29	0.46	3.03

Supportive Conditions – Relationships

Dimension Statements	SD (1)	D (2)	A (3)	SA (4)	Mean	SD	Group Mean
Caring relationships exist among staff and students that are built on trust and respect.	(0%)	(0%)	4 (19.0%)	17 (81.0%)	3.81	0.40	3.54
A culture of trust and respect exists for taking risks.	(0%)	(0%)	6 (28.6%)	15 (71.4%)	3.71	0.46	3.40
Outstanding achievement is recognized and celebrated regularly in our school.	(0%)	(0%)	6 (28.6%)	15 (71.4%)	3.71	0.46	3.42
School staff and stakeholders exhibit a sustained and unified effort to embed change into the culture of the school.	(0%)	(0%)	11 (52.4%)	10 (47.6%)	3.48	0.51	3.30
Relationships among staff members support honest and respectful examination of data to enhance teaching and learning.	(0%)	(0%)	9 (42.9%)	12 (57.1%)	3.57	0.51	3.42

Supportive Conditions – Structures

Dimension Statements	SD (1)	D (2)	A (3)	SA (4)	Mean	SD	Group

							Mean
Time is provided to facilitate collaborative work.	(0%)	1 (4.8%)	12 (57.1%)	8 (38.1%)	3.33	0.58	3.15
The school schedule promotes collective learning and shared practice.	(0%)	(0%)	12 (57.1%)	9 (42.9%)	3.43	0.51	3.21
Fiscal resources are available for professional development.	(0%)	1 (4.8%)	11 (52.4%)	9 (42.9%)	3.38	0.59	3.23
Appropriate technology and instructional materials are available to staff.	(0%)	(0%)	11 (52.4%)	10 (47.6%)	3.48	0.51	3.32
Resource people provide expertise and support for continuous learning.	(0%)	(0%)	8 (38.1%)	13 (61.9%)	3.62	0.50	3.33
The school facility is clean, attractive and inviting.	(0%)	(0%)	6 (28.6%)	15 (71.4%)	3.71	0.46	3.57
The proximity of grade level and department personnel allows for ease in collaborating with colleagues.	(0%)	(0%)	5 (23.8%)	16 (76.2%)	3.76	0.44	3.42
Communication systems promote a flow of information among staff members.	(0%)	(0%)	8 (38.1%)	13 (61.9%)	3.62	0.50	3.37
Communication systems promote a flow of information across the entire school community including: central office personnel, parents, and community members.	(0%)	(0%)	9 (42.9%)	12 (57.1%)	3.57	0.51	3.33
Data are organized and made available to provide easy access to staff members.	(0%)	(0%)	8 (38.1%)	13 (61.9%)	3.62	0.50	3.42

Table A.4. Campus _100 Elementary
Shared and Supportive Leadership

Dimension Statements	SD (1)	D (2)	A (3)	SA (4)	Mean	SD	Group Mean
Staff members are consistently involved in	(0%)	1 (11.1%)	4 (44.4%)	4 (44.4%)	3.33	0.71	3.21

discussing and making decisions about most school issues.							
The principal incorporates advice from staff members to make decisions.	(0%)	1 (11.1%)	3 (33.3%)	5 (55.6%)	3.44	0.73	3.35
Staff members have accessibility to key information.	(0%)	1 (11.1%)	2 (22.2%)	6 (66.7%)	3.56	0.73	3.37
The principal is proactive and addresses areas where support is needed.	(0%)	1 (11.1%)	(0%)	8 (88.9%)	3.78	0.67	3.45
Opportunities are provided for staff members to initiate change.	(0%)	1 (11.1%)	2 (22.2%)	6 (66.7%)	3.56	0.59	3.27
The principal shares responsibility and rewards for innovative actions.	(0%)	(0%)	1 (11.1%)	8 (88.9%)	3.89	0.73	3.40
The principal participates democratically with staff sharing power and authority.	(0%)	1 (11.1%)	(0%)	8 (88.9%)	3.78	0.33	3.28
Leadership is promoted and nurtured among staff members.	(0%)	1 (11.1%)	(0%)	8 (88.9%)	3.78	0.67	3.39
Decision-making takes place through committees and communication across grade and subject areas.	(0%)	1 (11.1%)	2 (22.2%)	6 (66.7%)	3.56	0.67	3.31
Stakeholders assume shared responsibility and accountability for student learning without evidence of imposed power and authority.	(0%)	1 (11.1%)	3 (33.3%)	5 (55.6%)	3.44	0.73	3.21
Staff members use multiple sources of data to make decisions about teaching and learning.	(0%)	(0%)	2 (22.2%)	7 (77.8%)	3.78	0.44	3.57

Shared Values and Vision

Dimension Statements	SD (1)	D (2)	A (3)	SA (4)	Mean	SD	Group Mean
A collaborative process exists		1	3	5	3.44	0.73	3.31

for developing a shared sense of values among staff.	(0%)	(11.1%)	(33.3%)	(55.6%)			
Shared values support norms and behavior that guide decisions about teaching and learning.	(0%)	(0%)	3 (33.3%)	6 (66.7%)	3.67	0.50	3.35
Staff members share visions for school improvement that have an undeviating focus on student learning.	(0%)	(0%)	2 (22.2%)	7 (77.8%)	3.78	0.44	3.39
Decisions are made in alignment with the school's values and vision.	(0%)	1 (11.1%)	1 (11.1%)	7 (77.8%)	3.67	0.71	3.45
A collaborative process exists for developing a shared vision among staff.	(0%)	1 (11.1%)	3 (33.3%)	5 (55.6%)	3.44	0.73	3.30
School goals focus on student learning beyond test scores and grades.	(0%)	(0%)	2 (22.2%)	7 (77.8%)	3.78	0.44	3.39
Policies and programs are aligned to the school's vision.	(0%)	(0%)	4 (44.4%)	5 (55.6%)	3.56	0.53	3.44
Stakeholders are actively involved in creating high expectations that serve to increase student achievement.	(0%)	(0%)	4 (44.4%)	5 (55.6%)	3.56	0.53	3.31
Data are used to prioritize actions to reach a shared vision.	(0%)	(0%)	4 (44.4%)	5 (55.6%)	3.56	0.53	3.50

Collective Learning and Application

Dimension Statements	SD (1)	D (2)	A (3)	SA (4)	Mean	SD	Group Mean
Staff members work together to seek knowledge, skills and strategies and apply this new learning to their work.	(0%)	(0%)	4 (44.4%)	5 (55.6%)	3.56	0.53	3.42
Collegial relationships exist among staff members that reflect commitment to school improvement efforts.	(0%)	(0%)	2 (22.2%)	7 (77.8%)	3.78	0.44	3.40
Staff members plan and work together to search for	(0%)	(0%)	2 (22.2%)	7 (77.8%)	3.78	0.44	3.46

solutions to address diverse student needs.							
A variety of opportunities and structures exist for collective learning through open dialogue.	(0%)	(0%)	3 (33.3%)	6 (66.7%)	3.67	0.50	3.35
Staff members engage in dialogue that reflects a respect for diverse ideas that lead to continued inquiry.	(0%)	(0%)	3 (33.3%)	6 (66.7%)	3.67	0.50	3.39
Professional development focuses on teaching and learning.	(0%)	(0%)	3 (33.3%)	6 (66.7%)	3.67	0.50	3.48
School staff members and stakeholders learning together and apply new knowledge to solve problems.	(0%)	(0%)	7 (77.8%)	2 (22.2%)	3.22	0.44	3.28
School staff members are committed to programs that enhance learning	(0%)	(0%)	3 (33.3%)	6 (66.7%)	3.67	0.50	3.49
Staff members collaboratively analyze multiple sources of data to assess the effectiveness of instructional practices.	(0%)	1 (11.1%)	2 (22.2%)	6 (66.7%)	3.56	0.73	3.48
Staff members collaboratively analyze student work to improve teaching and learning.	(0%)	(0%)	4 (44.4%)	5 (55.6%)	3.56	0.53	3.41

Shared Personal Practice

Dimension Statements	SD (1)	D (2)	A (3)	SA (4)	Mean	SD	Group Mean
Opportunities exist for staff members to observe peers and offer encouragement.	(0%)	2 (22.2%)	7 (77.8%)	(0%)	2.78	0.44	3.20
Staff members provide feedback to peers related to instructional practices.	(0%)	1 (11.1%)	7 (77.8%)	1 (11.1%)	3.00	0.50	2.97
Staff members informally share ideas and	(0%)	(0%)	3 (33.3%)	6 (66.7%)	3.67	0.50	3.49

suggestions for improving student learning.							
Staff members collaboratively review student work to share and improve instructional practices.	(0%)	(0%)	7 (77.8%)	2 (22.2%)	3.22	0.44	3.22
Opportunities exist for coaching and mentoring.	(0%)	2 (22.2%)	5 (55.6%)	23.36 (22.2%)	3.00	0.71	3.17
Individuals and teams have the opportunity to apply learning and share the results of their practices.	(0%)	1 (11.1%)	4 (44.4%)	4 (44.4%)	3.33	0.71	3.36
Staff members regularly share student work to guide overall school improvement.	(0%)	2 (22.2%)	6 (66.7%)	1 (11.1%)	2.89	0.60	3.03

Supportive Conditions – Relationships

Dimension Statements	SD (1)	D (2)	A (3)	SA (4)	Mean	SD	Group Mean
Caring relationships exist among staff and students that are built on trust and respect.	(0%)	(0%)	3 (33.3%)	6 (66.7%)	3.67	0.50	3.54
A culture of trust and respect exists for taking risks.	(0%)	1 (11.1%)	2 (22.2%)	6 (66.7%)	3.56	0.73	3.40
Outstanding achievement is recognized and celebrated regularly in our school.	(0%)	1 (11.1%)	1 (11.1%)	7 (77.8%)	3.67	0.71	3.42
School staff and stakeholders exhibit a sustained and unified effort to embed change into the culture of the school.	(0%)	(0%)	2 (22.2%)	7 (77.8%)	3.78	0.44	3.30
Relationships among staff members support honest and respectful examination of data to enhance teaching and learning.	(0%)	(0%)	2 (22.2%)	7 (77.8%)	3.78	0.44	3.42

Supportive Conditions – Structures

Dimension Statements	SD (1)	D (2)	A (3)	SA (4)	Mean	SD	Group Mean
Time is provided to facilitate collaborative work.	(0%)	(0%)	6 (66.7%)	3 (33.3%)	23.3 3	0.50	3.15
The school schedule promotes collective learning and shared practice.	(0%)	2 (22.2%)	4 (44.4%)	3 (33.3%)	3.11	0.78	3.21
Fiscal resources are available for professional development.	(0%)	2 (22.2%)	3 (33.3%)	4 (44.4%)	3.22	0.83	3.23
Appropriate technology and instructional materials are available to staff.	(0%)	(0%)	6 (66.7%)	3 (33.3%)	3.33	0.50	3.32
Resource people provide expertise and support for continuous learning.	(0%)	1 (11.1%)	5 (55.6%)	3 (33.3%)	3.22	0.67	3.33
The school facility is clean, attractive and inviting.	(0%)	(0%)	4 (44.4%)	5 (55.6%)	3.56	0.53	3.57
The proximity of grade level and department personnel allows for ease in collaborating with colleagues.	(0%)	1 (11.1%)	3 (33.3%)	5 (55.6%)	3.44	0.73	3.42
Communication systems promote a flow of information among staff members.	(0%)	1 (11.1%)	3 (33.3%)	5 (55.6%)	3.44	0.73	3.37
Communication systems promote a flow of information across the entire school community including: central office personnel, parents, and community members.	(0%)	1 (11.1%)	4 (44.4%)	4 (44.4%)	3.33	0.71	3.33
Data are organized and made available to provide easy access to staff members.	(0%)	1 (11.1%)	3 (33.3%)	5 (55.6%)	3.44	0.73	3.42

Table A.5. Campus _007 Elementary
Shared and Supportive Leadership

Dimension Statements	SD (1)	D (2)	A (3)	SA (4)	Mean	SD	Group
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							Mean
Staff members are consistently involved in discussing and making decisions about most school issues.	(0%)	2 (14.3%)	5 (35.7%)	7 (50.0%)	3.36	0.74	3.21
The principal incorporates advice from staff members to make decisions.	(0%)	(0%)	4 (28.6%)	10 (71.4%)	3.71	0.47	3.35
Staff members have accessibility to key information.	(0%)	1 (7.1%)	4 (28.6%)	9 (64.3%)	3.57	0.65	3.37
The principal is proactive and addresses areas where support is needed.	(0%)	(0%)	5 (35.7%)	9 (64.3%)	3.64	0.50	3.45
Opportunities are provided for staff members to initiate change.	(0%)	2 (14.3%)	4 (28.6%)	8 (57.1%)	3.43	0.76	3.27
The principal shares responsibility and rewards for innovative actions.	(0%)	(0%)	6 (42.9%)	8 (57.1%)	3.57	0.51	3.40
The principal participates democratically with staff sharing power and authority.	(0%)	1 (7.1%)	4 (28.6%)	9 (64.3%)	3.57	0.65	3.28
Leadership is promoted and nurtured among staff members.	(0%)	1 (7.1%)	7 (50.0%)	6 (42.9%)	3.36	0.63	3.39
Decision-making takes place through committees and communication across grade and subject areas.	(0%)	(0%)	5 (35.7%)	9 (64.3%)	3.64	0.50	3.31
Stakeholders assume shared responsibility and accountability for student learning without evidence of imposed power and authority.	(0%)	1 (7.1%)	8 (57.1%)	5 (35.7%)	3.29	0.61	3.21
Staff members use multiple sources of data to make decisions about teaching and learning.	(0%)	(0%)	4 (28.6%)	10 (71.4%)	3.71	0.47	3.57

Shared Values and Vision

Dimension Statements	SD (1)	D (2)	A (3)	SA (4)	Mean	SD	Group Mean
A collaborative process exists for developing a shared sense of values among staff.	(0%)	2 (14.3%)	5 (35.7%)	7 (50.0%)	3.36	0.74	3.31
Shared values support norms and behavior that guide decisions about teaching and learning.	(0%)	(0%)	7 (50.0%)	7 (50.0%)	3.50	0.52	3.35
Staff members share visions for school improvement that have an undeviating focus on student learning.	(0%)	(0%)	8 (57.1%)	6 (42.9%)	3.43	0.51	3.39
Decisions are made in alignment with the school's values and vision.	(0%)	1 (7.1%)	4 (28.6%)	9 (64.3%)	3.57	0.65	3.45
A collaborative process exists for developing a shared vision among staff.	(0%)	2 (14.3%)	5 (35.7%)	7 (50.0%)	3.36	0.74	3.30
School goals focus on student learning beyond test scores and grades.	(0%)	2 (14.3%)	3 (21.4%)	9 (64.3%)	3.50	0.76	3.39
Policies and programs are aligned to the school's vision.	(0%)	1 (7.1%)	4 (28.6%)	9 (64.3%)	3.57	0.65	3.44
Stakeholders are actively involved in creating high expectations that serve to increase student achievement.	(0%)	2 (14.3%)	3 (21.4%)	9 (64.3%)	3.50	0.76	3.31
Data are used to prioritize actions to reach a shared vision.	(0%)	2 (14.3%)	4 (28.6%)	8 (57.1%)	3.43	0.76	3.50

Collective Learning and Application

Dimension Statements	SD (1)	D (2)	A (3)	SA (4)	Mean	SD	Group Mean
Staff members work together to seek knowledge, skills and strategies and apply this new learning to their work.	(0%)	(0%)	7 (50.0%)	7 (50.0%)	3.50	0.52	3.42
Collegial relationships exist among staff members that	(0%)	1 (7.1%)	8 (57.1%)	5 (35.7%)	3.29	0.61	3.40

reflect commitment to school improvement efforts.							
Staff members plan and work together to search for solutions to address diverse student needs.	(0%)	(0%)	8 (57.1%)	6 (42.9%)	3.43	0.51	3.46
A variety of opportunities and structures exist for collective learning through open dialogue.	(0%)	1 (7.1%)	7 (50.0%)	6 (42.9%)	3.36	0.63	3.35
Staff members engage in dialogue that reflects a respect for diverse ideas that lead to continued inquiry.	(0%)	2 (14.3%)	7 (50.0%)	5 (35.7%)	3.21	0.70	3.39
Professional development focuses on teaching and learning.	(0%)	1 (7.1%)	5 (35.7%)	8 (57.1%)	3.50	0.65	3.48
School staff members and stakeholders learning together and apply new knowledge to solve problems.	(0%)	3 (21.4%)	5 (35.7%)	6 (42.9%)	3.21	0.80	3.28
School staff members are committed to programs that enhance learning	(0%)	(0%)	6 (42.9%)	8 (57.1%)	3.57	0.51	3.49
Staff members collaboratively analyze multiple sources of data to assess the effectiveness of instructional practices.	(0%)	(0%)	7 (50.0%)	7 (50.0%)	3.50	0.52	3.48
Staff members collaboratively analyze student work to improve teaching and learning.	(0%)	1 (7.1%)	3 (21.4%)	10 (71.4%)	3.64	0.63	3.41

Shared Personal Practice

Dimension Statements	SD (1)	D (2)	A (3)	SA (4)	Mean	SD	Group Mean
Opportunities exist for staff members to observe peers and offer encouragement.	(0%)	2 (14.3%)	8 (57.1%)	4 (28.6%)	3.14	0.66	3.20
Staff members provide feedback to peers related to	(0%)	3 (21.4%)	8 (57.1%)	3 (21.4%)	3.00	0.68	2.97

instructional practices.							
Staff members informally share ideas and suggestions for improving student learning.	(0%)	1 (7.1%)	5 (35.7%)	8 (57.1%)	3.50	0.65	3.49
Staff members collaboratively review student work to share and improve instructional practices.	(0%)	2 (14.3%)	5 (35.7%)	7 (50.0%)	3.36	0.74	3.22
Opportunities exist for coaching and mentoring.	(0%)	2 (14.3%)	8 (57.1%)	4 (28.6%)	3.14	0.66	3.17
Individuals and teams have the opportunity to apply learning and share the results of their practices.	(0%)	1 (7.1%)	6 (42.9%)	7 (50.0%)	3.43	0.65	3.36
Staff members regularly share student work to guide overall school improvement.	(0%)	3 (21.4%)	5 (35.7%)	6 (42.9%)	3.21	0.80	3.03

Supportive Conditions – Relationships

Dimension Statements	SD (1)	D (2)	A (3)	SA (4)	Mean	SD	Group Mean
Caring relationships exist among staff and students that are built on trust and respect.	(0%)	(0%)	5 (35.7%)	9 (64.3%)	3.64	0.50	3.54
A culture of trust and respect exists for taking risks.	(0%)	(0%)	8 (57.1%)	6 (42.9%)	3.43	0.51	3.40
Outstanding achievement is recognized and celebrated regularly in our school.	(0%)	2 (14.3%)	5 (35.7%)	7 (50.0%)	3.36	0.74	3.42
School staff and stakeholders exhibit a sustained and unified effort to embed change into the culture of the school.	(0%)	2 (14.3%)	8 (57.1%)	4 (28.6%)	3.14	0.66	3.30
Relationships among staff members support honest and respectful examination of data to enhance teaching and learning.	(0%)	(0%)	7 (50.0%)	7 (50.0%)	3.50	0.52	3.42

Supportive Conditions – Structures

Dimension Statements	SD (1)	D (2)	A (3)	SA (4)	Mean	SD	Group Mean
Time is provided to facilitate collaborative work.	(0%)	(0%)	10 (71.4%)	4 (28.6%)	3.29	0.47	3.15
The school schedule promotes collective learning and shared practice.	(0%)	1 (7.1%)	9 (64.3%)	4 (28.6%)	3.21	0.58	3.21
Fiscal resources are available for professional development.	(0%)	(0%)	9 (64.3%)	5 (35.7%)	3.36	0.50	3.23
Appropriate technology and instructional materials are available to staff.	(0%)	2 (14.3%)	8 (57.1%)	4 (28.6%)	3.14	0.66	3.32
Resource people provide expertise and support for continuous learning.	(0%)	1 (7.1%)	9 (64.3%)	4 (28.6%)	3.21	0.58	3.33
The school facility is clean, attractive and inviting.	(0%)	(0%)	3 (21.4%)	11 (78.6%)	3.79	0.43	3.57
The proximity of grade level and department personnel allows for ease in collaborating with colleagues.	(0%)	(0%)	5 (35.7%)	9 (64.3%)	3.64	0.50	3.42
Communication systems promote a flow of information among staff members.	(0%)	(0%)	8 (57.1%)	6 (42.9%)	3.43	0.51	3.37
Communication systems promote a flow of information across the entire school community including: central office personnel, parents, and community members.	(0%)	2 (14.3%)	7 (50.0%)	5 (35.7%)	3.21	0.70	3.33
Data are organized and made available to provide easy access to staff members.	(0%)	1 (7.1%)	6 (42.9%)	7 (50.0%)	3.43	0.65	3.42

Table A.6. Campus _056 Elementary
Shared and Supportive Leadership

Dimension Statements	SD (1)	D (2)	A (3)	SA (4)	Mean	SD	Group Mean
Staff members are consistently involved in discussing and making decisions about most school issues.	(0%)	1 (6.7%)	8 (53.3%)	6 (40.0%)	3.33	0.62	3.21
The principal incorporates advice from staff members to make decisions.	(0%)	(0%)	8 (53.3%)	7 (46.7%)	3.47	0.52	3.35
Staff members have accessibility to key information.	(0%)	(0%)	8 (53.3%)	7 (46.7%)	3.47	0.52	3.37
The principal is proactive and addresses areas where support is needed.	(0%)	(0%)	5 (33.3%)	10 (66.7%)	3.67	0.49	3.45
Opportunities are provided for staff members to initiate change.	(0%)	(0%)	8 (53.3%)	7 (46.7%)	3.47	0.52	3.27
The principal shares responsibility and rewards for innovative actions.	(0%)	1 (6.7%)	4 (26.7%)	10 (66.7%)	3.60	0.63	3.40
The principal participates democratically with staff sharing power and authority.	(0%)	1 (6.7%)	8 (53.3%)	6 (40.0%)	3.33	0.62	3.28
Leadership is promoted and nurtured among staff members.	(0%)	1 (6.7%)	4 (26.7%)	10 (66.7%)	3.60	0.63	3.39
Decision-making takes place through committees and communication across grade and subject areas.	(0%)	(0%)	6 (40.0%)	9 (60.0%)	3.60	0.51	3.31
Stakeholders assume shared responsibility and accountability for student learning without evidence of imposed power and authority.	(0%)	(0%)	7 (46.7%)	8 (53.3%)	2.534	0.52	3.21
Staff members use multiple sources of data to make decisions about teaching and	(0%)	(0%)	6 (40.0%)	9 (60.0%)	3.60	0.51	3.57

learning.							
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Shared Values and Vision

Dimension Statements	SD (1)	D (2)	A (3)	SA (4)	Mean	SD	Group Mean
A collaborative process exists for developing a shared sense of values among staff.	(0%)	(0%)	5 (33.3%)	10 (66.7%)	3.67	0.49	3.31
Shared values support norms and behavior that guide decisions about teaching and learning.	(0%)	(0%)	5 (33.3%)	10 (66.7%)	3.67	0.49	3.35
Staff members share visions for school improvement that have an undeviating focus on student learning.	(0%)	(0%)	4 (26.7%)	11 (73.3%)	3.73	0.46	3.39
Decisions are made in alignment with the school's values and vision.	(0%)	(0%)	4 (26.7%)	11 (73.3%)	3.73	0.46	3.45
A collaborative process exists for developing a shared vision among staff.	(0%)	(0%)	5 (33.3%)	10 (66.7%)	3.67	0.49	3.30
School goals focus on student learning beyond test scores and grades.	(0%)	(0%)	4 (26.7%)	11 (73.3%)	3.73	0.46	3.39
Policies and programs are aligned to the school's vision.	(0%)	(0%)	4 (26.7%)	11 (73.3%)	3.73	0.46	3.44
Stakeholders are actively involved in creating high expectations that serve to increase student achievement.	(0%)	(0%)	4 (26.7%)	11 (73.3%)	3.73	0.46	3.31
Data are used to prioritize actions to reach a shared vision.	(0%)	(0%)	3 (20.0%)	12 (80.0%)	3.80	0.41	3.50

Collective Learning and Application

Dimension Statements	SD (1)	D (2)	A (3)	SA (4)	Mean	SD	Group Mean
Staff members work together to seek knowledge, skills and strategies and apply this new learning to their work.	(0%)	(0%)	6 (40.0%)	9 (60.0%)	3.60	0.51	3.42

Collegial relationships exist among staff members that reflect commitment to school improvement efforts.	(0%)	1 (6.7%)	5 (33.3%)	9 (60.0%)	3.53	0.64	3.40
Staff members plan and work together to search for solutions to address diverse student needs.	(0%)	(0%)	4 (26.7%)	11 (73.3%)	3.73	0.46	3.46
A variety of opportunities and structures exist for collective learning through open dialogue.	(0%)	(0%)	5 (33.3%)	10 (66.7%)	3.67	0.49	3.35
Staff members engage in dialogue that reflects a respect for diverse ideas that lead to continued inquiry.	(0%)	(0%)	5 (33.3%)	10 (66.7%)	3.67	0.49	3.39
Professional development focuses on teaching and learning.3.28	(0%)	(0%)	7 (46.7%)	8 (53.3%)	3.53	0.52	3.48
School staff members and stakeholders learning together and apply new knowledge to solve problems.	(0%)	1 (6.7%)	4 (26.7%)	10 (66.7%)	3.60	0.63	3.28
School staff members are committed to programs that enhance learning	(0%)	(0%)	3 (20.0%)	12 (80.0%)	3.80	0.41	3.49
Staff members collaboratively analyze multiple sources of data to assess the effectiveness of instructional practices.	(0%)	(0%)	4 (26.7%)	11 (73.3%)	3.73	0.46	3.48
Staff members collaboratively analyze student work to improve teaching and learning.	(0%)	(0%)	5 (33.3%)	10 (66.7%)	3.67	0.49	3.41

Shared Personal Practice

Dimension Statements	SD (1)	D (2)	A (3)	SA (4)	Mean	SD	Group Mean
Opportunities exist for staff members to observe peers and offer encouragement.	(0%)	1 (6.7%)	8 (53.3%)	6 (40.0%)	3.33	0.62	3.20

Staff members provide feedback to peers related to instructional practices.	(0%)	3 (20.0%)	7 (46.7%)	5 (33.3%)	3.13	0.74	2.97
Staff members informally share ideas and suggestions for improving student learning.	(0%)	(0%)	6 (40.0%)	9 (60.0%)	3.60	0.51	3.49
Staff members collaboratively review student work to share and improve instructional practices.	(0%)	(0%)	7 (46.7%)	8 (53.3%)	3.53	0.52	3.22
Opportunities exist for coaching and mentoring.	(0%)	(0%)	7 (46.7%)	8 (53.3%)	3.53	0.52	3.17
Individuals and teams have the opportunity to apply learning and share the results of their practices.	(0%)	(0%)	6 (40.0%)	9 (60.0%)	3.60	0.51	3.36
Staff members regularly share student work to guide overall school improvement.	(0%)	1 (6.7%)	7 (46.7%)	7 (46.7%)	3.40	0.63	3.03

Supportive Conditions – Relationships

Dimension Statements	SD (1)	D (2)	A (3)	SA (4)	Mean	SD	Group Mean
Caring relationships exist among staff and students that are built on trust and respect.	(0%)	(0%)	4 (26.7%)	11 (73.3%)	3.73	0.46	3.54
A culture of trust and respect exists for taking risks.	(0%)	(0%)	3 (20.0%)	12 (80.0%)	3.80	0.41	3.40
Outstanding achievement is recognized and celebrated regularly in our school.	(0%)	(0%)	5 (33.3%)	10 (66.7%)	3.67	0.49	3.42
School staff and stakeholders exhibit a sustained and unified effort to embed change into the culture of the school.	(0%)	(0%)	4 (26.7%)	11 (73.3%)	3.73	0.46	3.30
Relationships among staff members support honest and respectful examination of data to enhance teaching and	(0%)	(0%)	3 (20.0%)	12 (80.0%)	3.80	0.41	3.42

learning.							
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Supportive Conditions – Structures

Dimension Statements	SD (1)	D (2)	A (3)	SA (4)	Mean	SD	Group Mean
Time is provided to facilitate collaborative work.	(0%)	(0%)	7 (46.7%)	8 (53.3%)	3.53	0.52	3.15
The school schedule promotes collective learning and shared practice.	(0%)	(0%)	8 (53.3%)	7 (46.7%)	3.47	0.52	3.21
Fiscal resources are available for professional development.	(0%)	(0%)	8 (53.3%)	7 (46.7%)	3.47	0.52	3.23
Appropriate technology and instructional materials are available to staff.	(0%)	2 (13.3%)	8 (53.3%)	5 (33.3%)	3.20	0.68	3.32
Resource people provide expertise and support for continuous learning.	(0%)	(0%)	6 (40.0%)	9 (60.0%)	3.60	0.51	3.33
The school facility is clean, attractive and inviting.	(0%)	(0%)	5 (33.3%)	10 (66.7%)	3.67	0.49	3.57
The proximity of grade level and department personnel allows for ease in collaborating with colleagues.	(0%)	(0%)	5 (33.3%)	10 (66.7%)	3.67	0.49	3.42
Communication systems promote a flow of information among staff members.	(0%)	(0%)	5 (33.3%)	10 (66.7%)	3.67	0.49	3.37
Communication systems promote a flow of information across the entire school community including: central office personnel, parents, and community members.	(0%)	(0%)	6 (40.0%)	9 (60.0%)	3.60	0.51	3.33
Data are organized and made available to provide easy access to staff members.	(0%)	(0%)	4 (26.7%)	11 (73.3%)	3.73	0.46	3.42

APPENDIX B

**PERMISSION TO USE PROFESSIONAL LEARNING COMMUNITY ASSESSMENT-REVISED
QUESTIONNAIRE**



*Department of Educational Foundations
and Leadership
P.O. Box 43091
Lafayette, LA 70504-3091*

March 21, 2014

Linda Patrick
1413 North Crossing Drive
Allen, TX 75013

Dear Ms. Patrick:

This correspondence is to grant permission to utilize the *Professional Learning Community Assessment-Revised* (PLCA-R) as your instrument for data collection for your doctoral study through University of Texas. I believe your research *analyzing professional learning community dimensions to determine a relationship to student growth* will contribute to the PLC literature and provide valuable information related to ongoing school improvement. I am pleased that you are interested in using the PLCA-R measure in your research.

This permission letter allows use of the PLCA-R through paper/pencil administration, as well as permission for the PLCA-R online version. For administration of the PLCA-R online version, services must be secured through our online host, SEDL in Austin, TX. Additional information for online administration can be found at www.sedl.org. While this letter provides permission to use the measure in your study, authorship of the measure will remain as Olivier, Hipp, and Huffman (exact citation on the following page). This permission does not allow renaming the measure or claiming authorship.

Upon completion of your study, I would be interested in learning about your entire study and would welcome the opportunity to receive an electronic version of your completed dissertation research.

Thank you for your interest in our research and measure for assessing professional learning community attributes within schools. Should you require any additional information, please feel free to contact me.

Sincerely,

Dianne F. Olivier

Dianne F. Olivier, Ph. D.
Assistant Professor
Joan D. and Alexander S. Haig/BORSF Professor
Department of Educational Foundations and Leadership
College of Education

University of Louisiana at Lafayette
P.O. Box 43091
Lafayette, LA 70504-3091
(337) 482-6408 (Office) dolivier@louisiana.edu

Reference Citation for Professional Learning Community Assessment-Revised measure:

Source: Olivier, D. F., Hipp, K. K., & Huffman, J. B. (2010). Assessing and analyzing schools. In K. K. Hipp & J. B. Huffman (Eds.). *Demystifying professional learning communities: School leadership at its Best*. Lanham, MD: Rowman & Littlefield.

APPENDIX C
PERMISSION TO USE INTERVIEW PROTOCOLS



Gordon T. & Ellen West College of Education

3410 Taft Boulevard Wichita Falls, Texas 76308-2099

Office: 940-397-4313 Fax: 940-397-4694

March 6, 2015

Linda Patrick
1413 North Crossing Drive
Allen, TX 75013

Dear Ms. Patrick:

This correspondence is to grant permission to utilize the interview protocol from dissertation research as your instrument for qualitative data collection for your doctoral study through University of Texas. I believe your research *analyzing professional learning community dimensions to determine a relationship to student growth* will contribute to the PLC literature and provide valuable information related to ongoing school improvement. I am pleased that you are interested in using the interview protocol in your research.

Upon completion of your study, I would be interested in learning about your entire study and would welcome the opportunity to receive an electronic version of your completed dissertation research.

Thank you for your interest in our research and measure for assessing professional learning community attributes within schools. Should you require any additional information, please feel free to contact me.

Warmest regards,

Jeff Blacklock, Ed.D.

Assistant Professor of Curriculum and Learning

Director of Certification and Compliance

Midwestern State University

West College of Education

940.397.4063

phillip.blacklock@mwsu.edu

Chair Elect - Child Care Inc., Wichita Falls, TX

APPENDIX D
CONSENT FORM QUESTIONNAIRE

University of North Texas Institutional Review Board Informed Consent Form

Before agreeing to participate in this research study, it is important that you read and understand the following explanation of the purpose, benefits and risks of the study and how it will be conducted.

Title of Study: Factors in a School's Culture and their Impact on Student Growth

Student Investigator: Linda Patrick, University of North Texas (UNT) Department of Teacher Education and Administration. **Supervising Investigator:** Dr. Jane Huffman.

Purpose of the Study: You are being asked to participate in a research study which involves analyzing the factors in a school's culture and their impact on student growth. With increasing pressure to improve student achievement, educators and policymakers have a continued interest in determining what is needed to close the achievement gap in the United States. As school demands for improvement continue to increase, schools must find a way to develop and sustain structures that maximize individual and collective capacity while creating and maintaining environments that focus on shared beliefs and collaborative efforts for continuous improvement. Despite increasing research which describes Professional Learning Communities, their attributes and impact on successful schools, much less is known about how a school's culture is developed and sustained through Professional Learning Communities and the impact PLCs have on student achievement. The purpose of this study is to analyze factors in a school's culture, as represented by professional learning community dimensions, that impact student growth. This study is designed to address two questions related to school culture and student reading and math growth. The questions answered are:

1. Which cultural factors, as measured by the professional learning community assessment – revised (PLCA-R), are present in a school's environment?
2. What is the impact of each cultural factor on student growth?

Study Procedures: You will be asked to complete a 52 item questionnaire that will take about 15-20 minutes of your time.

Foreseeable Risks: No foreseeable risks are involved in this study.

Benefits to the Subjects or Others: This study is not expected to be of any direct benefit to you, but the findings of this study will add to the literature on the impact of the professional learning community dimensions and process. By analyzing the effect Professional Learning Communities have on student growth and by investigating the day-to-day practices that foster and sustain them, this study will add empirical data regarding Professional Learning Communities as a valid reform measure related to lasting change.

Compensation for Participants: None

Procedures for Maintaining Confidentiality of Research Records: Participating schools will be assigned a number to mask their names in this study. The records will be maintained on a flash drive owned and maintained by the student investigator. The records will be maintained on a flash drive for 3 years in my locked office.

Questions about the Study: If you have any questions about the study, you may contact Linda Patrick at 214-457-5590 or Dr. Jane Huffman 940-565-2832.

Review for the Protection of Participants: This research study has been reviewed and approved by the UNT Institutional Review Board (IRB). The UNT IRB can be contacted at (940) 565-3940 with any questions regarding the rights of research subjects.

Research Participants' Rights:

Your signature below indicates that you have read or have had read to you all of the above and that you confirm all of the following:

- Linda Patrick has explained the study to you and answered all of your questions. You have been told the possible benefits and the potential risks and/or discomforts of the study.
- You understand that you do not have to take part in this study, and your refusal to participate or your decision to withdraw will involve no penalty or loss of rights or benefits. The study personnel may choose to stop your participation at any time.
- You understand why the study is being conducted and how it will be performed.
- You understand your rights as a research participant and you voluntarily consent to participate in this study.
- You understand you may print a copy of this form for your records.

Printed Name of Participant

Signature of Participant

Date

For the Student Investigator or Designee:

I certify that I have reviewed the contents of this form with the subject signing above. I have explained the possible benefits and the potential risks and/or discomforts of the study. It is my opinion that the participant understood the explanation.

Signature of Student Investigator

Date

APPENDIX E
CONSENT FORM INTERVIEW

University of North Texas Institutional Review Board Informed Consent Form

Before agreeing to participate in this research study, it is important that you read and understand the following explanation of the purpose, benefits and risks of the study and how it will be conducted.

Title of Study: Factors in a School's Culture and their Impact on Student Growth

Student Investigator: Linda Patrick, University of North Texas (UNT) Department of Teacher Education and Administration. **Supervising Investigator:** Dr. Jane Huffman.

Purpose of the Study: You are being asked to participate in a research study which involves analyzing the factors in a school's culture and their impact on student growth. With increasing pressure to improve student achievement, educators and policymakers have a continued interest in determining what is needed to close the achievement gap in the United States. As school demands for improvement continue to increase, schools must find a way to develop and sustain structures that maximize individual and collective capacity while creating and maintaining environments that focus on shared beliefs and collaborative efforts for continuous improvement. Despite increasing research which describes Professional Learning Communities, their attributes and impact on successful schools, much less is known about how a school's culture is developed and sustained through Professional Learning Communities and the impact PLCs have on student achievement. The purpose of this study is to analyze factors in a school's culture, as represented by professional learning community dimensions, that impact student growth. This study is designed to address two questions related to school culture and student reading and math growth. The questions answered are:

3. Which cultural factors, as measured by the professional learning community assessment – revised (PLCA-R), are present in a school's environment?
4. What is the impact of each cultural factor on student growth?

Study Procedures: You will be asked to participate in a face-to-face interview that will take approximately 45-60 minutes of your time.

Foreseeable Risks: No foreseeable risks are involved in this study.

Benefits to the Subjects or Others: This study is not expected to be of any direct benefit to you, but the findings of this study will add to the literature on the impact of the professional learning community dimensions and process. By analyzing the effect Professional Learning Communities have on student growth and by investigating the day-to-day practices that foster and sustain them, this study will add empirical data regarding Professional Learning Communities as a valid reform measure related to lasting change.

Compensation for Participants: None

Procedures for Maintaining Confidentiality of Research Records: Interview notes and transcription will be assigned a number in order to maintain confidentiality. All numbered audio-recordings and consent forms will be kept in separate locked file cabinets in my office. The recordings and interview notes will be destroyed 3 years after the completion of this study.

Questions about the Study: If you have any questions about the study, you may contact Linda Patrick at 214-457-5590 or Dr. Jane Huffman 940-565-2832.

Review for the Protection of Participants: This research study has been reviewed and approved by the UNT Institutional Review Board (IRB). The UNT IRB can be contacted at (940) 565-3940 with any questions regarding the rights of research subjects.

Research Participants' Rights:

Your signature below indicates that you have read or have had read to you all of the above and that you confirm all of the following:

- Linda Patrick has explained the study to you and answered all of your questions. You have been told the possible benefits and the potential risks and/or discomforts of the study.
- You understand that you do not have to take part in this study, and your refusal to participate or your decision to withdraw will involve no penalty or loss of rights or benefits. The study personnel may choose to stop your participation at any time.
- You understand why the study is being conducted and how it will be performed.
- You understand your rights as a research participant and you voluntarily consent to participate in this study.
- You understand you may print a copy of this form for your records.

Printed Name of Participant

Signature of Participant

Date

For the Student Investigator or Designee:

I certify that I have reviewed the contents of this form with the subject signing above. I have explained the possible benefits and the potential risks and/or discomforts of the study. It is my opinion that the participant understood the explanation.

Signature of Student Investigator

Date

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