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Relationship of Collaborative School Culture and School Achievement

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RELATIONSHIP OF COLLABORATIVE SCHOOL CULTURE
AND SCHOOL ACHIEVEMENT

by

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(Under the Direction of Jason LaFrance)

ABSTRACT

The purpose of this correlational, quantitative study was to examine the magnitude
and direction of the relationship between collaborative school culture and school
achievement in rural, economically disadvantaged middle schools utilizing a 6, 7, 8 grade
configuration. Survey data was collected from 263 teachers representing 12 rural,
economically disadvantaged middle schools in the state of Georgia. Data collection tools
included the Learning Community Culture Indicator (LCCI) 4.0 survey developed by
Williams, Matthews, Stewart, and Hilton (2007) and the Georgia Criterion Referenced
Competency Test (GCRCT).

The study generated data from 12 middle schools regarding the overall functionality
level of their collaborative school culture, individual elements indicative of collaborative
culture, and the presence of formal professional learning communities. Study results from
Pearson's product-moment correlations revealed no statistically significant relationships
between overall school scores on the LCCI 4.0 and school achievement. Additional
correlational analyses examined the relationship between individual elements of
collaborative culture and school achievement, and findings indicated a statistically significant
relationship between school achievement in the area of mathematics and the element
identified as common mission, vision, values, and goals. Analysis of Variance (ANOVA)

was utilized to compare functionality levels of collaborative culture and school achievement, and findings did not reveal any statistically significant results.

The study did not support the need for formal professional learning communities in schools as a prerequisite for highly functioning collaborative culture. Characteristics of highly functioning collaborative school cultures were identified within the research. While the study resulted in limited statistically significant findings, it may suggest an association between school achievement and collaborative school culture that bears future consideration.

INDEX WORDS: Professional learning, Professional learning communities, Collaborative school culture, Teacher collaboration, High performing schools, Culture, School achievement, Instruments to measure school culture, GCRCT, Learning Community Culture Indicator

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DEDICATION

This dissertation is dedicated to my family.

To my parents, Kenneth and Phyllis Durrence. You have instilled a value of learning in me that has persevered. Your love and support throughout my life has helped me to accomplish all of my goals. Thank you for being great parents!

To my children, Will, Layne, and Logan. I hope you appreciate the value of learning as much as I have and continue to learn throughout your lives. I love you!

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CHAPTER I

INTRODUCTION

Professional learning communities have been touted as a means to improve school achievement. Within this professional development practice, teachers and administrators work together to improve classroom practices in a collegial setting (DuFour, 2004). As teachers are engaged in purposeful dialogue about student learning and school achievement within professional learning communities, a collaborative school culture may develop (Eaker, DuFour, & DuFour, 2002; McTighe, 2007; Mulford, 2007; Servage, 2008). Collaboration and shared learning have been identified as vital components in the development of a school's culture (Hoy & Miskel, 2008; Schein, 1992). Hoy and Miskel also postulated that a strong school culture, characterized by teachers who collaborate, promoted school achievement. Moreover, research has suggested that a collaborative school culture may positively impact school achievement (DuFour & Marzano, 2009; Jessie, 2007; McTighe; Styron & Nyman, 2008; Wilhelm, 2010). Additionally, research has indicated that as the functionality level of a school's collaborative culture increases, the potential exists for gains in student learning and achievement (DuFour, DuFour, Eaker, & Many, 2006; Goddard, Goddard, & Tschannen-Moran, 2007; Gruenert, 2005). Functionality represents the level at which a school's collaborative culture has been developed. Hoy and Miskel suggested that a school's culture may be developed from a superficial level to a meaningful and deeply rooted foundation of trust and collaboration upon which opportunities exist for improvement in student achievement. Unfortunately, little empirical research exists on the level of functionality that a collaborative school culture must reach before gains are seen in school

achievement. This study has been designed to examine the relationship of a school's collaborative culture to school achievement.

Background

As researchers have noted, a professional learning community in which students and their learning are the focus is a powerful vehicle for eliciting widespread change in schools (DuFour, 2004; Jolly, 2004; Thompson & McKelvy, 2007). As Thompson, Gregg, and Niska (2004) noted, it is the belief that "student learning will improve when adults commit themselves to talking collaboratively about teaching and learning and then take action that will improve student learning and achievement" (p.1). DuFour, DuFour, Eaker, and Karhanek (2004) offered a consistent statement*:*

> When collaboration focused on student learning becomes deeply embedded in the culture of a school, not only will students achieve at higher levels, but the school will develop higher quality solutions to problems; experience increased confidence among staff; expand the pool of ideas, methods, and materials available to each teacher; have the ability to test new ideas, and provide greater support for new teachers entering the school. (p.175)

Moreover, the rewards for students are noted in Thompson and McKelvy's (2007) statement, "Students believe in their ability to learn because everyone is learning. Professional learning communities are a powerful resource for creating the kind of school that every student and adult appreciates and values" (p.14). Therefore, many of the professional development activities for teachers today center around improving student achievement through improved teacher practices. As Fullan (2005) stated,

We have an increasingly clear picture of the nature and importance of professional

learning communities in schools. We now understand that such communities do not

merely represent congeniality. Rather, they dig deeply into learning. They engage in

disciplined inquiry and continuous improvement in order to 'raise the bar' and 'close

the gap' of student learning and achievement. (p. 209)

Jessie (2007) agreed with educators and researchers that student performance may be

positively impacted through the use of professional learning communities.

This researcher has presented evidence that professional learning communities are

beneficial to schools and that the use of a professional learning community may contribute to

a collaborative school culture that is pervasive and permeating. However, the existing body

of literature does not adequately address the implications that professional learning

communities and a collaborative school culture may have on student and school

achievement. Certainly, the anecdotal literature has suggested that there is a relationship;

however, the empirical evidence to support this claim is limited. Further, there is little

guidance as to what level of implementation a professional learning community must attain

before a collaborative culture is established or gains may be seen in student achievement.

Research and literature have supported the theories that professional learning

communities have the potential to support substantial increases in student achievement;

however, the gap in the existing literature has appeared to be in the measurable data to

validate the assumption that professional learning communities are a meaningful avenue of

raising levels of student achievement. More specifically, the level of functionality a

professional learning community must reach before a collaborative school culture is

ascertained and gains in student achievement are recognized has not been established. As *No*

Child Left Behind and other accountability measures continue to raise the bar on teacher, administrative, and student expectations, the need for additional research on and evidence linking professional learning communities, school culture, and student achievement will continue to be a priority.

Statement of Problem

The development of a collaborative culture in schools has been pursued by some school administrators as a means of advancing teacher communication and knowledge and thus improving school achievement. Over the past ten years, research has indicated that teacher participation in collaborative professional development activities such as professional learning communities has increased. Moreover, the literature on professional learning communities has suggested that these collegial groups will lead not only to increased teacher collaboration and a positive school culture but ultimately may lead to improvements in student achievement.

In an age of increasing accountability, the lure of a strategy to raise school achievement is appealing. Teacher education and professional development activities have been explored by school administrators as an avenue to increase student learning, raise school achievement, and meet state accountability measures. Enhanced teacher collaboration has been acknowledged as a positive effect of collaborative professional development activities within the current body of literature; however, the level of functionality needed to produce the desired educational outcomes for school achievement is less clear. Consequently, there has been an increased interest in the development of a collaborative culture in schools as a viable solution for school improvement.

While a large body of anecdotal research exists on the use of professional learning communities as an educational reform strategy to increase school achievement and improve school culture, the empirical evidence does not fully support results that are generalizable to all parts of the United States. Moreover, the existing research that has focused on the functionality level of a school's collaborative culture is limited. Functionality represents the level at which a school's collaborative culture within a professional learning community has been developed. In other words, is there a difference in the functionality level of a school's culture where collaboration has been minimally developed as opposed to a school where teacher collaboration is pervasive and widespread?

Moreover, the impact of professional collaboration on the development of a school's collaborative culture in rural, economically disadvantaged middle schools has not been established. Therefore, the purpose of this study was to assess the functionality level of a school's collaborative culture to determine if a relationship existed between the functionality level and school achievement on the standardized state assessment in the areas of reading and mathematics.

Research Question

Research has indicated that the development of a collaborative school culture may influence student achievement (DuFour & Marzano, 2009; McTighe, 2007). Therefore, this study was guided by the following overarching research question: Is there a relationship between a school's collaborative culture and school achievement in rural, economically disadvantaged middle schools with a 6, 7, 8 grade configuration in Georgia? Additionally, the study addressed the following subquestions:

1. Is there a difference between overall school scores in the highest and lowest

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quartiles on the Learning Community Culture Indicator (LCCI) 4.0 and school

achievement?

2. Is there a relationship between scores on individual elements of the LCCI 4.0

and school achievement?

3. Is there a relationship between overall scores on the LCCI 4.0 and the presence

of a formal professional learning community in individual schools?

A school's collaborative culture will be evidenced by the functionality level of its

professional learning community and measured by the Learning Community Culture

Indicator (LCCI) 4.0 (Williams, Matthews, Stewart, & Hilton, 2007). School achievement

will be measured by mean scale scores on the Georgia Criterion Referenced Competency

Test (GCRCT) in the areas of reading and mathematics.

Significance of Study

As educational reform measures have continued to call for improvements in school

and student achievement, administrators and school leaders have explored teacher education

as a means of improving student achievement, particularly in high poverty schools.

Professional learning communities have been established in many schools as a means of

promoting a collaborative culture that focuses on student learning and school improvement.

As administrators and school leaders reserve time and resources for the implementation of

collaboration models such as professional learning communities, there is a need to know if

these efforts are influencing student learning and achievement.

Administrators and school leaders need to know if a relationship exists between the

level of collaborative culture present in professional learning communities and student

achievement. Research has suggested that a relationship exists; however, existent empirical

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research focused on the functionality level of a collaborative school culture is limited. This study will strengthen the existing literature and provide substantiation to school administrators and leaders on the relationship of a collaborative school culture's functionality and school achievement.

Procedures

The study utilized a quantitative research design that included a purposive, criterion-based sample of Georgia middle schools that met three selection criteria: 6, 7, 8 grade configuration; located in a rural setting in the state of Georgia; and designated as economically disadvantaged. Middle schools were chosen for inclusion in this study as the researcher is employed in a middle school, and this is an area of interest to the researcher. A 6, 7, 8 grade configuration was selected because it is the most widely used within the state of Georgia according to the *2010 School Detail Report* (GADOE, 2010). To improve the generalizability of the study's results, participants were limited to economically disadvantaged school districts in rural settings. One hundred fourteen Georgia middle schools were identified for participation in this study.

Permission for school participation was granted by 18 middle school principals. Within participating schools, an email was sent to all certified teachers ($N = 483$) outlining the purpose of the study and instructions for participation. The participants were guaranteed anonymity of responses and assured that individual responses would not be shared. Overall survey results for individual schools were provided to school principals upon request.

The survey instrument used in this study was the teacher version of the LCCI 4.0 developed by Williams et al. (2007). Survey data collected from this instrument served as the independent variable in this study. A copy of the survey has been included in Appendix

C. Georgia Criterion Referenced Competency Test (GCRCT) data in the areas of reading and mathematics served as the dependent variable. GCRCT data on participating schools was retrieved from the *CRCT 2011 School Summaries Report* (GADOE, 2011).

Statistical Package for Social Science (SPSS) was used to obtain statistics and analyze data. Analysis of Variance (ANOVA) and Pearson's product-moment correlation coefficient were used for analysis of the research questions to determine if a relationship existed between the school's culture level and school achievement scores in the areas of reading and mathematics on the GCRCT.

Limitations, Delimitations, and Assumptions

This study was restricted by the following limitations. The quantitative correlational design of this study limited causality determinations (Trochim & Donnelly, 2008). The demographic criteria of grade configuration, socioeconomic status, and setting selected for the study limited generalizability of the study's results to other populations and configurations. Trochim and Donnelly indicated that a high response rate for an online survey is unlikely; therefore, the use of an online survey and potentially small sample size was also a limitation of this study.

The researcher is employed in an economically disadvantaged middle school in rural Georgia. As this is an area of interest to the researcher, a delimitation of this study was the confinement of participants to economically disadvantaged middle schools with a 6, 7, 8 grade configuration in rural settings.

The researcher made the following assumptions: The LCCI 4.0 instrument would accurately measure the culture of a school's professional learning community; and, participants would respond openly and honestly to the survey statements.

Definitions of Terms

Collaborative teaming

For the purpose of the study, collaborative teaming will be defined as dialogue among teachers about organizational and student needs.

Common vision, mission, values and goals

For the purpose of this study, common vision, mission, values, and goals will refer to the underlying beliefs of an organization that serve as its foundation and clarify its purpose.

Culture

Culture is a pattern of shared basic beliefs or assumptions that a group or organization has learned as the correct way to perceive, think, and feel in relation to problems within its organization (Schein, 1992). For the purpose of this study, culture will represent the shared values and beliefs that are embedded and permeate an organization, specifically a school.

Data-based decision-making

For the purpose of this study, data-based decision-making will be defined as the use of data to pinpoint students' educational needs and adjust classroom instruction to better address students' strengths and weaknesses (U.S. Department of Education, 2009).

Economically disadvantaged

For the purpose of this study, economically disadvantaged will refer to those students living in households that qualify as poverty level for the purpose of eligibility for free or reduced school lunch. The National School Lunch Program (2011) has set the following eligibility guidelines for the 2010-2011 school year: incomes at or below $28,665 for a family of four are eligible for free meals and incomes between $28,665 and $40,793 are eligible for reduced price meals.

Functionality

Schein (1992) stated that an assessment of the functionality level of an organization's culture is critical for leaders. For the purpose of this study, functionality will describe the level of implementation of the elements of a professional learning community and will be represented by a score on the LCCI 4.0. A score of 337 or higher will indicate a high level of functionality of a school's collaborative culture. A score of less than 112 will indicate low functionality of a school's collaborative culture.

Georgia Criterion Referenced Competency Test (GCRCT)

GCRCT is a standardized assessment for elementary and middle schools in the state of Georgia (GADOE, 2011). For the purpose of this study, GCRCT scores in the areas of reading and mathematics will be used as the dependent variable.

Learning Community Culture Indicator (LCCI) 4.0

The Learning Community Culture Indicator (LCCI) 4.0 is a self-reported questionnaire and school culture survey taken by teachers and principals to measure eight professional learning community elements and their level of implementation within schools (Stewart, 2009). For the purpose of this study, scores from the LCCI 4.0 will be used as the independent variable.

Organizational trust

For the purpose of this study, organizational trust is representative of an organization in which individuals are comfortable interacting collaboratively, collectively, and interdependently.

Participative leadership

For the purpose of this study, participative leadership will describe a school

community in which teachers and administrators share the responsibility for student learning.

Principal leadership

For the purpose of this study, principal leadership will describe a school community

in which the principal serves as the lead learner in making decisions about student learning.

Professional development

For the purpose of this study, professional development will be defined as any

activity that improves teacher quality.

Professional learning community

Professional learning community is a term used to describe a collaborative process in

which teachers work together to analyze and improve classroom practice (DuFour, 2004).

Interestingly, Professional Learning Community (PLC) is the title given by DuFour and his

colleagues to identify their model of professional learning. For the purpose of this study,

professional learning community will represent any collaborative, collegial professional

development or learning in schools.

Systems of prevention and intervention

For the purpose of this study, systems of prevention and intervention will describe

any strategies and resources designed to meet the needs of all students and ensure academic

success.

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Summary

</div>

The literature on professional learning communities has suggested that these collegial

groups will lead not only to increased teacher collaboration and a positive school culture but

ultimately to improvements in student achievement. The purpose of this study was to assess the relationship of a school's collaborative culture as evidenced by the functionality level of its professional learning community to determine if a relationship exists between the functionality level and the school's performance on the GCRCT. This correlational study surveyed certified teachers within 18 rural, economically disadvantaged middle schools in the state of Georgia. An online survey format was utilized to administer the Learning Community Culture Indicator (LCCI) 4.0. Study results will strengthen the existing body of literature and provide school administrators with information on school culture reflected by the implementation level of professional learning communities within the school that may be used to influence school reform and student achievement improvements.

CHAPTER II

REVIEW OF THE LITERATURE

With the ever increasing accountability in schools, educators and administrators are continuously searching for ways to improve school achievement. While research has confirmed that teaching impacts achievement more than any other factors (Georgia Partnership for Excellence in Education, 2011; Haycock, 1998, 2005; Marzano, 2003; Rowe, 2007; Schmoker, 2006; Wright, Horn, & Sanders, 1997), Marzano suggested that most teachers are mediocre in their impact on student achievement. Schmoker posited that many quality teachers exist in isolation and that many "incompetent teachers are potentially competent if given the opportunity to work in a redefined system with colleagues and with cooperative supervision" (p. 28).

As educators move beyond the isolated classroom that Schmoker (2006) described, a plethora of research has been presented on the establishment and theory of professional learning communities as a professional development practice to enhance teacher collaboration and as an avenue for school reform (DuFour, 2004; DuFour, Eaker, & DuFour, 2005; Eaker et al., 2002; Jessie, 2007; McTighe, 2007; Servage, 2008; Thompson & McKelvy, 2007). Mulford (2007) described a professional learning community as one that "involves shared norms and values including valuing differences and diversity, a focus on implementation and continuous enhancement of quality learning for all students, de-privatisation of practice, collaboration, and critical reflective dialogue, especially that based on performance data" (p. 175). DuFour simply defined the powerful collaboration as a systematic process in which teachers work together to analyze and improve their classroom practice. Collaborative professional development may be presented through a variety of

delivery models such as Professional Learning Communities (Eaker et al., 2002), Whole

Faculty Study Groups (Murphy & Lick, 2004), and the Georgia School Keys (Georgia

Department of Education, 2007).

It is generally accepted thought that professional learning communities contribute to a

positive collaborative culture in schools (Eaker et al., 2002; DuFour & Marzano, 2009;

Jessie, 2007; McTighe, 2007; Mulford, 2007; Servage, 2008). Moreover, research has

suggested that a collaborative school culture as evidenced by the presence of some form of

collegial professional learning may have a positive influence on student achievement

(DuFour & Marzano; Jessie; McTighe; Styron & Nyman, 2008; Wilhelm, 2010).

For this review, professional learning communities have been identified as a means of

creating a collaborative school culture. Additionally, the merits of a collegial, collaborative

culture in schools have been established. It is less clear the level of implementation or

functionality a professional learning community must reach before gains in student

achievement are recognized. This review will examine the available evidence on a

collaborative school culture and school achievement to determine if a relationship may exist.

For the purpose of this review, the following search terms were used: "professional

learning," "professional learning communities," "school achievement," "collaborative school

culture," "teacher collaboration," "adequate yearly progress," "learning community

instruments," "collaboration measures," "leadership," and "high performing schools."

EBSCO host, ERIC, Google Scholar, and GALILEO were used as search sources. Search

terms for additional study may include data-driven decision making, teacher leadership and

student outcomes.

Teachers and School Achievement

With the enactment of the *No Child Left Behind* (NCLB) legislation of 2001, educators are more accountable than ever for student achievement. The NCLB legislation included the need for highly qualified teachers in all classrooms. Current research has suggested that a correlation between teacher quality and student achievement does exist (Darling-Hammond, 2000; DuFour, 2009; Rowe, 2007; Styron & Nyman, 2008). Darling-Hammond stated that "the quality of teacher education and teaching appear to be more strongly related to student achievement than class sizes, overall spending levels, or teacher salaries" (p. 3). Moreover, Rowe declared that "teachers are the most valuable resource available to schools" (p. 1). DuFour suggested that student learning would accelerate as the quality of teaching improved.

Phillips (2003) posited that student achievement may improve as teachers increase learning and awareness by participating in professional learning activities such as study groups. In their study on characteristics of middle school performance, Styron and Nyman (2008) concluded that student achievement would increase dramatically as teachers collaborate on instructional planning. McTighe (2007) recommended that teachers participate actively in the analysis of student data to guide school improvement plans. Petersen (2007) concurred with McTighe that student data has risen to the forefront of school reform. He stated, "The right data, provided at the right time and in the right way, can be a powerful driver for school improvement. Data should launch a conversation about what's working, what's not, and what will be done differently as a result" (p. 42).

The analysis of student data has provided teachers with an opportunity to collaborate with their colleagues on strategies to improve student achievement through individualizing

the learning potential for each student to ensure mastery of instructional content. As teachers

deepen their educational knowledge and skills and share the responsibility for student

learning, it is to be expected that the outcomes of learning for students would evolve to a

deeper, more focused level as well. Wilhelm (2010) expounded that:

> As shared leadership becomes the norm for all schools, student outcomes will
>
> improve dramatically. Achievement gaps will close. When teachers begin taking
>
> ownership, alongside administrators, for problems of poor achievement, they also
>
> gain ownership of the solutions developed as a team. (p. 38)

As schools continue to strive for improvements in student achievement, the shared

leadership described by Wilhelm (2010) propels teachers out of isolated classrooms into

productive discussions about student performance. McTighe (2007) suggested that teacher

isolation could be reduced through collaborative planning and collegial conversations with

peers. In her investigation of Critical Friends Groups, Curry (2008) found that school-based

collaborative groups "strengthened schoolwide communication, curtailed teacher isolation,

and fostered shared professional commitments and collective responsibility for student

learning" (p. 769). The shift from teachers working in isolation to teachers collaborating on

school issues and student needs may have its basis in the reculturing of schools that Eaker,

DuFour, and DuFour (2002) outlined in their research on professional learning communities.

Eaker et al. postulated that deep, meaningful collaboration among teachers would reduce

teacher isolation as a result of reculturing in schools. Jessie (2007) suggested that student

performance may be improved meaningfully through professional collaboration. McTighe

indicated that continuous school improvement may be perpetuated through the regular use of

professional learning communities.

Collaborative School Culture

Current research has indicated that increased teacher collaboration is one of the greatest benefits to result from professional learning communities (DuFour, 2009; Jessie, 2007; McTighe, 2007; Mulford, 2007; Servage, 2008). The increased dialogue among teachers produced through collaboration may reduce the isolation that has been previously identified by Servage and Schmoker (2006). McTighe and Curry (2008) concurred that teacher isolation may be reduced through collaborative planning.

Enhanced collaboration among teachers may promote a change in the climate and culture of schools. McTighe (2007) stated that "the regular use of a professional learning community process provides the fuel for continuous improvement while establishing a professionally enriching, results-oriented culture" (p. 8). The development of an enhanced collaborative culture in schools has been recognized in the existing literature as a product of the collegial component of professional learning communities (Curry, 2008; DuFour & Marzano, 2009; Jessie, 2007; McTighe; Mulford, 2007; Servage, 2008).

Organizational culture theorist Schein (1992) advocated that culture is the accumulation of learning that is shared by a group with common interests, and that a group has a culture "when it has had enough of a shared history to have formed a set of shared assumptions" (p. 12). Schlecty (2001) believed that as people become immersed in their work, their personal habits and values become embedded within the organization's culture. Based on Schein and Schlecty's definitions, a collaborative school culture would exist where teachers and administrators were intimately and pervasively engaged in discussions about school improvement. DuFour and Marzano (2009) concluded that individual and collective accountability may be strengthened through the use of collaborative teaming focused on

common goals. As school collaboration develops, Jessie (2007) suggested that it often results in pervasive teacher support of the school's mission. Further, Styron and Nyman (2008) concluded that collegial collaboration is conducive to the maintenance of a positive school climate.

Rowe (2007) stated that "effective schools are characterized by an 'ethos' or 'culture' oriented towards learning…and a high level of involvement in decision-making and professionalism among teachers" (p. 5). Moreover, Rowe concluded that outstanding leaders dedicated to increasing teacher learning and competence are characteristic of effective schools. Schein (1992) agreed that a leader is essential for cultural change and that "culture is embedded and strengthened by leaders" (p. 386). As teacher collaboration is promoted and enhanced through strong, visionary leaders, school culture may expand and mature to a level that permeates and transforms school reform efforts.

Professional Learning Communities

A plethora of research exists on the establishment and theory of professional learning communities as a professional development practice for educators within schools (DuFour et al., 2005; DuFour, 2004, 2009; Eaker et al., 2002; McTighe, 2007; Styron & Nyman, 2008; Thompson et al., 2004; Thompson & McKelvy, 2007). The terms *job-embedded* and *on-site learning* have become synonymous with professional learning communities. As more and more schools have turned to this type of professional development to meet the needs of teachers and students, the shift from off-site, detached training has evolved to a collaborative process focusing on individual school issues. McTighe suggested that professional learning communities be used to embed best practices into day-to-day teacher responsibilities and instruction.

It is important to identify the components of professional learning communities as DuFour (2007) suggested that opposition to professional learning communities may be rooted in a lack of understanding of the terminology rather than the concept itself. Patterson and co-contributors (2006) suggested that teachers saw few potential benefits to professional learning communities and acknowledged that there was widespread confusion regarding the term. DuFour further postulated that the focus on ubiquitous terminology and perceptions wavered under the actual implementation of professional learning community practices. DuFour (2004) defined the powerful collaboration that characterizes a professional learning community as a systematic process in which teachers work together to analyze and improve their classroom practice. Further, he explained that as teachers work in teams, engaging in an ongoing cycle of questions that promote deep team learning, student achievement is lifted to a higher level.

> According to DuFour and Eaker (1998): Each word of the phrase "professional learning community" has been chosen purposefully. A "professional" is someone with expertise in a specialized field, an individual who has not only pursued advanced training to enter the field, but who is also expected to remain current in its evolving knowledge base … "Learning" suggests ongoing action and perpetual curiosity … The school that operates as a professional learning community recognizes that its members must engage in ongoing study and constant practice that characterize an organization committed to continuous improvement … In a professional learning community, educators create an environment that fosters mutual cooperation, emotional support, personal growth as they work together to achieve what they cannot accomplish alone. (p. xi-xii)

Jessie (2007) defined professional learning communities as a means of achieving common goals as teachers collaborate about what is important at grade and school level meetings. Servage (2008) agreed that the reoccurring collaboration found in professional learning communities will lead to engaging conversations about curriculum and assessment. Mulford (2007) explained professional learning communities as involving "shared norms and values including valuing differences and diversity, a focus on implementation and continuous enhancement of quality learning for all students, de-privatization of practice, collaboration, and critical reflective dialogue, especially that based on performance data" (p. 175).

Although several definitions of professional learning communities have been presented, the basic premise of collaboration has endured. DuFour (2009) summarized professional learning communities as a nontraditional practice that "guarantees all students will be the beneficiaries of a coordinated, methodical, multi-layered, fluid plan of intervention" (p. 2). As schools have begun to embrace the concept of professional learning communities, early organizational models presented by Senge (1990), Kruse and Louis (1993), and Hord (1997) have laid the foundation for subsequent models such as Professional Learning Communities (Eaker et al., 2002), Whole Faculty Study Groups (Murphy & Lick, 2004), and the Georgia School Keys (Georgia Department of Education, 2007).

Eaker, DuFour, and DuFour (2002) are easily recognizable as leading authorities in the development and presentation of Professional Learning Communities. Eaker et al.'s conceptual framework presented three major themes:

(1) a solid foundation consisting of collaboratively developed and widely shared

mission, vision, values, and goals, (2) collaborative teams that work interdependently

to achieve common goals, and (3) a focus on results as evidenced by a commitment to continuous improvement. (p. 3)

The shared mission, vision, values and goals that Eaker et al. discussed are at the heart of their framework. As schools contemplate the organization of a professional learning community, the staff must wholeheartedly embrace the concept. Eaker et al. attested that a professional learning community will not become fully functional until the entire staff supports a unified direction of change. A staff that is not committed to this change process will be unable to successfully implement a professional learning community. The consensus process of this model has built the foundation for the framework. As Eaker et al. expounded, "If the school is to withstand the inherent turmoil involved in substantive change, its foundation must be solid" (p. 4). As such, many important questions regarding the school's purpose, direction, and focus must be answered.

The second theme in this framework involved collaboration. In the past, teachers have participated in professional learning that was off-site such as workshops and conferences. This type of training was isolated to particular teachers and subject areas. The professional learning community model has promoted a collaborative atmosphere that permeates the entire school. As Eaker et al. (2002) explained:

Teacher isolation is replaced with collaborative processes that are deeply embedded into the daily life of the school. Members of a PLC are not 'invited' to work with colleagues: they are called upon to be contributing members of a collective effort to improve the school's capacity to help all students learn at high levels. (p. 5)

As this collaborative teamwork develops, the school becomes more focused in its work. Teachers are no longer working in isolation. The instructional success of the students

has been elevated to a position of priority. Teachers are now working together for the instructional good of the organization.

The third theme of this framework is the development of a results-oriented culture. The goal of Eaker et al.'s (2002) model is student learning. As they explained, "In a professional learning community, attempts at school improvement are judged on the basis of how student learning is affected" (p. 6). This has been a radical change in thought for educators. Traditionally, teachers focused on what was being taught. The shift to an emphasis on student learning constituted a fundamental change in the way educators approach professional learning.

As educators have begun "reculturing" schools as professional learning communities, Eaker et al. (2002) suggested elements that are necessary for a deep, meaningful collaboration to take place. These include the following elements: collaboration; developing mission, vision, values and goals; focusing on learning; leadership; focused school improvement plans; celebration; and persistence.

Developed by Murphy and Lick (2005), the Whole-Faculty Study Group (WFSG) model is a job-embedded, self-directed, student-driven approach to professional development. This model of professional learning has been designed to build communities of learners in which teachers continuously work toward improving student learning. Increased student learning is the goal of a WFSG; therefore, the use of data such as standardized tests, benchmark exams, mastery rubrics, et cetera, is an essential, integral part of this process. The purpose of WFSGs is to change the culture of schools from one of isolation to a collaboration that shares knowledge, work, and responsibilities jointly. This process has encouraged teachers to become leaders in their schools. "Whole-Faculty" means

that every faculty member is involved in a study group focusing on student needs and achievement. A study group is typically made up of three to five teachers. Groups are formed based on individual and common interest in an identified topic. The model has discouraged forming groups based on logistic commonalities such as common planning time, subject area teams, and grade levels. As WFSGs are student driven, the guiding question "What are our students learning and achieving as a result of what we are learning and doing in our study group?" has formed the basis for this model (Murphy & Lick, p. 2). There are five guiding principles for Whole-Faculty Study Groups: Students are first; Everyone participates; Leadership is shared; Responsibility is equal; The work is public.

Georgia Department of Education's *School Keys: Unlocking Excellence Through the Georgia School Standards* (2007) has provided another model for professional learning and collaboration. The *School Keys* defined professional learning as the means by which teachers, administrators and other school and system employees acquire, enhance and refine the knowledge, skills and commitment necessary to create and support high levels of learning for all students. The *School Keys* are the foundation for Georgia's comprehensive, data-driven system of school improvement and support. The *School Keys* are intended to serve as descriptors of effective, high impact practices for schools. Designed as a tool for all schools in the state, the *School Keys* provide assistance in measuring, guiding, and facilitating growth as schools strive for continuous improvement. The *School Keys* model has utilized a rubric design delineating the implementation of professional learning communities from emergent to fully operational. Fully operational elements for the *School Keys* model include participative leadership, job-embedded professional learning focused on teacher practices and student learning, data analysis, and a collaborative school culture.

While the delivery and organizational framework may differ within professional learning models, all of the models have recognized that professional learning is vital to the school improvement process. Characteristics of all models include a culture of collaboration, strong leadership, and a focus on student needs and achievement. Within all models, all staff were expected to participate in the professional learning process.

Collaborative Culture and School Achievement

The current body of literature has suggested that professional learning communities have the potential to improve teacher collaboration and serve as a catalyst for school reform. Further, the research previously presented has suggested that professional learning may contribute to a collaborative culture in schools. While a plethora of literature exists touting the benefits of professional learning communities and a collaborative culture in schools, the implications for student and school achievement are less clear. Certainly, the available anecdotal literature has suggested that a collaborative culture where teachers and administrators share a common goal and work toward a common mission will have an impact on school reform and student achievement. Mulford (2007) stated that "being a valued part of a group is important for all those in schools" (p. 167). Thus the potential for positive change exists for both teachers and students. The empirical research linking student and school achievement to a collaborative school culture is less abundant.

Several empirical studies have suggested that student achievement may be positively affected through teacher collaboration and the establishment of professional learning communities. Styron and Nyman (2008), in a study of 283 middle school teachers from nine schools in a southern rural state, found that schools making adequate yearly progress for two consecutive years scored higher on collegial behavior than schools not making adequate

yearly progress for two consecutive years on a questionnaire about middle school practices, climate, and school health. The instrument used for this study was the Organizational Climate Description Questionnaire for Middle Schools (OCDQ-RM). Styron and Nyman concluded that "teachers working collaboratively create a healthy environment conducive to learning. Greater gains in student achievement can be accomplished as teachers work together to improve instruction for all students" (p. 13). Styron and Nyman suggested that additional research is needed on the implementation of middle school practices and its effect on student performance.

In their analysis of the literacy curriculum In2Books in an urban public elementary school, Teale and Gambrell (2007) found that professional development positively affected the success of the program. Their analysis confirmed that "there is a close connection between high quality classroom literacy instruction and sustained cumulative professional development" (p. 737).

In a six year longitudinal study, Castle, Arends, and Rockwood (2008) concluded that the work of Professional Development Schools (PDS) may have the greatest effect on low achieving students. Using a control school design, this study focused on two elementary schools located in a low income district adjacent to a city in a northeastern state. State standardized test data in reading, mathematics and writing for fourth and sixth grades were analyzed for six years. Castle et al. indicated that "PDS impacts may be strongest when PDS-supported initiatives are tied to the priorities of the school, the needs of the teachers in implementing new approaches to teaching, and the particular needs of the student population" (p. 14). Castle et al. suggested that further research is needed to explore the effect of PDS on student achievement.

Hughes and Kritsonis (2007) conducted a study to determine if student achievement was impacted as a result of professional learning communities. Hughes and Kritsonis examined 64 public high schools in Texas with student populations greater than 1,000. Identified schools had been using professional learning communities an average of two and a half years. Texas state assessment scores in reading and mathematics were collected for three years to analyze mean increases or decreases. Hughes and Kritsonis concluded that the majority of schools implementing professional learning communities saw increases on the state assessment and that "professional learning communities empower the faculty and administration to work collectively to provide quality instruction and improve student learning" (p. 5).

In their landmark study of 47 large, urban, elementary schools, Goddard et al. (2007) concluded that a statistically significant relationship existed between teacher collaboration and student achievement. Specifically, student achievement in math and reading was improved in schools in which teachers collaborated.

In a case study of a large, urban high school's teacher attitudes toward collaboration and professional learning communities, Elbousty and Bratt (2010) confirmed that "when teachers work together, they share different perspectives and practices that make a collaborative environment useful and productive" (p. 7). Moreover, they postulated that student achievement is positively affected through the establishment of successful learning communities.

In a mixed methods study of 46 schools within 15 school districts, Bruce, Edmonde, Ross, Dookie, and Beatty (2010) concluded that "there is an indirect but powerful relationship between increasing teacher efficacy and increasing student achievement" (p. 10).

Moreover, the study suggested that teacher quality improves with job-embedded collaboration.

In a small quasi-experimental study involving two middle schools in Ohio, teacher collaboration through sustained professional development was linked to increased student achievement in science (Johnson, Kahle, & Fargo, 2006).

In a study of 81 schools in Indiana, Gruenert (2005) concluded that higher student achievement is found in more collaborative schools. Using a 35-item school culture survey focused on six factors describing features of collaborative culture including collaborative leadership, teacher collaboration, professional development, unity of purpose, collegial support, and learning partnership, Gruenert's research revealed a positive correlation in student performance in both math and language arts with a collaborative school culture. Moreover, meta-analysis research revealed cross-study evidence that teacher professional development in mathematics had significant effects on student achievement (Blank & de las Alas, 2009).

Several empirical studies suggested that increased teacher collaboration focused on student learning may improve teacher communication and ultimately lead to increases in student achievement. Curry (2008) investigated the practices of six school-based inquiry groups known as Critical Friends Groups (CFGs) through a video-based qualitative case study. Curry described CFGs as a "school-based professional community aimed at fostering members' capacities to undertake instructional improvement and schoolwide reform. CFGs seek to increase student learning and achievement through ongoing practice-centered collegial conversations about teaching and learning" (p. 735). Curry presented several positive consequences of CFGs in regard to school reform including improved teacher

communication, decreased teacher isolation, and a shared, collective commitment to student learning. While positive in its findings, Curry acknowledged that her study was limited to the inclusion of anecdotal teacher experiences. Curry's study highlighted a school culture focused on teachers who are "actively engaged in learning, thinking, reading, and discussing" (p. 735).

Using a mixed-method case study format, Graham (2007) focused on a first-year middle school in a large, southeastern school district of predominately white, middle class students that had incorporated professional learning community principles advocated by DuFour (2004). Core academic teachers ($N = 24$) were asked to complete a survey detailing the professional learning community activities in which they had participated. In addition, ten purposefully selected teachers participated in interview about their professional learning community practices. From his analysis, Graham concluded that "the primary strength of the professional learning community model was the way in which it opened up opportunities for teachers to learn from other teachers within the building" (p. 13). Moreover, "the professional learning community structure was really about facilitating substantive, collaborative ongoing conversations among teachers about issues of teaching and learning" (p. 14).

While the empirical literature indicated that a relationship may exist between professional learning, teacher collaboration and student achievement, little empirical research exists linking a collaborative school culture to changes in student achievement. In a qualitative study of 62 leaders in ten states, Taylor (2010) reported that student achievement will increase as the culture of a school focuses on student learning. In a review of eight empirical studies, Vescio, Ross, and Adams (2008) synthesized that student learning

improved and a "change in the professional culture of the school occurred" (p. 84) as teachers participated in collaborative professional learning. Vescio et al. identified "four categories inherent in the learning communities that facilitated the shift in culture: collaboration, focus on student learning, teacher authority, and continuous teacher learning" (p. 84). Moreover, in a study surveying teachers in 29 schools in a surburban school district in Texas, MacNeil, Prater, and Busch (2009) observed that schools with healthy learning environments achieved higher scores on standardized tests.

Measuring Collaborative School Culture

Researchers and theorists have varied definitions of what culture is, which elements constitute culture, and the signs of a positive culture. Schein (1992) defined culture as the accumulation of an organization's learning. Hoy and Miskel (2008) offered that culture is a "system of shared orientations that hold the unit together and give it a distinctive identity" (p. 177). Culture has been identified as a critical element in the development of an effective, successful school (Barth, 2006; Louis & Wahlstrom, 2011; MacNeil et al., 2009; Vescio et al., 2008). Fridell and Alexander (2005) identified five components of culture in effective schools: open communication, high expectations, shared decision-making, participative leadership, and trust. Louis and Wahlstrom (2011) also identified trust as a necessary element in a culture that stimulates teachers to improve instruction. Barth (2006) postulated that a collegial culture is one in which "professionals talk about practice, share their craft knowledge, and observe and root for the success of one another" (p. 13). Without specifying particular cultural elements, MacNeil et al., summarized, "When an organization has a clear understanding of its purpose, why it exists and what it must do, and who it should serve, the culture will ensure that things work well" (p. 74).

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Schein (1999) cautioned that culture is not easily manipulated, understood, or changed. This ambiguity contributes not only to a consensual definition of culture but also to a means of measuring the level of functionality that an organization's culture must reach before it may be considered effective. In an earlier work, Schein (1992) identified the assessment of functionality of cultural levels as a critical issue for leaders. Thus, the exploration of an assessment to measure functionality has lead to the development of several instruments such as the School Culture Triage Survey (Wagner, 2006), the School Culture Survey (Gruenert & Valentine, 1998), and the Learning Community Culture Indicator 4.0 (Williams, Matthews, Stewart, & Hilton, 2007) to assess organizational and school culture.

The School Culture Triage Survey (Wagner, 2006) includes 17 questions within three elements that measure the state of a school's culture. These elements include: professional collaboration; affiliative and collegial relationships; and efficacy. Designed as a quick assessment, the School Culture Triage Survey measures the health or toxicity of a school's culture. Based on the degree to which the three elements are present in a school, a determination may be made in regard to the functionality of the school's culture. Research utilizing this instrument indicated a positive correlational relationship between student achievement and scores indicating a healthy culture (Phillips, 1996; Melton-Shutt, 2004).

Developed by Gruenert and Valentine (1998), the School Culture Survey includes six elements indicative of a collaborative school culture. These elements include: collaborative leadership; teacher collaboration; professional development; collegial support; unity of purpose; and learning partnership. The School Culture Survey is comprised of 35 items and used a 5-point Likert scale to measure the functionality of a school's collaborative culture.

Gruenert (2005) concluded that higher student achievement was a likely outcome of a more collaborative school culture.

Designed by Williams, Matthews, Stewart, and Hilton (2007) to measure the presence and implementation of professional learning community elements, the Learning Community Culture Indicator (LCCI) 4.0 incorporates the cultural elements measured by the School Culture Triage Survey and the School Culture Survey with the continual assessment of data to inform and reform professional practice to ensure academic success for all students. The American Recovery and Reinvestment Act (ARRA) of 2009 brought data to the forefront of educational reform and encouraged schools to use data to pinpoint students' educational needs and adjust classroom instruction to better address student strengths and weaknesses (U. S. Department of Education, 2009). Moreover, ARRA suggested that teacher learning opportunities be sustained, collaborative, data-driven and focused on students' instructional needs. Schlechty (2005) concurred that data analysis that drives school reform should be a priority for school leaders. Thus, the focus on academic success for all students through the use of data to improve teaching and learning has become a factor in the measurement of organizational culture in schools. Table 1 presents a comparison of elements found in instruments that measure school culture.

Table 1

Matrix of Elements Found in School Culture Instruments

School Culture Survey	School Culture Triage Survey	Learning Community Culture Indicator 4.0
Unity of purpose		Common, vision, mission, values, goals focused on teaching and learning
Collegial support	Affiliative and collegial relationships	Interdependent culture based on trust
Teacher collaboration	Professional collaboration	Collaborative teaming
		Systems of prevention and intervention that assures academic success for all students
		Data-based decision-making using continuous assessment
Professional development		Professional development that is teacher driven and job-embedded
Collaborative leadership		Principal leadership focused on student learning
	Efficacy	
Learning partnership		Participative leadership focused on teaching and learning

Encompassing items within eight elements, the LCCI 4.0 is a timely, comprehensive

measure of professional learning community elements representative of a collaborative

school culture. Moreover, literature has supported the inclusion of the collaborative culture

elements included on the LCCI 4.0.

A common vision, mission, values and goals focused on teaching and learning is the first element included on the LCCI 4.0. A plethora of literature exists touting the benefits of a unified vision and mission as the foundational basis of effective schools (Eaker et al., 2002; Fridell & Alexander, 2005). Gruenert (2005) identified a school's mission as a "unifying force that not only clarifies the purpose of school but also helps to delineate the things schools are not" (p. 48). Fridell and Alexander indicated that a school's vision "propels the school forward" (p. 6) as educators move towards a common goal.

An interdependent culture based on trust is the next element measured by the LCCI 4.0. Hoy and Miskel (2008) acknowledged that trust is necessary in school relationships "because of the high level of interdependence" (p. 191) among teachers and administrators. Specifically, a strong culture of organizational trust is one in which individuals are interacting collaboratively and collectively. Angelle (2010) found that mutual trust is a critical element of the organizational culture where distributed leadership is the foundation of a school's relationships. Bruce et al. (2010) described a deprivatization of teaching that resulted in collegial conversations among teachers. Louis and Wahlstrom (2011) stated, "Individuals or small, isolated groups don't engender a culture of mutuality and interdependence. Group efforts provide strength and safety for all participants and build the relationships necessary to respond to fluid and changing conditions" (p. 53).

Collaborative teaming is the third element included on the LCCI 4.0. Research has indicated that collaboration increases teacher knowledge and improves instruction (Datnow, 2011; Goddard et al., 2007; Lieberman & Mace, 2009). Vescio et al. (2008) suggested that teacher isolation is reduced as collaboration increases. In a synthesis of five research studies on professional learning and teacher collaboration, a report by the National Commission on

Teaching and America's Future (2010) synthesized that the isolation of teachers working independently to meet student needs is "neither educationally effective nor economically viable in the 21st century" (p. 7). Moreover, the report by the National Commission on Teaching and America's Future postulated that teacher collaboration leads to improved instructional practice, increased student achievement, and the promotion of life long learning.

The fourth element included on the LCCI 4.0 is systems of prevention and intervention that assures academic success for all students. Eaker et al. (2002) suggested collaboration among teachers as a means of responding to students who are struggling academically. Constructive dialogue focused on meeting the instructional needs of individual students ensures academic success for all students. Moreover, DuFour (2009) described a collaborative culture as a "systematic approach to intervention that eschews the randomness of traditional practice and guarantees all students will be the beneficiaries of a coordinated, methodical, multi-layered fluid plan of intervention" (p. 2).

Data-based decision-making using continuous assessment is the fifth element on the LCCI 4.0. The American Recovery and Reinvestment Act (ARRA) of 2009 encouraged school districts to train principals and teachers to use data to pinpoint students' educational needs and to adjust classroom instruction to better address students' strengths and weaknesses (U. S. Department of Education, 2009). McTighe (2007) and Petersen (2007) suggested that the use of data to inform practice could powerfully affect school improvement. Schlechty (2005) identified a "culture where results are carefully assessed and actions are taken based on these assessments" as essential for school improvement (p. 11).

The LCCI 4.0 includes professional development that is teacher-driven and job-embedded as the sixth element. Research has indicated that professional learning is

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beneficial in improving teacher quality and strengthening culture within the school environment (Elbousty & Bratt, 2010; Jessie, 2007; McTighe, 2007; Servage, 2008). DuFour (2007) suggested that teacher-driven, job-embedded professional learning has the potential to transform schools. Moreover, the use of collaborative and job-embedded professional development may lead to gains in student achievement (Bruce et al., 2010; Elbousty & Bratt).

The seventh element included on the LCCI 4.0 is principal leadership focused on student learning. Louis and Wahlstrom (2011) concluded that teachers are more likely to trust the principal who talks about instruction, visits classrooms, and makes high quality instruction a priority. Thompson and McKelvy (2007) suggested that a principal supportive of a collaborative work culture "must take leadership in creating and supporting an environment where stakeholders talk freely about student achievement, where staff members reflect on their practices and take risks to support student learning" (p. 14). Louis and Wahlstrom concurred that an unwavering focus on student learning should drive the decisions of school leaders.

Participative leadership focused on teaching and learning is the final element included on the LCCI 4.0. Research has indicated that student achievement is positively affected when principals engage in participative leadership that stimulates conversations with teachers about teaching and learning (Angelle, 2010; Louis & Wahlstrom, 2011; Thompson & McKelvy, 2007). In a qualitative case study of a middle school where participative distribution of leadership was practiced, Angelle identified positive relationships among administrators and teachers as a critical foundational element of a collegial atmosphere. Moreover, Angelle postulated that teachers in participative relationships felt "empowered to

lead, to improve, and to make a difference in the lives of the students and each other" (p. 15).

Louis and Wahlstrom advocated a school community in which leadership and responsibility

for student learning is widely shared, and that teachers and administrators should collectively

"focus on reflective inquiry and learning, with an explicit emphasis on how shared

knowledge improves student learning" (p. 54). In a survey of 4,165 teachers in 138 schools,

Wahlstrom and Louis (2008) suggested that instructional rigor increases as teachers become

involved in the decision-making processes of a school. A key finding in a meta-analysis on

professional learning practices conducted by the National Staff Development Council (2009)

indicated that "effective professional development focuses on the teaching and learning of

specific academic content and builds strong working relationships among teachers" (p. 5).

Chapter Summary

It is widely accepted that teaching affects student learning and achievement, and that

teaching improves as teachers become more knowledgeable about their craft. Further, it has

been noted that teacher knowledge increases through collaboration and collegial

conversation. Professional learning communities have been recognized as an avenue for

providing a setting for these collegial conversations. Moreover, research has suggested that a

school's collaborative culture may be positively influenced through the use of professional

learning communities and collaborative dialogue focused on student learning (DuFour, 2007;

DuFour & Marzano, 2009; McTighe, 2007; Servage, 2008; Vescio et al., 2008).

As a means of school improvement, the literature has also suggested that the presence

of a collaborative culture in schools may affect student achievement. Barth (2006) suggested

that a collegial, collaborative school culture is vital for any lasting changes towards school

improvement. Changes in school culture have been related to improved teacher efficacy,

increased dialogue among teachers, and shared leadership engaging multiple stakeholders (Fridell & Alexander, 2005; Louis & Wahlstrom, 2011).

Moreover, research has suggested that a collaborative school culture may affect student achievement (DuFour et al., 2006; Goddard et al., 2007; Gruenert, 2005; MacNeil et al., 2009). In fact, DuFour et al. reported that a school without a collaborative culture would not accomplish high levels of learning.

The literature has identified elements characteristic of professional learning communities and a collaborative school culture; however, the existing research that has focused on the functionality level of a school's collaborative culture is limited. While the literature has suggested a need for schools to identify at what level they are implementing identified elements of a positive school culture (DuFour, 2007; Stewart, 2009), it is unclear at what level of functionality a school's collaborative culture must reach before gains are seen in student achievement.

CHAPTER III

METHODS

The purpose of this correlational study was to evaluate the relationships that exist between a school's collaborative culture, specifically the functionality level, and student achievement. The collaborative culture of 18 Georgia middle schools utilizing a 6, 7, 8 grade configuration and identified as economically disadvantaged in a rural school district was measured using the Learning Community Culture Indicator (LCCI) 4.0 instrument. Student achievement data was retrieved from Georgia Criterion Referenced Competency Test (GCRCT) scores in the areas of reading and mathematics. Descriptive analysis of the survey data and CRCT data was conducted.

This chapter includes both the procedures utilized to gather the study data and the methods utilized for analysis of the data. The chapter describes the following: (a) the research questions, (b) the methodological approach used in the study, (c) the sample and sampling procedures, (d) the instruments used in the study, and (e) the data collection and data analysis procedures.

Research Question

Research has indicated that the development of a collaborative school culture may influence student achievement (DuFour & Marzano, 2009; McTighe, 2007). Therefore, this study was guided by the following overarching research question: Is there a relationship between a school's collaborative culture and school achievement in rural, economically disadvantaged middle schools with a 6, 7, 8 grade configuration in Georgia? Additionally, the study addressed the following subquestions:

1. Is there a difference between overall school scores in the highest and lowest

quartiles on the LCCI 4.0 and school achievement?

2. Is there a relationship between the score on individual elements of the LCCI 4.0 and school achievement?

3. Is there a relationship between the overall score on the LCCI 4.0 and the presence of a formal professional learning community in individual schools?

A school's collaborative culture was evidenced by the functionality level of its professional learning community and measured by the Learning Community Culture Indicator (LCCI) 4.0. School achievement was measured by mean scale scores on the Georgia Criterion Referenced Competency Test (GCRCT) in the areas of reading and mathematics.

Research Design

A quantitative, correlational research design was chosen for this study as much of the existing research utilized small, mixed-method designs. Creswell (2009) defined quantitative research as a "means for testing objective theories by examining the relationship among variables" (p. 233). A quantitative inquiry strategy was used to collect data from a cross-sectional survey and state assessment reports. An online survey design was selected to sample a large population in an expedient manner (Creswell, 2009). Data was analyzed using a correlational design that allowed for the examination of relationships among variables (Gay, Mills, & Airasian, 2006).

Sample

This study included a purposive, criterion-based sample of Georgia middle schools. Participating middle schools were selected based on their meeting three criteria: 6, 7, 8

grade configuration; located in a rural setting in the state of Georgia; and designated as economically disadvantaged.

Middle schools were chosen for inclusion in this study as the researcher is employed in a middle school, and this is an area of interest to the researcher. Of 475 middle schools in the state of Georgia, 435 were identified as utilizing a 6, 7, 8 grade configuration. Grade configuration information was obtained from the *2010 School Detail Report* (GADOE, 2010). This grade configuration was selected because it is the most widely used within the state of Georgia.

According to the National Center for Education Statistics in their *2009-2010 Public School District Data Report*, 166 of middle schools with a 6-8 grade configuration were located in rural school districts within the state of Georgia. The 2000 U. S. Census Bureau classified areas with less than 500 people per square mile as rural. To improve the generalizability of the study's results, only schools in rural settings were selected for participation.

For the purpose of this study, economically disadvantaged middle schools were identified by the percentage of students within the school who were eligible for free and reduced price lunch. The National School Lunch Act (USDA, 2011) provides free and reduced price lunches to students based on family size and income. A description of the National School Lunch Program may be viewed on the United States Department of Agriculture's website. School districts with 50% or higher eligibility were selected for inclusion in the study to limit participation numbers. Of the 166 rural middle schools with a 6-8 grade configuration, 114 schools were located within school districts with a student population of least a 50% free/reduced lunch eligibility according to the *Free and Reduced*

Price Lunch Eligibility Report (GADOE, 2010). Economically disadvantaged school districts were selected for participation to improve the generalizability of the study.

One hundred fourteen Georgia middle schools were selected for participation in this study. Detailed information about the study was provided to principals of the 114 middle schools. Permission for all certified staff in each school to participate in the survey was solicited from the school principal via email. Principals replying in the affirmative were asked to provide contact information for a "gatekeeper," such as the school data clerk, at the school that the researcher contacted to request email addresses for all certified staff within the school (Creswell, 2009). Principals were given the option to distribute the survey to their certified staff if they preferred not to share email addresses.

As recommended by Faul, Erdfelder, Buchner, and Lang (2009), a minimum sample size of 11 was needed to conduct a correlational analysis at medium effect size with a power level of .80 and an alpha of .05. A medium effect size with a statistical power of .80 will reduce the likelihood of a Type II error, and an alpha level of .05 will decrease the likelihood of a Type I error. Permission to participate in the research was granted by 18 school principals. Within these 18 schools, 483 certified staff received a message via email from the researcher or their principal that included detailed information about the study, instructions for completion of the survey, and a statement assuring participants of the anonymity of their responses.

Instrumentation

The survey instrument used in this study was the teacher version of the Learning Community Culture Indicator (LCCI) 4.0 developed by Williams, Matthews, Stewart, and Hilton (2007). A copy of the instrument has been included in Appendix C. The LCCI 4.0 is

an assessment tool designed to measure the presence and implementation of professional

learning community elements indicating an overall level of collaborative culture. This

survey instrument served as the independent variable in the study. The LCCI 4.0 was

selected because of its ability to "provide specific information of which elements exist in a

school and at what degree the school is functioning within the elements" (Stewart, 2009, p.

62).

Respondents were asked to use an eleven-point Likert scale to rate 45 items on the

survey. The Likert scale responses ranged from "Agree strongly" to "Disagree strongly."

For the purpose of this study, a score of 337 or higher indicated a high level of functionality

of a school's collaborative culture. A score of 112 or less indicated low functionality within

a school's collaborative culture.

The LCCI 4.0 consists of items designed to measure teachers' perception of the

functionality of professional learning community elements that indicate an overall level of

collaborative culture. The survey items are grouped into eight elements. These elements

include: (a) Common mission, vision, values, and goals (survey questions 2-5); (b)

Interdependent culture based on trust (survey questions 6-11); (c) Collaborative teaming

(survey questions 12, 14-18); (d) Systems of prevention and intervention that assure

academic success for all students (survey questions 19-24); (e) Data based decision-making

using continuous assessment (survey questions 25-31); (f) Professional development that is

teacher driven and job-embedded (survey questions 32-37); (g) Principal leadership focused

on student learning (survey questions 38-42); and (h) Participative leadership focused on

teaching and learning (survey questions 43-47).   Although the survey is grouped into eight

major elements, the survey items were presented randomly to maintain the validity of the

instrument. Additionally, respondents were queried about the presence of a formal professional learning community or study group in their school (survey question 48).

The LCCI 4.0 is research based and has an overall acceptable level of reliability of .971 with the individual elements producing reliability estimates greater than .752 (Stewart, 2009). Stewart utilized descriptive statistics, factor analysis, structural equation modeling, and Cronbach's alpha to determine the statistical levels of validity and reliability. Stewart established face and concurrent validity from practical evidence that indicated that the survey "was easy to read and understandable in what it was trying to measure" (p. 123). Stewart provided evidence of both content and construct validity that supported the use of the LCCI 4.0 to measure individual elements of a professional learning community and an overall level of a professional learning community. Permission has been granted to this researcher to use the LCCI 4.0 instrument for research purposes (See Appendix B).

The Georgia Criterion Referenced Competency Test (GCRCT) served as the dependent variable in this study. The GCRCT is administered to students in grades one through eight in the areas of reading, English language arts, and mathematics each spring. Mandated by state law, the CRCT measures how well students have mastered the Georgia Performance Standards. Designed to identify areas where students need improvement, inform various stakeholders of the progress toward meeting academic achievement standards of the state, and gauge the overall quality of education in the state of Georgia, the CRCT yields information on academic achievement at the student, class, school, system, and state levels (Georgia Department of Education, 2011). Through the use of a test development process, the Georgia Department of Education reported that the CRCTs "have a high degree of validity because they serve the purpose for which they are intended—to measure student

mastery of the state's curriculum." Reliability scores were calculated using Cronbach's

alpha and a standard error measurement (SEM). These reliability indices indicated that the

CRCTs "provide consistent results and that the various generalizations of test results are

justifiable" (Georgia Department of Education). See reliability indices for grades six through

eight in the areas of reading and mathematics in Table 2 (Georgia Department of Education,

2011).

Table 2
Reliability Coefficients (Cronbach's Alpha) and Raw Score SEM
for Georgia Criterion Referenced Competency Test (CRCT)

Grade	Reading		Mathematics	
	Cronbach's Alpha	SEM	Cronbach's Alpha	SEM
6	.87	2.40	.92	3.26
7	.87	2.51	.92	3.10
8	.85	2.33	.91	3.16

Scale scores are used for presenting CRCT results to ensure consistent and

meaningful interpretation by students, parents, and educators (Georgia Department of

Education, 2011). A school's score is disaggregated into three categories: does not meet

expectations; meets expectations; and exceeds expectations. Table 3 provides interpretation

of scale scores for the CRCT in the areas of reading and mathematics (Georgia Department

of Education).

Table 3
Interpretation of Scale Scores for the Georgia CRCT in the
Areas of Reading and Mathematics

	Does Not Meet Expectations	Meets Expectations	Exceeds Expectations
Reading, grades 6-8	Below 800	800 – 849	850+
Mathematics, grades 6-8	Below 800	800 – 849	850+

Data Collection

Prior to the collection of data, this project was reviewed and approved by Georgia

Southern University's Institutional Review Board (IRB) under the tracking number H12435.

Instruments used to collect data for this study were the Learning Community Culture

Indicator (LCCI) 4.0 survey and Georgia CRCT reading and mathematics scores. The survey

instrument was administered online via *SurveyMonkey©*. Certified personnel ($N = 483$)

received an email via *SurveyMonkey©* from the researcher or were forwarded a link to the

survey by their school principal describing the study and assuring participants of the

anonymity of their responses. Principals choosing to distribute the survey were asked to

provide the researcher with the number of certified staff receiving the survey for the purpose

of calculating response rates. A 28% response rate was acceptable for inclusion in the data

analysis to ensure an accurate portrayal of the overall school. The *SurveyMonkey©* manual

suggests that 30% is an average response rate for an online survey (Finley, 2008). The

researcher ensured the privacy of the participants and confidentiality of the data. The survey

was available for 14 days, and follow-up emails were sent to improve participant response

rate on days seven and 13.

Georgia CRCT scores for participating schools were obtained from the Georgia

Department of Education website. These scores are made available to the public and were

retrieved from the *CRCT 2011 School Summaries Report* (Georgia Department of Education, 2011). Data retrieved for this study included the mean scale scores for each school in the areas of reading and mathematics. See Table 3 for clarification of scale scores.

Data Analysis

A quantitative analysis of the LCCI 4.0 survey data and the Georgia CRCT data was performed using the Statistical Package for Social Sciences (SPSS) to determine relationships between the functionality level of a school's collaborative culture and student achievement. The LCCI 4.0 served as the independent variable in the study, while GCRCT school achievement data in the areas of reading and mathematics served as the dependent variable.

While the survey questions were presented randomly to preserve the validity of the LCCI 4.0, the survey results were grouped into the eight elements delineated in the instrument description for analysis purposes. Items within each element were tallied to reflect subscale scores for each school. A mean score for each element was calculated to determine the extent to which each school functioned as a collaborative culture within each element.

Questions 1, 13, and 48 were omitted for analysis purposes; therefore, forty-five survey items were utilized for analysis. An overall survey score for each participating school was calculated by totaling the school's subscale scores on the eight elements. Negatively worded items were scored in reverse to accurately portray results. Overall scores ranged from 0 to 450. A mean score for each represented school was calculated from that school's participants. The overall school score determined the extent to which each school functioned as a collaborative culture. Overall scores were grouped into four quartiles for analysis. The

researcher assigned a score of 337 or higher to represent the highest quartile indicative of a high collaborative culture. This score was derived by multiplying the overall instrument score of 450 by 75 percent. A score of 112 or lower represented the lowest quartile and indicated a low collaborative culture. This score was derived by multiplying the overall instrument score of 450 by 25 percent.

In addressing the overarching research question, the mean school score from the survey was correlated with each school's mean scale score in the areas of reading and mathematics on the Georgia CRCT. LCCI 4.0 survey data served as the independent variable, while CRCT data served as the dependent variable. A Pearson's product-moment correlation coefficient analysis was performed to explore associations between the two variables. Moore and McCabe (2006) described a correlation as a measurement of the direction and strength of the relationship of two variables expressed as a number between -1 and 1. Values closer to -1 or 1 indicate a strong relationship, while a 0 value indicates the weakest correlation. A Pearson's product-moment correlation coefficient analysis was used to address subquestions two and three.

Moore and McCabe (2006) described an analysis of variance (ANOVA) as a procedure for comparing the means of populations for differences. In addressing research subquestion one, an ANOVA was used to analyze the differences in mean school scores in the highest quartile and lowest quartile on the LCCI 4.0 and mean scale scores in the areas of reading and mathematics on the Georgia CRCT.

Chapter Summary

The purpose of this study was to examine the relationship of a collaborative school culture and student achievement in middle schools in Georgia using a quantitative analysis.

While 114 rural, economically disadvantaged middle schools utilizing a 6, 7, 8 grade configuration were invited to participate in the study, permission was secured to include 18 schools. The researcher surveyed 483 certified personnel in participating schools to determine a level of functionality in the school's collaborative culture. The survey scores were correlated with GCRCT scores to determine if relationships existed. Specific findings and data are reported in Chapter IV.

CHAPTER IV

REPORT OF DATA AND DATA ANALYSIS

The purpose of this study was to examine the relationships that exist between a

school's collaborative culture and student achievement in rural, economically disadvantaged

middle schools utilizing a 6, 7, 8 grade configuration in the state of Georgia. The researcher

used a quantitative, correlational design to implement the research that included a survey and

analysis of student achievement data. The research was guided by the following overarching

research question: Is there a relationship between a school's collaborative culture and school

achievement in rural, economically disadvantaged middle schools with a 6, 7, 8 grade

configuration in Georgia? Additionally, the study addressed the following subquestions:

1. Is there a difference between overall school scores in the highest and lowest

quartiles on the LCCI 4.0 and school achievement?

2. Is there a relationship between the score on individual elements of the LCCI 4.0

and school achievement?

3. Is there a relationship between the overall score on the LCCI 4.0 and the presence

of a formal professional learning community in individual schools?

Participants included certified staff ($N = 483$) employed in 18 Georgia middle

schools. Participants were asked to complete the Learning Community Culture Indicator

(LCCI) 4.0, a survey administered online via *SurveyMonkey©*. Adequate response rates were

reported for 12 of the 18 schools (See Table 5), and these 12 schools were included in the

data analyses. Schools were assigned labels for identification purposes and to protect their

identity.

The LCCI 4.0 served as the independent variable in the research. Student achievement data from the Georgia Criterion Referenced Competency Test (GCRCT) served as the dependent variable. Analysis of variance (ANOVA) and Pearson's product-moment correlation coefficient were used to analyze the data. Chapter IV presents an overview of collected data and descriptive findings associated with the research questions.

Research Findings

Georgia Criterion Referenced Competency Test (GCRCT) data was retrieved from the Georgia Department of Education website for 12 schools. Data retrieved for this study included the mean scale score for grades 6, 7, and 8 in each school in the areas of reading and mathematics. The three mean scores reported by grade level for each school were combined into a grand mean scale score for each school. GCRCT mean scale scores for participating schools are presented in Table 4.

Table 4
GCRCT Scale scores for participating schools

School	GCRCT reading	GCRCT mathematics
School A	826.71	821.36
School B	835.04	822.19
School C	830.58	833.38
School D	827.20	812.69
School E	832.58	820.65
School F	829.27	819.38
School G	833.26	827.64
School H	833.55	822.34
School I	831.09	824.32
School J	835.92	837.71
School K	829.54	819.76
School L	828.93	831.89

The range of the CRCT scores in the area of reading was 9.21 points, and the range of scores in the area of mathematics was 25.02. The lack of variance in these scores may be

related to the small size of the sample and may contribute to a lack of statistically significant differences.

The survey instrument used in this research was the Learning Community Culture Indicator (LCCI) 4.0 developed by Williams, Matthews, Stewart, and Hilton (2007). The LCCI 4.0 is an assessment tool designed to measure the presence and implementation of professional learning community elements indicative of an overall level of collaborative culture. The LCCI 4.0 was selected for this research because of its ability to "provide specific information of which elements exist in a school and at what degree the school is functioning within the elements" (Stewart, 2009, p. 62).

The online survey was distributed to 483 certified teachers in 18 middle schools in the state of Georgia by the researcher via SurveyMonkey© or a link provided to the school principal. The survey was completed by 263 participants representing 12 schools with at least a 28% return rate (See Table 5). Six schools either did not respond or less than 28% of the teachers completed the survey.

Respondents were asked to use an eleven-point Likert scale to rate 45 randomly presented items on the survey. The Likert scale responses ranged from "Agree strongly" to "Disagree strongly." While the survey questions were presently randomly to preserve the validity of the instrument, the survey results were grouped into the eight elements delineated in the instrument description for analysis purposes. Questions 1, 13, and 48 were omitted for analysis purposes as they were not related to the eight elements. Items within each element were tallied to reflect subscale scores for each school. A mean score for each element was calculated to determine the extent to which each school functioned as a collaborative culture within each element. An overall survey score for each participating school was calculated by

totaling the school's subscale scores on the eight elements. Negatively worded items were

scored in reverse to accurately portray results. Overall scores ranged from 0 to 450 based on

the 45 questions utilized for the analyses. Overall school scores are presented in Table 5.

Table 5
Response rate and overall school scores on the LCCI 4.0

School	Response Rate	Overall Score
School A	40.0%	361.3
School B	37.0%	333.6
School C	86.0%	408.3
School D	67.0%	360.1
School E	56.0%	336.1
School F	36.0%	340.7
School G	88.0%	359.3
School H	88.0%	350.5
School I	44.0%	406.4
School J	53.0%	417.1
School K	48.0%	323.9
School L	28.5%	331.6

The overall school score determined the extent to which each school functioned as a

collaborative culture. Overall scores were grouped into four quartiles for analysis. Figure 1

presents overall school scores in rank order from highest score to lowest score. A score of

337 or higher represented the highest quartile and indicated a high collaborative culture. A

score of 112 or lower represented the lowest quartile and indicated a low collaborative

culture.
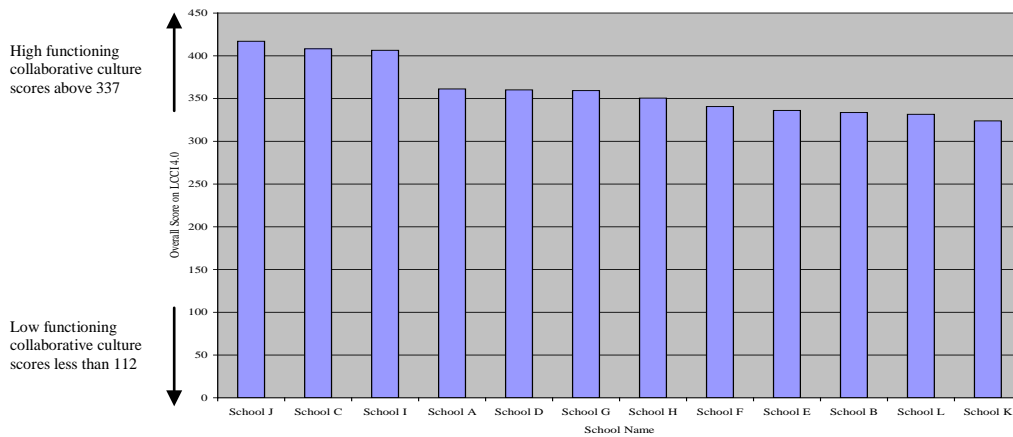
Figure 1. Overall school scores on the LCCI 4.0 in order from highest to lowest

Overall school scores on the LCCI 4.0 indicated that all of the schools scored above 320 and would fall within the upper two quartiles. Eight of the 12 schools had scores representative of a highly functioning collaborative culture. The lack of variance in these scores may be due to the small sample size of the study. The overarching research question for the study stated, "Is there a relationship between a school's collaborative culture and school achievement in rural, economically disadvantaged middle schools with a 6, 7, 8 grade configuration in Georgia?" Pallant (2010) suggested generating a scatterplot to begin exploring the relationship between variables. Preliminary scatterplot analyses were performed to ensure no violation of the assumptions of normality, linearity, and homoscedasticity (Pallant, 2010). The scatterplot analysis presented in Figure 2 indicated no significant relationship existed between a school's collaborative culture and school achievement in the area of reading on the GCRCT.
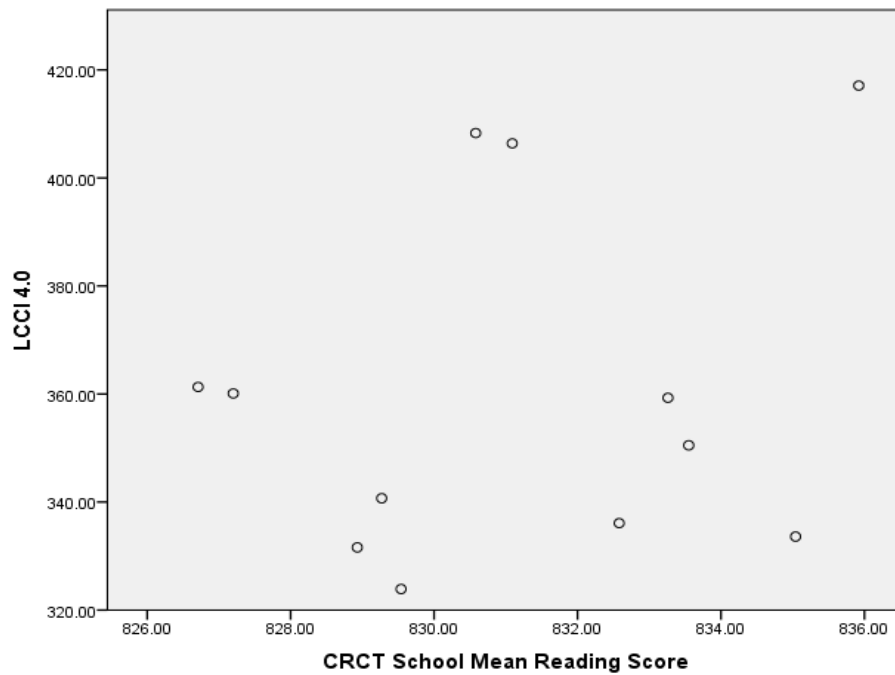
Figure 2:   Correlation between LCCI 4.0 and GCRCT reading

Bivariate correlation analyses using Pearson's product-moment correlation coefficient were conducted to further examine the relationship between a school's collaborative culture and student achievement in the areas of reading and mathematics. Cohen (1998) suggested the following interpretation of correlational values between 0 and 1:

- small correlation $r = .10 - .29$;

- medium correlation $r = .30 - .49$;

- large correlation $r = .50 - 1.0$.

Descriptive statistics and correlation results for reading are presented in Table 6.

Table 6
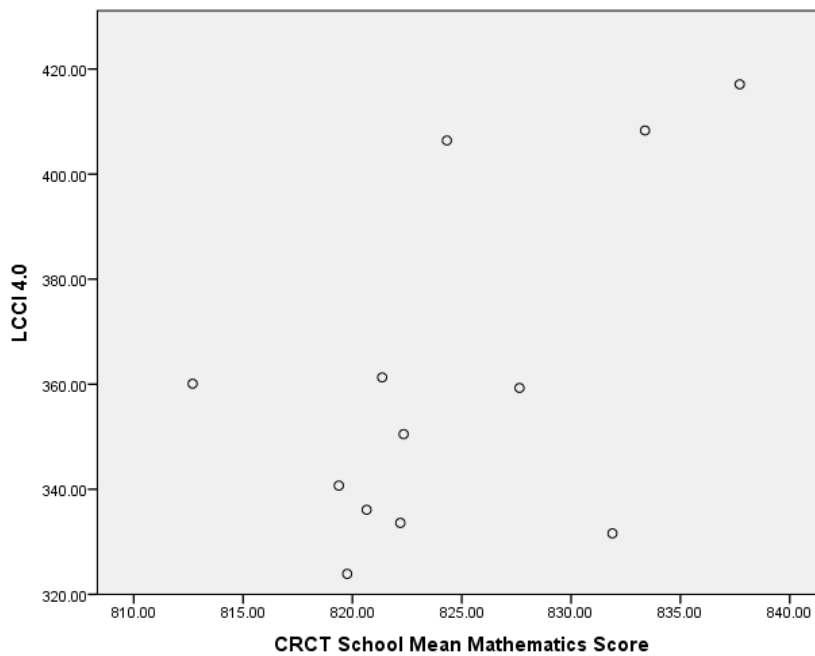*Correlations and descriptive statistics for LCCI 4.0 and GCRCT reading*

Variable	LCCI 4.0	GCRCT reading
LCCI 4.0	---	
GCRCT reading	.219	---
M	360.74	831.14
SD	32.45	2.97

N=12
*p<.05.

The correlation results presented in Table 6 indicated no statistically significant relationship between the independent variable, overall score on the LCCI 4.0, and the dependent variable, GCRCT scores in reading ($r = .219$, $N = 12$, $p > .05$). Cohen (1988) suggested that an r value of .219 would indicate a small relationship, but this finding is not statistically significant. A p value is significant if it is less than .05.

Preliminary scatterplot analysis of the relationship between collaborative school culture as measured by the LCCI 4.0 and school achievement in the area of mathematics on the GCRCT is presented in Figure 3. This analysis indicated a slight positive correlation.

Figure 3: Correlation between LCCI 4.0 and GCRCT mathematics

Table 7 shows the results and descriptive statistics of the bivariate correlational analysis using Pearson's product-moment correlation coefficient conducted to examine the relationship between a school's collaborative culture and school achievement in the area of mathematics.

Table 7
Correlations and descriptive statistics for LCCI 4.0 and GCRCT mathematics

Variable	LCCI 4.0	GCRCT mathematics
LCCI 4.0	---	
GCRCT mathematics	.560	---
M	360.74	824.44
SD	32.45	7.01

N=12
*p<.05.

As indicated in Table 7, no statistically significant findings were reported; Although a large, positive correlational relationship (Cohen, 1988) was found to exist between the independent variable, overall score on the LCCI 4.0, and the dependent variable, GCRCT scores in mathematics ($r = .560$, $N = 12$, $p > .05$). Since these results were not statistically significant, this relationship may have occurred due to other factors.

Research subquestion 1 stated, "Is there a difference between overall school scores in the highest and lowest quartiles on the LCCI 4.0 and school achievement?" A one-way between groups Analysis of Variance (ANOVA) was performed to examine the impact of collaborative school culture functionality on school achievement as measured by the GCRCT. All schools reported scores on the LCCI 4.0 instrument in the highest two quartiles indicated by scores ranging from 323.9 to 417.1. Subsequently, the researcher regrouped the 12 overall mean scores into four quartiles from low to high for analysis of differences among schools with highly functioning levels of collaborative school culture. Quartile 1 included schools K, L, and B with corresponding overall scores of 323.9, 331.6, and 333.6 (M=329.7). Quartile 2 included schools E, F, and H with corresponding scores of 336.1, 340.7, and 350.5 (M=342.4). Quartile 3 included schools G, D, and A with corresponding scores of 359.3, 360.1, and 361.3 (M=360.2). Quartile 4 included schools I, C, and J with corresponding

scores of 406.4, 408.3, and 417.1 (M=410.6). Table 8 shows differences in functionality of

school culture levels (scaled from 1 = lowest functioning to 4 = highest functioning) across

GCRCT scores in the area of reading.

Table 8
ANOVA Results and Descriptive Statistics for GCRCT reading
by quartiled overall LCCI 4.0 scores

Quartile	Mean	SD	n
1	831.17	3.37	3
2	831.80	2.24	3
3	829.06	3.65	3
4	832.53	2.95	3
Source	SS	df	MS	F
Quartile	20.13	3	6.71	.70
Error	76.71	8	9.59	

Note. R^2 = .21, adj R^2 = -0.24.
p<.05

There was no statistically significant difference at the p<.05 level in school

achievement in the area of reading on the GCRCT for the four functionality levels of

collaborative school culture: $F(3, 8) = .70$, $p = .58$. Cohen (1988) identified an effect size

for analysis of variance using an eta squared or R^2 value. Cohen described a small effect as

an eta squared value of .01; a medium effect as an eta squared value of .06; and a large effect

as an eta squared value of .14. Even though statistical significance was not reached, the

actual difference in mean scores between the groups produced a small effect size. The effect

size, calculated using eta squared, was .21.

Table 9 shows differences in functionality of school culture levels (scaled from 1 =

lowest functioning to 4 = highest functioning) with GCRCT scores in the area of

mathematics.

Table 9

ANOVA Results and Descriptive Statistics for GCRCT mathematics by quartiled
overall LCCI 4.0 scores

Quartile	Mean	SD	n
1	824.61	6.42	3
2	820.79	1.48	3
3	820.56	7.51	3
4	831.80	6.83	3

Source	SS	df	MS	F
Quartile	247.799	3	82.600	2.26
Error	292.866	8	36.608	

Note. $R^2 = .46$, adj $R^2 = 0.15$.
p<.05

There was no statistically significant difference at the p<.05 level in school achievement in the area of mathematics on the GCRCT for the four functionality levels of collaborative school culture: $F(3, 8) = 2.256$, $p = .159$. The effect size, calculated using eta squared, was .46 and indicated a medium effect size (Cohen, 1988). The source of these differences is unknown as the results are not statistically significant.

Research subquestion 2 explored the relationship between eight individual elements of the LCCI 4.0 and school achievement, and stated, "Is there a relationship between scores on individual elements of the LCCI 4.0 and school achievement?" The eight LCCI 4.0 elements included

- common mission, vision, values, and goals;

- interdependent culture based on trust;

- collaborative teaming;

- systems of prevention and intervention that assures academic success for all students;

- data-based decision-making using continuous assessment;

- professional development that is teacher driven and job-embedded;

- principal leadership focused on student learning;

- participative leadership focused on teaching and learning (Williams, Matthews, Stewart, & Hilton, 2007).

A bivariate correlational analysis using Pearson's product-moment correlation coefficient was conducted to determine whether a relationship existed between the independent variables of the LCCI 4.0 elements and the dependent variable of school achievement. Mean scores for each element ranged from 0 to 10 and represented the extent to which each school functioned as a collaborative culture within the element. Table 10 presents the correlation results and descriptive statistics for the individual elements of the LCCI 4.0 and GCRCT mathematics.

Table 10
Correlations and descriptive statistics for individual elements of LCCI 4.0 and GCRCT mathematics

Variable	Element 1	Element 2	Element 3	Element 4	Element 5	Element 6	Element 7	Element 8	GCRCT mathematics
Element 1	---								
Element 2	.855**	---							
Element 3	.774**	.777**	---						
Element 4	.669*	.747**	.826**	---					
Element 5	.742**	.737**	.950**	.933**	---				
Element 6	.728**	.823**	.866**	.859**	.918**	---			
Element 7	.816**	.693*	.883**	.666*	.847**	.831**	---		
Element 8	.775**	.692*	.794**	.759**	.842**	.835**	.931**	---	
GCRCT mathematics	.690*	.493	.557	.410	.490	.427	.576	.533	---
M	8.98	8.19	7.97	8.33	8.49	7.48	8.43	6.33	824.44
SD	.51	.63	.84	.69	.71	.94	.97	.997	7.01

N=12
**Correlation is significant at the 0.01 level (2-tailed)
*Correlation is significant at the 0.05 level (2-tailed)

Analysis of the correlation results indicated a large, statistically significant relationship between school achievement in the area of mathematics and element 1, common mission, vision, values, and goals ($r = .690$, $N = 12$, $p<.05$). While not statistically significant, medium to large correlational relationships (Cohen, 1988) were found between school achievement and

- element 2, interdependent culture based on trust ($r = .493$, $N = 12$, $p > .05$);

- element 3, collaborative teaming ($r = .557$, $N = 12$, $p > .05$);

- element 4, systems of prevention and intervention that assures academic success for all students ($r = .410$, $N = 12$, $p > .05$);

- element 5, data-based decision-making using continuous assessment ($r = .490$, $N = 12$, $p > .05$);

- element 6, professional development that is teacher driven and job embedded ($r = .427$, $N = 12$, $p > .05$);

- element 7, principal leadership focused on student learning ($r = .576$, $N = 12$, $p = .05$);

- element 8, participative leadership focused on teaching and learning ($r = .533$, $N = 12$, $p > .05$).

A scatterplot analysis highlights the positive relationship between school achievement in the area of mathematics and element 1. See Figure 4.
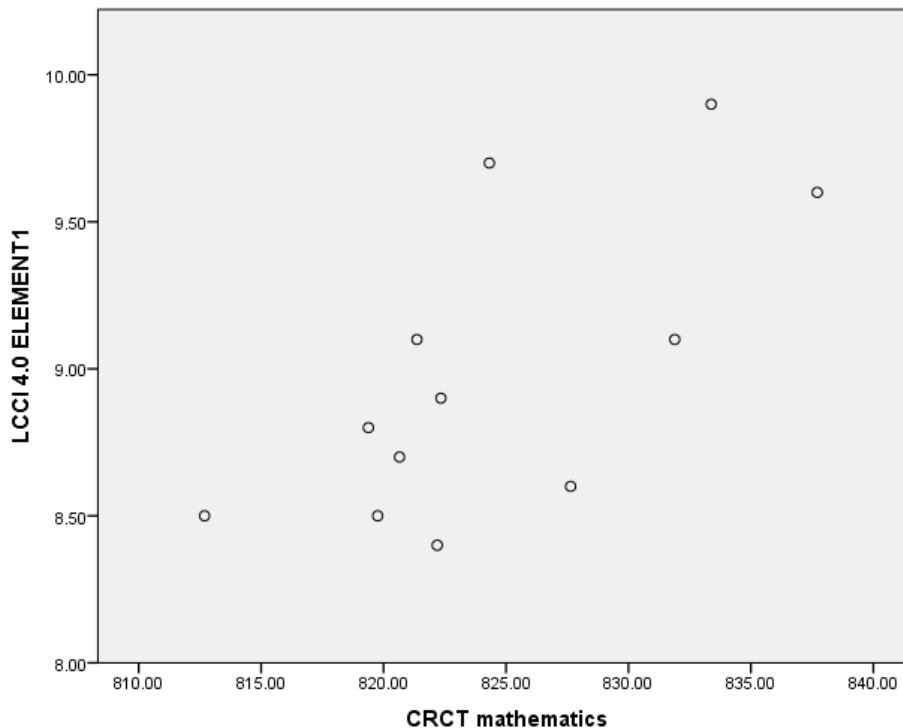

Figure 4: Correlation between LCCI 4.0 element 1 and CRCT mathematics

Another bivariate correlational analysis using Pearson's product-moment correlation coefficient was conducted to examine the relationship between the independent variable of individual elements on the LCCI 4.0 and school achievement in the area of reading. Mean scores for each element ranged from 0 to 10 and represented the extent to which each school functioned as a collaborative culture within the element. Table 11 presents the correlation results and descriptive statistics of this analysis.

Table 11
Correlations and descriptive statistics for individual elements of LCCI 4.0 and GCRCT reading

Variable	Element 1	Element 2	Element 3	Element 4	Element 5	Element 6	Element 7	Element 8	GCRCT reading
Element 1	---								
Element 2	.855**	---							
Element 3	.774**	.777**	---						
Element 4	.669*	.747**	.826**	---					
Element 5	.742**	.737**	.950**	.933**	---				
Element 6	.728**	.823**	.866**	.859**	.918**	---			
Element 7	.816**	.693*	.883**	.666*	.847**	.831**	---		
Element 8	.775**	.692*	.794**	.759**	.842**	.835**	.931**	---	
GCRCT reading	.057	.126	.340	.252	.289	.175	.153	.090	---
M	8.98	8.19	7.97	8.33	8.49	7.48	8.43	6.33	831.14
SD	.51	.63	.84	.69	.71	.94	.97	.997	2.967

N=12
**Correlation is significant at the 0.01 level (2-tailed)
*Correlation is significant at the 0.05 level (2-tailed)

No statistically significant relationships were found between any of the eight elements on the LCCI 4.0 and school achievement in the area of reading. However, a medium correlation (Cohen, 1988) was found to exist between element 3, collaborative teaming, on the LCCI 4.0 ($r = .340$, $N = 12$, $p<.05$) and school achievement in the area of reading on the GCRCT. Moreover, small correlations were found to exist between school achievement in the area of reading and element 2, interdependent culture based on trust; element 4, systems of prevention and intervention that assures academic success for all

students; element 5, data-based decision-making using continuous assessment; element 6, professional development that is teacher driven and job embedded; and element 7, principal leadership focused on student learning. As these small to medium relationships are not statistically significant, the factors affecting them are unknown.

Research subquestion 3 stated, "Is there a relationship between overall scores on the LCCI 4.0 and the presence of a formal professional learning community in individual schools?" Schools were identified as having a formal professional learning community if 100% of the survey respondents in each school responded in the affirmative. Five schools were identified as having formal professional learning communities. To address research subquestion 3, a bivariate correlational analysis using Pearson's product-moment correlation coefficient was conducted. The variable, professional learning community, was coded as 1 = formal professional learning community exists in school or 0 = no formal professional learning community. Descriptive statistics and correlation results are presented in Table 12.

Table 12
Correlations and descriptive statistics for LCCI 4.0 and formal professional learning communities

Variable	LCCI 4.0	Professional learning community
LCCI 4.0	---	
Professional learning community	.301	---
M	360.74	.42
SD	32.45	.51

N=12
*p<.05.

No statistically significant findings were reported. However, the analysis confirmed the existence of a medium correlational relationship (Cohen, 1988) between overall scores on the LCCI 4.0 and the presence of a formal professional learning community in individual

schools ($r = .301$, $N = 12$, $p > .05$). The factors to which this statistically insignificant relationship may be attributed are unknown.

Chapter Summary

This study was designed to investigate the relationship between collaborative school culture and school achievement in the areas of reading and mathematics. To this end, the researcher collected and analyzed surveys and school achievement data. The survey used was the Learning Community Culture Indicator (LCCI) 4.0, and it was analyzed across 12 schools in the study.

In examining the overarching research question in the study, the researcher found no statistically significant evidence that indicated a relationship existed between collaborative school culture and school achievement. A statistically significant finding was reported for subquestion 2 and indicated the existence of a relationship between school achievement in the area of mathematics and element 1 on the LCCI 4.0, common vision, mission, values, and goals. Analyses of the data did produce some small to large correlations, as described by Cohen (1988); however, none of these correlations were statistically significant, and the factors affecting them are unknown.   Further discussion regarding the findings, conclusions, and recommendations will be discussed in Chapter V.

CHAPTER V

SUMMARY, CONCLUSIONS, AND IMPLICATIONS

Chapter V contains a summary of the findings of the study as well as the conclusions, implications, recommendations for future research, and dissemination information. The purpose of this quantitative, correlational study was to examine the magnitude and direction of the relationship between collaborative school culture as measured by the Learning Community Culture Indicator (LCCI) 4.0 and school achievement in the areas of reading and mathematics as measured by the Georgia Criterion Referenced Competency Test (GCRCT). Rural, economically disadvantaged middle schools utilizing a 6, 7, 8 grade configuration in the state of Georgia were selected for participation in the study. These selection criteria may limit the generalizability of the study's results. Moreover, a small sample size may also limit the findings of the study. An overarching research question and three subquestions guided the research. This research will help inform school administrators as they work to develop a positive school culture focused on collaboration.

Analysis and Discussion of Research Findings

Data for the research study was collected from two sources. Quantitative data from 263 teachers representing 12 rural, economically disadvantaged middle schools in the state of Georgia was collected via online administration of the Learning Community Culture Indicator (LCCI) 4.0 survey. School achievement data was retrieved from the Georgia Department of Education website.

The following overarching research question guided the research: Is there a relationship between a school's collaborative culture and school achievement in rural, economically disadvantaged middle schools with a 6, 7, 8 grade configuration in Georgia?

Previous research indicated that a collaborative school culture may affect student achievement (Goddard et al., 2007; Gruenert, 2005; MacNeil et al., 2009). The results of this study did not reveal any statistically significant findings to substantiate the aforementioned research. However, according to Cohen's (1988) interpretation of correlational values, some correlations were noted. A small correlational relationship was indicated between a school's collaborative culture and school achievement in the area of reading ($r = .219$, $N = 12$, $p > .05$). A large correlational relationship was found to exist between a school's collaborative culture and school achievement in the area of mathematics ($r = .560$, $N = 12$, $p > .05$). While this research did not replicate the findings of previous empirical research, these findings may suggest a link between collaborative school culture and school achievement.

Two research subquestions further explored the relationship between collaborative school culture and school achievement. Research subquestion 1 stated: Is there a difference between overall school scores in the highest and lowest quartiles on the LCCI 4.0 and school achievement? The researcher grouped the 12 overall mean scores on the LCCI 4.0 instrument into four quartiles representing functionality levels of the school's collaborative culture from low to high for analysis. Research indicated a positive correlation between student achievement and the implementation levels of professional collaboration, collegial relationships, and efficacy in schools (Phillips, 1996; Melton-Shutt, 2004). Gruenert (2005) also concluded that higher student achievement was a likely outcome of a more collaborative school culture. Utilizing a one-way between groups Analysis of Variance (ANOVA), this study revealed no statistically significant differences between the functionality levels of collaborative culture and school achievement in the areas of reading: $F(3, 8) = .70$, $p = .58$ or mathematics: $F(3, 8) = 2.26$, $p = .159$. The fact that all 12 schools analyzed in the study

scored near or above levels indicative of a highly functional collaborative culture may account for the lack of any statistical differences. Effect size calculations using eta squared or R^2 were computed for both reading and mathematics. The difference in mean scores between the groups reflected a small effect size for reading and a medium effect size for mathematics based on Cohen's (1988) interpretations. Cohen and Coe (2002) suggested that effect size calculations may be indicative of an association between variables, but these calculations do not support any causality claims.

Research subquestion 2 delved deeper into the relationship between the individual elements of collaborative culture and school achievement and stated: Is there a relationship between the score on individual elements of the LCCI 4.0 and school achievement? Existent research indicated that collaborative school culture characterized by elements such as a unified vision and mission (Fridell & Alexander, 2005), interdependent trust (Hoy & Miskel, 2008), collaborative teaming (Datnow, 2011), data-based decision-making (McTighe, 2007), professional development (Phillips, 2003), and a participative distribution of leadership focused on student learning (Angelle, 2010; Thompson & McKelvy, 2007) had the potential to increase student learning and achievement. Bivariate correlational analyses utilized in this study did not reveal any statistically significant results between school achievement in the area of reading and any of the elements of a collaborative school culture.

The study did reveal a statistically significant relationship between school achievement in the area of mathematics and element 1, common vision, mission, values, and goals. Previous research attested that a unified vision and mission are at the heart of effective schools (Eaker et al., 2002; Fridell & Alexander, 2005). While none of the other elements recognized as important components of a collaborative school culture were

identified as noteworthy in this research, it is interesting to note that element 1, the oft considered vital element, has been identified as significant.

According to Cohen's (1988) interpretation of correlational values, medium to large correlations ranging from .410 to .576 between school achievement in the area of mathematics and the other seven elements were noted. Small to medium correlations were found between school achievement in the area of reading and elements 2, 3, 4, 5, 6, and 7.

Research subquestion 3 stated: Is there a relationship between the overall score on the LCCI 4.0 and the presence of a formal professional learning community in individual schools? The overall score on the LCCI 4.0 is representative of the functionality level at which a school's collaborative culture has been developed. Bivariate correlation analysis did not indicate the existence of a statistically significant relationship between overall scores on the LCCI 4.0 and the presence of a formal professional learning community in individual schools. The lack of statistically significant results in this analysis may be explained by the small sample size and by how individual schools view themselves. Stewart (2009) captured the core of the functionality issue in his statement:

> Some educators in schools might declare that they are a PLC, but they have no
> implementation of any PLC elements that are in the literature while other educators
> might be implementing PLC elements in schools and not calling themselves a PLC.
> (p. 43)

The fact that all 12 of these schools reported scores near or above the highly functional level of collaborative culture would indicate the presence of elements indicative of collaborative culture regardless of the presence of a formally labeled professional learning community.

Moreover, the lack of schools reporting low functioning levels of collaborative culture may be indicative of a reluctance to participate in a survey about collaborative culture.

Conclusions

Educators are continually searching for strategies that will impact student learning and school achievement. Research has suggested that a collaborative school culture may positively impact school achievement (DuFour & Marzano, 2009; Jessie, 2007; McTighe; Styron & Nyman, 2008; Wilhelm, 2010). Hoy and Miskel (2008) postulated that a school's culture could be cultivated from a superficial level to a deeply rooted foundation upon which opportunities exist for improvements in school achievement. This research focused on examining the relationship between collaborative school culture and school achievement. Characteristics of highly functional collaborative school cultures were identified within the research.

The small sample size of the study may have limited the findings of this research. Additionally, a low survey response rate for some schools may have produced scores that were not representative of the school. Moreover, the participating schools all reported near to highly functioning levels of collaborative culture. This leads the researcher to speculate that schools with low functioning levels of collaborative culture may have chosen not to participate in the study. Hesitancy on the part of school principals to participate may be indicative of an environment that does not promote interdependent levels of trust or participative leadership, both vital elements in the establishment of a collaborative school culture (Angelle, 2010; Hoy & Miskel, 2008; Louis & Wahlstrom, 2011).

While the study did not yield large, statistically significant results that supported the overarching research question and previous research, it did suggest that an association

between collaborative school culture and school achievement may exist. In the examination of the elements indicative of a collaborative school culture, the study did find a statistically significant relationship between school achievement in the area of mathematics and a common mission, vision, values, and goals identified as element 1.   This finding would support research that suggests a common mission, vision, values, and goals are vital and foundational components upon which collaborative school culture and effective schools are built (Eaker et al., 2002; Fridell & Alexander, 2005; Hoy & Miskel, 2008).

Finally, the study did not support the need for formal professional learning communities in schools as a prerequisite for highly functioning collaborative culture. Rather, the study suggested that elements of collaborative culture such as teacher collaboration, trust, data-based decision-making, professional development, principal and participative leadership may be present in schools that do not actually have formal professional learning communities. This may substantiate DuFour's (2007) position that while opposition to the terminology or label may exist, the underlying concepts of professional learning communities have merit.

Implications

A collaborative school culture provides a platform for teachers that is conducive to sharing and learning together. Collaboration and shared learning form the basis for a strong school culture. The development of a collaborative school culture as characterized by the eight elements described in this study may impact schools, teachers and students in a positive way. Moreover, the literature has suggested that all stakeholders can benefit from a positive, collaborative school culture.

The purpose of this study was to examine the relationship between collaborative school culture and school achievement. This research contributes to the existing body of literature focused on collaborative school culture and expands the research as to what level of functionality a school culture must attain before gains are seen in school achievement.

The results of this study should be used by school administrators to help guide and build capacity for collaboration among teachers. Any school administrators striving to create an atmosphere of professional collegiality and collaboration focused on student learning could benefit from the examination of the elements characteristic of a collaborative school culture. The focus on a common mission, vision, values, and goals as a foundational component of a collaborative culture may be helpful to administrators seeking to develop school culture. As a plethora of research has suggested, a common mission, vision, values, and goal not only has the potential to affect school achievement, it is at the heart of a functional collaborative culture (Eaker et al., 2002; Fridell & Alexander, 2005; Gruenert, 2005). Moreover, the identification of the functionality level of a school's culture may prompt administrators to engage teachers in discussions about student learning that may lead to increased collaboration and ultimately, improvements in school achievement.

Recommendations

The researcher would like to make the following recommendations for the interpretation and utilization of the data included in this study:

1. Since the research included only 12 schools for analysis, further research should be conducted with a larger, more diverse sample to improve the generalizability of the results.

2. School achievement data used in this research reflected a school score. Additional research may include an analysis of school achievement data by grade level.

3. School achievement data in the areas of reading and mathematics were used in this research. Additional research may include an analysis of other subject areas such as science or social studies.

4. As common mission, vision, values, and goals provided the most significant results influencing school achievement, future research into this component of collaborative school culture may be desired.

Dissemination

Several groups may be interested in the results of this study. Principals of participating schools would be interested in the findings of this study as it would provide information about the current status of the school's collaborative culture. Further, it would reveal areas of strengths and weaknesses that may be targeted for school improvement and growth. In addition, any principals seeking to create a student-focused learning environment centered on teachers participating in the learning process would be interested in the results of the study as it highlights components of a school culture focused on teacher collaboration, collegiality, and participative leadership. Finally, the researcher plans to share the literature review of this study through professional publications.

REFERENCES

Angelle, P. S. (2010). An organizational perspective of distributed leadership: A portrait of a middle school. *Research in Middle Level Education Online*, *33*(5), 1-16.

Barth, R. (2006). Improving relationships inside the schoolhouse. *Educational Leadership*, *63*(6), 8-13.

Blank, R. K. S., & de las Alas, N. (2009). Effects of teacher professional development on gains in student achievement: How meta analysis provides scientific evidence useful to educational leaders. Washington, D.C. Council of Chief State School Officers. Retrieved from www.ccsso.org/content/pdfs/Final%20Meta%20Analysis%20Paper%20full.pdf

Bruce, C. D., Edmonde, I., Ross, J., Dookie, L., & Beatty, R. (2010). The effects of sustained classroom-embedded teacher professional learning on teacher efficacy and related student achievement. *Teaching and Teacher Education*, 1-11. DOI: 10.1016/j.tate.2010.06.011.

Castle, S., Arends, R., & Rockwood, K. (2008). Student learning in a professional development school and a control school. *The Professional Educator*, *32*(1)*,* 1-15.

Coe, R. (2002). *It's the effect size, stupid: What effect size is and why it is important.* Paper presented at the Annual Conference of the British Educational Research Association, University of Exeter, England.

Cohen, J. W. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed). Hillsdale, NJ: Lawrence Erlbaum Associates.

Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches.* Thousand Oaks, CA: SAGE Publications.

Curry, M. (2008). Critical friends groups: The possibilities and limitations embedded in

     teacher professional communities aimed at instructional improvement and school

     reform. *Teachers College Record, 110*(4)*, 733-774.*

Darling-Hammond, L. (2000). Teacher quality and student achievement: A review of state

     policy evidence. *Education Policy Analysis Archives, 8*(1)*.* Retrieved from

     http://epaa.asu.edu/epaa/v8n1

Datnow, A. (2011). Collaboration and contrived collegiality: Revisiting Hargreaves in

     the age of accountability. *Journal of Educational Change*, *12*, 147-158. DOI

     10.1007/s10833-011-9154-1.

DuFour, R. (2004). What is a "professional learning community"? *Educational*

     *Leadership, 61,*1-6*.*

DuFour, R. (2007). Professional learning communities: A bandwagon, an idea

     worth considering, or our best hope for high levels of learning? *Middle School*

     Journal, *39*(1), 4-8.

DuFour, R. (2009). The key to improved teaching and learning. *The AdvancED Source, 2.*

DuFour, R., & Eaker, R. (1998). *Professional learning communities at work: Best*

     practices for enhancing student achievement. Alexandria, VA: Association for

     Supervision and Curriculum Development.

DuFour, R., DuFour, R., Eaker, R., & Karhanek, G. (2004). *Whatever it takes: How*

     professional learning communities respond when kids don't learn. Bloomington, IN:

     National Educational Service.

DuFour, R., DuFour, R., Eaker, R., & Many, T. (2006). *Learning by doing.* Bloomington,

     IN: Solution Tree.

DuFour, R., Eaker, R., & DuFour, R. (Eds.). (2005). *On common ground: The power of professional learning communities.* Bloomington, IN: National Educational Service.

DuFour, R., & Marzano, R. (2009). High-leverage strategies for principal leadership. *Educational Leadership*, *66*, 62-68.

Eaker, R., DuFour, R., & DuFour, R. (2002). *Getting started: Reculturing schools to become professional learning communities*. Bloomington, IN: National Educational Service.

Elbousty, Y., & Bratt, K. (2010, Spring). Team strategies for school improvement: The ongoing development of the professional learning community. *MASCD*. Retrieved from www.mascd.org

Faul, F., Erdfelder, E., Buchner, A., & Lang, A. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods, 41*, 1149-1160.

Finley, R. (2008). Survey Monkey [Computer Software]. Portland, OR: Survey Monkey.com.

Fridell, M. E., & Alexander, K. (2005). A framework for principals: Promoting student success through leadership and collaboration. *Journal of College Teaching and Learning*, September 2005, *2*(9), 5-18.

Fullan, M. (2005). Professional learning communities writ large. In DuFour, R., Eaker, R., & DuFour, R. (Eds.). *On common ground: The power of professional learning communities* (pp. 209-223). Bloomington, IN: National Educational Service.

Gay, L. R., Mills, G. E., & Airasian, P. (2006). *Educational research: Competencies for analysis and applications.* Upper Saddle River, NJ: Pearson Prentice Hall.

Georgia Department of Education (2007). *School keys: Unlocking excellence through the Georgia school standards.* Atlanta, GA: Kathy Cox.

Georgia Department of Education (2011, December). *An assessment and accountability brief: 2011 CRCT Validity and Reliability.* Atlanta, GA: Assessment Research and Development.

Georgia Department of Education (2011). *CRCT 2011 School Summaries Report.* Retrieved from http://archives.gadoe.org/ci_testing.aspx?PageReq=CI_TESTING_CRCT

Georgia Department of Education (2010, October 31). *Free and Reduced Price Lunch Eligibility Report.* Retrieved from http://app3.doe.k12.ga.us/owsbin/owa/fte_pack_frl001_public.display_proc

Georgia Department of Education (2010). *2010 School Detail Report.* Retrieved from http://public.doe.k12.ga.us/ayp2010.aspx

Georgia Partnership for Excellence in Education (2011). *Top ten issues to watch in 2011: What Georgia must do to become a national education leader (7th ed.).* Atlanta, GA: Susan Walker and Adrienne Goss.

Goddard, Y., Goddard, R., & Tschannen-Moran, M. (2007). A theoretical and empirical investigation of teacher collaboration for school improvement and student achievement in public elementary schools. *Teachers College Record, 109*(4), 877-896.

Graham, P. (2007). Improving teacher effectiveness through structured collaboration: A case study of a professional learning community. *Research in Middle Level Education Online*, *31*(1), 1-17.

Gruenert, S., & Valentine, J. W. (1998). *The school culture survey*. Columbia, MO:

    University of Missouri-Columbia.

Gruenert, S. (2005). Correlations of collaborative school cultures with student achievement.

    NASSP Bulletin, 89(645), 43-55.

Haycock, K. (1998). Good teaching matters…a lot. *Thinking K-16, 3*(2)*,* 1-14.

Haycock, K. (2005, June 8). Improving academic achievement and closing gaps between

    groups in the middle grades. Presentation given at CASE Middle Level summit.

    Available www.edtrust.org.

Hord, S. (1997). *Professional learning communities: Communities of continuous inquiry and*

    improvement. Austin, TX: Southwest Educational Development Laboratory.

Hoy, W. K., & Miskel, C. G. (2008). *Educational Administration: Theory, Research, and*

    Practice. New York: McGraw-Hill.

Hughes, T. A., & Kritsonis, W. A. (2007). Professional learning communities and the

    positive effects on student achievement: A national agenda for school improvement.

    The Lamar University Electronic Journal of Student Research, *4*, 1-5.

Jessie, L. G. (2007). The elements of a professional learning community. *Leadership*

    Compass, 5(2)*,* 1-3. Retrieved from www.naesp.org

Johnson, C. C., Kahle, J. B., & Fargo, J. D. (2006). A study of the effect of sustained, whole-

    school professional development on student achievement in science. *Journal of*

    Research in Science Teaching. DOI: 10.1002/tea.20149.

Jolly, A., & SERVE: SouthEastern Regional Vision for Education, G. (2004, January

1). *A Facilitator's Guide to Professional Learning Teams Creating On the Job Opportunities for Teachers to Learn and Grow.* US Department of Education. (ERIC Document Reproduction Service No. ED485208).

Kruse, S. D., & Louis, K. S. (1993). *An emerging framework for analyzing school-based professional community.* Paper presented at the Annual Meeting of the American Educational Research Association, Atlanta, GA.

Lieberman, A., & Mace, D. P. (2009). Making practice public: Teacher learning in the 21st century. *Journal of Teacher Education*, *61*, 77-88. DOI: 10.1177/0022487109347319. Retrieved from http://jte.sagepub.com/content/61/1-2/77

Louis, K. S., & Wahlstrom, K. (2011). Principals as cultural leaders. *Kappan*, *92*(5), 52-56.

MacNeil, A. J., Prater, D. L., & Busch, S. (2009). The effects of school culture and climate on student achievement. *International Journal of Leadership in Education*, *12*(1), 73-84.

Marzano, R. J. (2003). *What works in schools.* Alexandria, VA: Association for Supervision and Curriculum Development.

McTighe, J. (2007). Making the most of professional learning communities. In G. Wiggins & J. McTighe (Eds.), *Schooling by design*. Alexandria, VA: Association for Supervision and Curriculum Development.

Melton-Shutt, A. (2004). *School culture in Kentucky elementary schools: Examining the path to proficiency*. Unpublished doctoral dissertation. University of Louisville, KY, and Western Kentucky University, Bowling Green.

Moore, D. S., & McCabe, G. P. (2006). *Introduction to the practice of statistics*. New York: W. H. Freeman and Company.

Mulford, B. (2007). Building social capital in professional learning communities: Importance, challenges and a way forward. In Stoll, L., & Seashore L. K. (Eds.), *Professional learning communities: Divergence, depth, and dilemmas* (pp. 166-180). London: Open University Press and McGraw Hill.

Murphy, C., & Lick, D. (2005). *Whole-faculty study groups: Creating professional learning communities that target student learning*. Thousand Oaks, CA: Corwin Press.

National Center for Education Statistics (2010). *2009-2010 Public School District Data Report*. Retrieved from http://nces.ed.gov/ccd/districtsearch/district_list.asp

National Commission on Teaching and America's Future (2010). *Team up for 21st century teaching and learning: What research and practice reveal about professional learning.* Washington, D.C.: Thomas G. Carroll, Ph.D., Kathleen Fulton, and Hanna Doerr. Retrieved from http://nctaf.org/wp-content/uploads/2012/01/TeamUp-CE-Web.pdf

National Staff Development Council (2009). *Professional learning in the learning profession: A status report on teacher development in the United States and abroad.* Dallas, TX: Linda Darling-Hammond, Ruth Chung Wei, Alethea Andree, Nikole Richardson, and Stelios Orphanos. Retrieved from http://www.learningforward.org/news/NSDCstudy2009.pdf

Pallant, J. (2010). *SPSS survival manual: A step by step guide to data analysis using SPSS* (4th ed). New York: McGraw-Hill.

Patterson, J. A., & 16 co-contributors (2006). Learning communities in middle schools: Natural complements or another bandwagon in the parade? *Middle School Journal, 37*(5), 21-30.

Petersen, J. L. (2007). Learning facts: The brave new world of data-informed

    instruction. *Education Next*, *Winter 2007, 7*(1), 36-45. Retrieved from

    www.educationnext.org

Phillips, G. (1996). *Classroom rituals for at-risk learners*. Vancouver, BC: Educserv, British

    Columbia School Trustees Publishing.

Phillips, G. (2003). Powerful learning: Creating learning communities in urban school

    reform. *Journal of Curriculum and Supervision, 18,* 240-258.

Rowe, K. (2007, February). *The imperative of evidence-based instructional leadership:*

    Building capacity within professional learning communities via a focus on effective

    teaching practice. Paper presented at the meeting of Sixth International Conference

    on Educational Leadership, University of Wollongong.

Schein, E. (1992). *Organizational culture and leadership.* San Francisco: Jossey-Bass

    Publishers.

Schein, E. H. (1999). *The corporate culture.* San Francisco: Jossey-Bass Publishers.

Schlechty, P. C. (2001). *Shaking up the school house: How to support and sustain*

    educational innovation. San Francisco: Jossey-Bass.

Schlechty, P. (2005). Creating the capacity to support innovations (Occasional Paper #2).

    Louisville, KY: Schlechty Center for Leadership in School Reform. Retrieved from

    www.schlechtycenter.org/pdfs/supportinn.pdf

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

    Curriculum Development.

Senge, P. (1990). *The fifth discipline: The art and practice of the learning organization.* New

    York: Doubleday.

Servage, L. (2008, Winter). Critical and transformative practices in professional learning

communities. *Teacher Education Quarterly,* 63-77.

Stewart, C. D. (2009). *A multidimensional measure of professional learning communities:*

The development and validation of the learning community culture indicator (LCCI)

(Doctoral dissertation). Retrieved from http://hdl.lib.byu.edu/1877/etd3318

Styron, R., & Nyman, T. (2008). Key characteristics of middle school performance. *National*

Middle School Association, *31*(5)*,* 1-17.

Taylor, R. T. (2010). Leadership to improve student achievement: Focus the culture on

learning. *AASA Journal of Scholarship and Practice*, *7*(1), 10-22.

Teale, W. H., & Gambrell, L. B. (2007). Raising urban students' literacy achievement by

engaging in authentic, challenging work. *International Reading Association*, 728-739.

doi:10.1598/RT.60.8.3

Thompson, S., Gregg, L., & Niska, J. (2004). Professional learning

communities, leadership, and student learning. *RMLE Online: Research in Middle*

Level Education, *28*(1), 1-15. (ERIC Document Reproduction Service No. EJ807417)

Thompson, S., & McKelvy, E. (2007, February 1). Shared vision, team learning and

professional learning communities. *National Middle School Association*. (ERIC

Document Reproduction Service No. ED497108). Retrieved from ERIC database.

Trochim, W. M. K., & Donnelly, J. P. (2008). *The research methods knowledge base.*

Mason, OH: Cengage Learning.

U. S. Department of Agriculture (2011, January 28). *National School Lunch Act*. Retrieved

from www.fns.usda.gov/cnd/lunch

U. S. Department of Education (2009, April 24). The American Recovery and Reinvestment

    Act of 2009: Using ARRA funds to drive school reform and improvement.

    Retrieved from www.ed.gov/policy/gen/leg/recovery/guidance/uses.doc

Vescio, V., & Ross, D., & Adams, A. (2008). A review of research on the impact of

    professional learning communities on teaching practice and student learning.

    Teaching and Teacher Education, *24*, 80-91.

Wagner, C. R. (2006). The school leader's tool for assessing and improving school culture.

    Principal Leadership, *7*(4), 41-44.

Wahlstrom, K. L., & Louis, K. S. (2008). How teachers experience principal leadership: The

    roles of professional community, trust, efficacy, and shared responsibility.

    Educational Administration Quarterly, *44*, 458-495. DOI:

    10.1177/0013161X08321502.

Wilhelm, T. (2010). Fostering shared leadership. *Leadership*, *40*(2), 22-38.

Williams, E., Matthews, J., Stewart, C., & Hilton, S. (2007). *The learning community culture*

    indicator: The development and validation of an instrument to measure multi-

    dimensional application of learning communities in schools. Paper presented at the

    University Council for Education Administration, Washington DC.

Wright, S. P., Horne, S. P., & Sanders, W. L. (1997). Teacher and classroom context effects

    on student achievement: Implications for teacher evaluation. *Journal of Personnel*

    Evaluation in Education, 11, 57-67.

Appendix A

To:	Karen Bland
	Dr. Jason LaFrance
cc:	Charles E. Patterson
	Vice President for Research and Dean of the Graduate College
From:	Office of Research Services and Sponsored Programs
	Administrative Support Office for Research Oversight Committees
	(IACUC/IBC/IRB)
Date:	05/02/12
Initial Approval Date:	05/02/12
Expiration Date:	12/31/12
Subject:	Status of Application for Approval to Utilize Human Subjects in Research

After a review of your proposed research project numbered **H12435** and titled **"Relationship of Collaborative School Culture and School Achievement,"** it appears that your research involves activities that do not require full approval by the Institutional Review Board according to federal guidelines.

According to the Code of Federal Regulations Title 45 Part 46, your research protocol is determined to be exempt from full review under the following exemption category(s):

B2   Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: (I) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (II) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

Therefore, as authorized in the Federal Policy for the Protection of Human Subjects, I am pleased to notify you that your research is exempt from IRB approval. You may proceed with the proposed research.

Please notify the IRB when you have completed the project by emailing irb@georgiasouthern.edu. Include the date of completion, the number of subjects (records) utilized and if there were any unexpected events related to the subjects during the project. (If none, state no unexpected or adverse events occurred during the conduct of the research.)
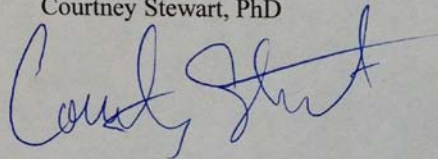
Sincerely,

Eleanor Haynes
Compliance Officer

Permission is hereby granted to Karen Bland to use the Learning Community Culture Indicator 4.0 Teacher version for the purpose of educational research with the following stipulations:

- The Learning Community Culture Indicator 4.0 survey is to be used solely for research study.

- The Learning Community Culture Indicator 4.0 may be used in an online survey format for a <u>one-time</u> administration for research purposes.

- Citation will be given to the author of the survey within the online format, as well as any other publication or dissemination of the results.

Courtney Stewart, PhD

Learning Community Culture Indicator 4.0

You have been selected to participate in this study due to your experiences as a certified teacher in a rural, economically disadvantaged Georgia middle school. The results of this survey will provide the researcher with information that could lead to a better understanding of the relationship between collaborative school culture and school achievement. The survey consists of 48 questions and should take 10 minutes or less to complete. It is not necessary to indicate your name anywhere on the survey. When you have completed the survey, simply click Done and the web browser will close.

Completion of this survey will be considered consent to use your responses in analyzing the relationship between collaborative school culture and school achievement. Please be assured that your responses will be confidential and anonymous. If this research is published, no information that would identify you will be included. This data will be most useful if you respond to every item on the instrument; however, you may choose not to answer one or more items on the survey.

To contact the Office of Research Compliance at Georgia Southern University for answers to questions about the rights of research participants or privacy concerns, please email IRB@georgiasouthern.edu or call 912-478-0843. Written inquiries may also be sent to P.O. Box 8005, Statesboro, GA 30460. This project has been reviewed and approved by the GSU IRB under tracking number H12435.

The Learning Community Culture Indicator 4.0 was developed by Williams, Matthews, Stewart, & Hilton (2007). Permission has been granted to this researcher to use the instrument for research purposes.

Survey Directions:
Please respond to the following statements that pertain to your school's culture.
Each statement offers a continuum of responses from 10 (agree strongly) to 0 (disagree strongly).
Select the point on the continuum that you believe is the best indicator of yours and your school's practice.

Click Next to begin the survey.

*1. Please select your school.

Choose school from drop down list.	

2. The primary purpose of our school is to help all children learn at high levels.

○ 10   ○ 9   ○ 8   ○ 7   ○ 6   ○ 5   ○ 4   ○ 3   ○ 2   ○ 1   ○ 0
Agree Strongly   Agree   Agree Somewhat   Disagree Somewhat   Disagree   Disagree Strongly

3. We are trying to create a school culture in which more students would achieve at high levels.

○ 10   ○ 9   ○ 8   ○ 7   ○ 6   ○ 5   ○ 4   ○ 3   ○ 2   ○ 1   ○ 0
Agree Strongly   Agree   Agree Somewhat   Disagree Somewhat   Disagree   Disagree Strongly

4. I am aligning my efforts with a primary purpose of the school which is to help all children learn at high levels.

○ 10   ○ 9   ○ 8   ○ 7   ○ 6   ○ 5   ○ 4   ○ 3   ○ 2   ○ 1   ○ 0
Agree Strongly   Agree   Agree Somewhat   Disagree Somewhat   Disagree   Disagree Strongly

5. Our school-wide goals and objectives guide teachers' work to help more students achieve at high levels.

○ 10 ○ 9 ○ 8 ○ 7 ○ 6 ○ 5 ○ 4 ○ 3 ○ 2 ○ 1 ○ 0

Agree Strongly ... Agree ... Agree Somewhat ... Disagree Somewhat ... Disagree ... Disagree Strongly

6. I share my knowledge and expertise with other teachers to solve problems of teaching and learning.

○ 10 ○ 9 ○ 8 ○ 7 ○ 6 ○ 5 ○ 4 ○ 3 ○ 2 ○ 1 ○ 0

Agree Strongly ... Agree ... Agree Somewhat ... Disagree Somewhat ... Disagree ... Disagree Strongly

7. I seek out other teachers' expertise to help me solve problems of teaching and learning.

○ 10 ○ 9 ○ 8 ○ 7 ○ 6 ○ 5 ○ 4 ○ 3 ○ 2 ○ 1 ○ 0

Agree Strongly ... Agree ... Agree Somewhat ... Disagree Somewhat ... Disagree ... Disagree Strongly

8. In addition to formal team meetings, teachers in this school spontaneously collaborate to solve problems of teaching and learning.

○ 10 ○ 9 ○ 8 ○ 7 ○ 6 ○ 5 ○ 4 ○ 3 ○ 2 ○ 1 ○ 0

Agree Strongly ... Agree ... Agree Somewhat ... Disagree Somewhat ... Disagree ... Disagree Strongly

9. The trust I feel among teachers facilitates open decision making and problem solving.

○ 10 ○ 9 ○ 8 ○ 7 ○ 6 ○ 5 ○ 4 ○ 3 ○ 2 ○ 1 ○ 0

Agree Strongly ... Agree ... Agree Somewhat ... Disagree Somewhat ... Disagree ... Disagree Strongly

10. I feel safe to take the risk of using innovative instructional methods.

○ 10 ○ 9 ○ 8 ○ 7 ○ 6 ○ 5 ○ 4 ○ 3 ○ 2 ○ 1 ○ 0

Agree Strongly ... Agree ... Agree Somewhat ... Disagree Somewhat ... Disagree ... Disagree Strongly

11. I do not feel safe to express my opinions when I am in the minority.

○ 10 ○ 9 ○ 8 ○ 7 ○ 6 ○ 5 ○ 4 ○ 3 ○ 2 ○ 1 ○ 0

Agree Strongly ... Agree ... Agree Somewhat ... Disagree Somewhat ... Disagree ... Disagree Strongly

12. I am on an instructional team that collaborates to improve teaching and learning.

○ 10 ○ 9 ○ 8 ○ 7 ○ 6 ○ 5 ○ 4 ○ 3 ○ 2 ○ 1 ○ 0

Agree Strongly ... Agree ... Agree Somewhat ... Disagree Somewhat ... Disagree ... Disagree Strongly

13. How often does your instructional team meet to collaborate on improving teaching and learning?

○ More than once a week   ○ At least weekly   ○ At least every other week   ○ At least monthly   ○ About every 3 months   ○ Never

14. My instructional team meetings are scheduled during the contracted day (e.g., common preparation periods, early out, late start).

○ 10 Agree Strongly   ○ 9   ○ 8 Agree   ○ 7   ○ 6 Agree Somewhat   ○ 5   ○ 4 Disagree Somewhat   ○ 3   ○ 2 Disagree   ○ 1   ○ 0 Disagree Strongly

15. My instructional team has sufficient collaboration time to improve teaching and learning.

○ 10 Agree Strongly   ○ 9   ○ 8 Agree   ○ 7   ○ 6 Agree Somewhat   ○ 5   ○ 4 Disagree Somewhat   ○ 3   ○ 2 Disagree   ○ 1   ○ 0 Disagree Strongly

16. My instructional team's processes lead to improved student learning.

○ 10 Agree Strongly   ○ 9   ○ 8 Agree   ○ 7   ○ 6 Agree Somewhat   ○ 5   ○ 4 Disagree Somewhat   ○ 3   ○ 2 Disagree   ○ 1   ○ 0 Disagree Strongly

17. My instructional team collaborates on finding instructional solutions that help all students improve their learning.

○ 10 Agree Strongly   ○ 9   ○ 8 Agree   ○ 7   ○ 6 Agree Somewhat   ○ 5   ○ 4 Disagree Somewhat   ○ 3   ○ 2 Disagree   ○ 1   ○ 0 Disagree Strongly

18. My instructional team finds the most effective instructional approaches to help students master selected learning targets.

○ 10 Agree Strongly   ○ 9   ○ 8 Agree   ○ 7   ○ 6 Agree Somewhat   ○ 5   ○ 4 Disagree Somewhat   ○ 3   ○ 2 Disagree   ○ 1   ○ 0 Disagree Strongly

19. At my school teachers provide high quality instruction for all students including those who may be at risk for academic failure.

○ 10 Agree Strongly   ○ 9   ○ 8 Agree   ○ 7   ○ 6 Agree Somewhat   ○ 5   ○ 4 Disagree Somewhat   ○ 3   ○ 2 Disagree   ○ 1   ○ 0 Disagree Strongly

20. The faculty in this school has enacted systems for intervening with students who are at risk for academic failure.

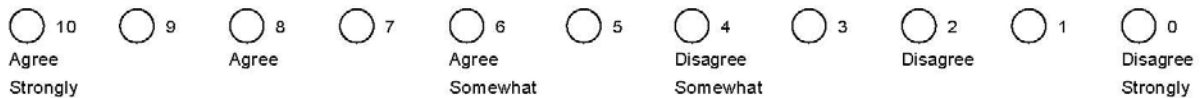( ) 10 ( ) 9 ( ) 8 ( ) 7 ( ) 6 ( ) 5 ( ) 4 ( ) 3 ( ) 2 ( ) 1 ( ) 0

Agree Strongly ... Agree ... Agree Somewhat ... Disagree Somewhat ... Disagree ... Disagree Strongly
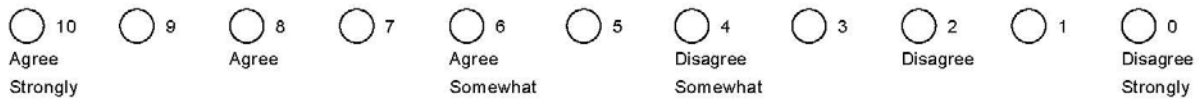
21. Any student who experiences academic difficulty in my class receives extra time and support.

( ) 10 ( ) 9 ( ) 8 ( ) 7 ( ) 6 ( ) 5 ( ) 4 ( ) 3 ( ) 2 ( ) 1 ( ) 0

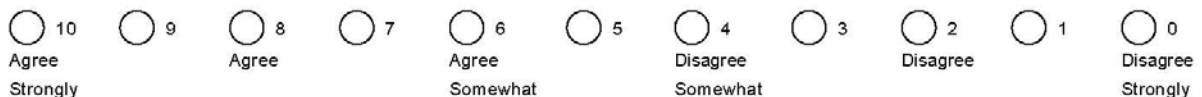Agree Strongly ... Agree ... Agree Somewhat ... Disagree Somewhat ... Disagree ... Disagree Strongly
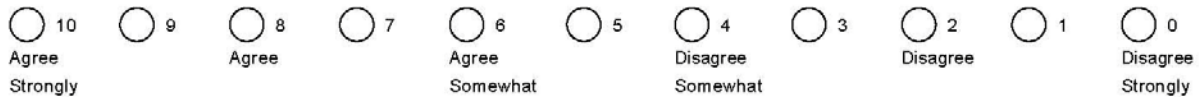
22. In this school, the additional time and support for learning provided to students who experience academic difficulty is developed in a systematic way rather than being left to the discretion of teachers.

( ) 10 ( ) 9 ( ) 8 ( ) 7 ( ) 6 ( ) 5 ( ) 4 ( ) 3 ( ) 2 ( ) 1 ( ) 0

Agree Strongly ... Agree ... Agree Somewhat ... Disagree Somewhat ... Disagree ... Disagree Strongly
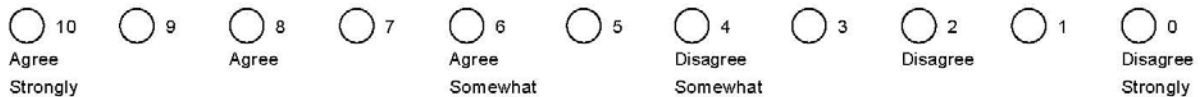
23. Rather than just being invited, students who experience academic difficulty are required to participate in activities that provide them with additional time and support for learning.

( ) 10 ( ) 9 ( ) 8 ( ) 7 ( ) 6 ( ) 5 ( ) 4 ( ) 3 ( ) 2 ( ) 1 ( ) 0

Agree Strongly ... Agree ... Agree Somewhat ... Disagree Somewhat ... Disagree ... Disagree Strongly

24. In my grade level or department team, we systematically assist students who have difficulty mastering core content by providing extra teacher-directed learning time.

( ) 10 ( ) 9 ( ) 8 ( ) 7 ( ) 6 ( ) 5 ( ) 4 ( ) 3 ( ) 2 ( ) 1 ( ) 0

Agree Strongly ... Agree ... Agree Somewhat ... Disagree Somewhat ... Disagree ... Disagree Strongly

25. My instructional team uses data from district or state end of level tests to make instructional decisions.

( ) 10 ( ) 9 ( ) 8 ( ) 7 ( ) 6 ( ) 5 ( ) 4 ( ) 3 ( ) 2 ( ) 1 ( ) 0

Agree Strongly ... Agree ... Agree Somewhat ... Disagree Somewhat ... Disagree ... Disagree Strongly
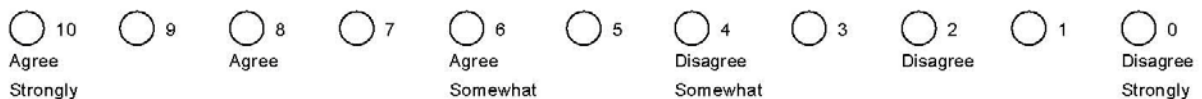
26. I use data from common assessments developed by my team to make instructional decisions.

( ) 10 ( ) 9 ( ) 8 ( ) 7 ( ) 6 ( ) 5 ( ) 4 ( ) 3 ( ) 2 ( ) 1 ( ) 0

Agree Strongly ... Agree ... Agree Somewhat ... Disagree Somewhat ... Disagree ... Disagree Strongly
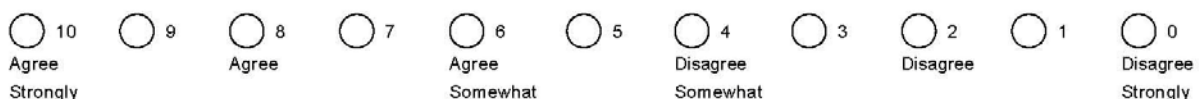
27. My instructional team has identified common core learning standards on which we assess student learning.

○ 10
Agree
Strongly
　○ 9
　○ 8
Agree
　○ 7
　○ 6
Agree
Somewhat
　○ 5
　○ 4
Disagree
Somewhat
　○ 3
　○ 2
Disagree
　○ 1
　○ 0
Disagree
Strongly

28. I use evidence of student learning to adjust my instructional practice.

○ 10
Agree
Strongly
　○ 9
　○ 8
Agree
　○ 7
　○ 6
Agree
Somewhat
　○ 5
　○ 4
Disagree
Somewhat
　○ 3
　○ 2
Disagree
　○ 1
　○ 0
Disagree
Strongly

29. My instructional team has created common assessments.

○ 10
Agree
Strongly
　○ 9
　○ 8
Agree
　○ 7
　○ 6
Agree
Somewhat
　○ 5
　○ 4
Disagree
Somewhat
　○ 3
　○ 2
Disagree
　○ 1
　○ 0
Disagree
Strongly

30. My instructional team uses data from common assessments to guide student learning.

○ 10
Agree
Strongly
　○ 9
　○ 8
Agree
　○ 7
　○ 6
Agree
Somewhat
　○ 5
　○ 4
Disagree
Somewhat
　○ 3
　○ 2
Disagree
　○ 1
　○ 0
Disagree
Strongly

31. My instructional team continuously assesses student learning to guide instruction.

○ 10
Agree
Strongly
　○ 9
　○ 8
Agree
　○ 7
　○ 6
Agree
Somewhat
　○ 5
　○ 4
Disagree
Somewhat
　○ 3
　○ 2
Disagree
　○ 1
　○ 0
Disagree
Strongly

32. My collaborative team process has been an important source of professional learning for me.

○ 10
Agree
Strongly
　○ 9
　○ 8
Agree
　○ 7
　○ 6
Agree
Somewhat
　○ 5
　○ 4
Disagree
Somewhat
　○ 3
　○ 2
Disagree
　○ 1
　○ 0
Disagree
Strongly

33. The professional development in which I participate in this school improves my classroom instruction.

○ 10
Agree
Strongly
　○ 9
　○ 8
Agree
　○ 7
　○ 6
Agree
Somewhat
　○ 5
　○ 4
Disagree
Somewhat
　○ 3
　○ 2
Disagree
　○ 1
　○ 0
Disagree
Strongly

34. Teachers participate in lesson studies, in which teachers co-develop lessons, observe a colleague teach the lessons to students, and critique and refine the lessons for use in their own classrooms.

○ 10
Agree
Strongly
　○ 9
　○ 8
Agree
　○ 7
　○ 6
Agree
Somewhat
　○ 5
　○ 4
Disagree
Somewhat
　○ 3
　○ 2
Disagree
　○ 1
　○ 0
Disagree
Strongly

35. Teachers help design professional development.

○ 10 ○ 9 ○ 8 ○ 7 ○ 6 ○ 5 ○ 4 ○ 3 ○ 2 ○ 1 ○ 0

Agree Strongly   Agree   Agree Somewhat   Disagree Somewhat   Disagree   Disagree Strongly

36. Teachers share their instructional expertise.

○ 10 ○ 9 ○ 8 ○ 7 ○ 6 ○ 5 ○ 4 ○ 3 ○ 2 ○ 1 ○ 0

Agree Strongly   Agree   Agree Somewhat   Disagree Somewhat   Disagree   Disagree Strongly

37. Teachers new to our school are provided with mentoring in a systematic way.

○ 10 ○ 9 ○ 8 ○ 7 ○ 6 ○ 5 ○ 4 ○ 3 ○ 2 ○ 1 ○ 0

Agree Strongly   Agree   Agree Somewhat   Disagree Somewhat   Disagree   Disagree Strongly

38. My principal focuses on improving student learning.

○ 10 ○ 9 ○ 8 ○ 7 ○ 6 ○ 5 ○ 4 ○ 3 ○ 2 ○ 1 ○ 0

Agree Strongly   Agree   Agree Somewhat   Disagree Somewhat   Disagree   Disagree Strongly

39. My principal coaches my instructional team towards improving student learning.

○ 10 ○ 9 ○ 8 ○ 7 ○ 6 ○ 5 ○ 4 ○ 3 ○ 2 ○ 1 ○ 0

Agree Strongly   Agree   Agree Somewhat   Disagree Somewhat   Disagree   Disagree Strongly

40. My principal uses data to improve teaching and learning.

○ 10 ○ 9 ○ 8 ○ 7 ○ 6 ○ 5 ○ 4 ○ 3 ○ 2 ○ 1 ○ 0

Agree Strongly   Agree   Agree Somewhat   Disagree Somewhat   Disagree   Disagree Strongly

41. My principal has helped to create conditions that improve student learning.

○ 10 ○ 9 ○ 8 ○ 7 ○ 6 ○ 5 ○ 4 ○ 3 ○ 2 ○ 1 ○ 0

Agree Strongly   Agree   Agree Somewhat   Disagree Somewhat   Disagree   Disagree Strongly

42. My principal has helped to create conditions that promote teacher learning.

○ 10 ○ 9 ○ 8 ○ 7 ○ 6 ○ 5 ○ 4 ○ 3 ○ 2 ○ 1 ○ 0

Agree Strongly   Agree   Agree Somewhat   Disagree Somewhat   Disagree   Disagree Strongly

43. Teachers help make school-wide decisions that relate to teaching and learning.

○ 10 ○ 9 ○ 8 ○ 7 ○ 6 ○ 5 ○ 4 ○ 3 ○ 2 ○ 1 ○ 0

Agree Strongly   Agree   Agree Somewhat   Disagree Somewhat   Disagree   Disagree Strongly

44. School administrator(s) seek my input on issues that relate to teaching and learning.

◯ 10 ◯ 9 ◯ 8 ◯ 7 ◯ 6 ◯ 5 ◯ 4 ◯ 3 ◯ 2 ◯ 1 ◯ 0

Agree Strongly   Agree   Agree Somewhat   Disagree Somewhat   Disagree   Disagree Strongly

45. Most decisions that relate to teaching and learning are made top-down.

◯ 10 ◯ 9 ◯ 8 ◯ 7 ◯ 6 ◯ 5 ◯ 4 ◯ 3 ◯ 2 ◯ 1 ◯ 0

Agree Strongly   Agree   Agree Somewhat   Disagree Somewhat   Disagree   Disagree Strongly

46. In this school there are many layers of bureaucracy that inhibit teachers in making good decisions regarding teaching and learning.

◯ 10 ◯ 9 ◯ 8 ◯ 7 ◯ 6 ◯ 5 ◯ 4 ◯ 3 ◯ 2 ◯ 1 ◯ 0

Agree Strongly   Agree   Agree Somewhat   Disagree Somewhat   Disagree   Disagree Strongly

47. Teachers collaboratively exercise leadership with the principal on issues that relate to improve teaching and learning.

◯ 10 ◯ 9 ◯ 8 ◯ 7 ◯ 6 ◯ 5 ◯ 4 ◯ 3 ◯ 2 ◯ 1 ◯ 0

Agree Strongly   Agree   Agree Somewhat   Disagree Somewhat   Disagree   Disagree Strongly

48. In this school there are formal professional learning communities that meet regularly.

◯ Yes   ◯ No