2016

A Program Evaluation of Teacher Perceptions on the Fidelity of Implementation of Professional Learning Communities.

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A Program Evaluation of Teacher Perceptions on the Fidelity of Implementation of Professional Learning Communities

by

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A dissertation presented to

The College of William and Mary

in partial fulfillment of

the requirement for the

degree of

DOCTOR OF EDUCATION

in

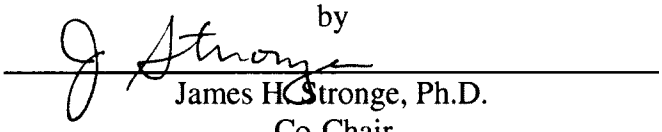
Curriculum Leadership

This dissertation has been

accepted for the faculty of

The College of William and Mary

by



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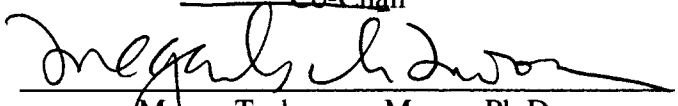

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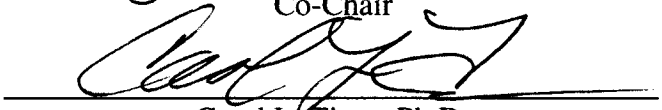

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Abstract

This quantitative research study utilized a program evaluation model to gather teacher perceptions about the fidelity of implementation of Professional Learning Communities in the Eastern Region School District in North Carolina. The goal of the program evaluation was to determine how (PLCs) were implemented across the district. The research utilized the Professional Learning Communities Assessment – Revised (PLCA-R; Hipp & Huffman, 2010). This survey assesses perceptions from the participants based on the five dimensions of PLCs: (a) shared and supportive leadership, (b) shared personal practice, (c) collective learning and application, (d) shared values and vision, and I supportive conditions (i.e., relationships and structures). The hypothesis that guided this study was that when PLCs are implemented with fidelity then the five dimensions as identified by Hord (1998) would be present at each school level—elementary, middle, and high. The study focused only on teachers. No administrators were invited to participate in this study. The PLCA-R was deployed via the participants' school email. Out of the 705 content teachers that met the criteria for completing survey, only 44 teachers participated in the study. The data were analyzed using descriptive statistics. The study revealed that the participants marginally agreed that PLCs were implemented with fidelity across the district. There were no statistically significant differences across and within the grade levels.

Acknowledgements

First, I want to give honor and praise to my Lord and Savior Jesus Christ. In Philippians: "I can do all things through Christ who strengthens me" (Philippians 4:13)." I liken my doctoral studies to a journey. On this journey, I had many detours, stops, and pauses. However, through them all I learned at every point along the way that no one can get to where they want alone. I met many people who encouraged me, critiqued me, assisted me, and supported me along this journey. I want to thank the following people for all of their life lessons and support along this journey.

To my cheerleader, my confident, my everything, my mother Mrs. Delores Napper: Along this journey, I have had many challenges with my health and my mother endured them all with me. She would tell me to write, she brought me food and drink to take my comps so she experienced this journey just like it was hers—it is hers. To my other cheerleader, my quiet wisdom, my listening ear, my late father Mr. George T. Napper: He often told everyone he knew that his daughter was going to be a doctor and that she will earn her doctorate from the College of William and Mary. Even in his last days on this earth, he stated that I would be the first doctor in the family and that my graduation day would be one of the happiest days of his life. I believe he will be at my graduation in spirit. Daddy, I fulfilled my promise to you—I finished.

To my sister Kimberly Napper-Edwards and my nephew Christian Napper-Mercer: It is so special to hear from your older sister, "You make me proud baby sister." Thank you for being the best sister and nephew in the world.

To my supporters, Dr. Evanda Watts-Martinez, Dr. Sadie Carter, Mrs. Topeka Graham, Mrs. Theresa Moffett, Mrs. Sonya Gordon, Dr. Richard M. Mason, Mr. Richard

Coleman, Dr. Mildred Sexton, Dr. Pat Leary, the pharmacy team at Rite Aid Store 11377, Amy Roberts, Peggy Jennette, Stephanus Smith and Stephanie Mills: Thank you for being a listening ear and providing me with opportunities to learn from you and complete my assignments.

To my Aunt Shirley Bond: thank you for being willing to read my work. To my cousins: Steven Parker, Sharon and Karen Bond for being proud of me and encouraging me.

To Dr. Tesha Isler, for always sitting down with me to look over my work and helping with my topic. Thank you for always telling me I can do it and never giving up on me and taking time to listen.

To Mr. Chris McKinney, my brother and best friend- thank you for listening to me talk endlessly about my dissertation and driving me to my defense so I wouldn't be nervous. To Mr. George Massenburg, the best English Teacher in the world: thank you for your willingness for helping me edit my paper—clearly APA is not my strength. To Dr. David Lewis for always being there when I called, helping me develop my methodology, and helping me obtain permission to conduct the study in the district. Your faithfulness and support was so appreciative, and I will never forget what you have done for me to complete this dissertation.

To Mrs. Cortrina Smith: thank you, thank you, thank you for allowing me to go to my last class in Williamsburg, Virginia, and for unlocking the school on Saturdays and Sundays before you took Myles to play dates or before going to church so that I could write almost every weekend. Your support was awesome and you always helped me without saying no and never begrudgingly. To Winter McNeill, Tracie Hamilton-Alston,

and Deborah Copeland for always checking in on me to speak words of encouragement and motivation to get my dissertation completed. To you all I am truly grateful for your support.

To the best supervisor, friend, and strong encourager (other than my mother and father) that a doctoral candidate can ever have, Dr. Donna Warthan: Along with my mom, dad, and my family you have been on this journey from the beginning. Thank you for sending me text messages and phone calls with encouraging notes that I better I have something done with my dissertation in a week or two, and that I better send it to you when I finished— and you would always end it with, "You better be finished!"

To Dr. Carol Tieso and Dr. Tschannen-Moran, thank you for being supportive and listening, helpful ears when I needed you. Thank you for teaching me the importance earning a doctorate from the College of William and Mary and teaching me the importance of being a critical thinker and to critique with a critical, objective and scholarly eye. I want to thank you for your time, support and patience with me, I hope I have made you proud.

Last but not least to the best teacher, leader, listener, supporter, and co-chair a doctoral candidate could ever have, Dr. James Stronge. You are such a special person and educator. Everything that I did, I wanted to please you and make you proud because you always expected the best and I wanted to give you the best. You are a true educator with a genuine heart for your students, your craft, your work, and your profession. Thank you for all of your supportive phone calls, emails, and extensions due to life's challenges that I faced on this journey. I knew when I had you as a teacher that I wanted you to be on my

committee because I knew that you would positively push me to do and be my best. It is my hope that I have given you a research study of which you can be proud.

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Chapter 1: Introduction

Professional Learning Communities are being implemented in all schools in all counties in North Carolina. This study focuses on the evaluation of the implementation of Professional Learning Communities (PLCs) in one school district in North Carolina. In addition, it examined the fidelity of implementation of PLCs across the levels and in the schools in the Eastern Region School District.

As teachers and administrators prepare students to be productive in the twenty-first century, they require students to be critical thinkers, incorporating skills of collaboration, creativity, and innovation within a given context. In order to prepare students for these competencies, teachers must be the first partakers of this type of learning as well. Professional Learning Communities (PLCs) offer teachers collaborative inquiry, communication, and problem solving that prepare them to face the challenges of school reform. Educational leaders tout the positive impact of these PLCs on learning at school (Hord & Sommers, 2008).

PLCs are now a nearly ubiquitous feature of public schools. Few educational leaders and decreasing numbers of teachers remain unaware that PLCs are meant to be communities of professionals working to improve students' learning together while engaging in continuous collective learning of their own (Hord & Sommers, 2008). PLCs are being implemented in schools across the United States as an answer to the pressures of accountability and school reform with the assumption that when educators collaborate on teaching and learning that student learning will increase and student achievement will improve. DuFour and Eaker (1998) argued that "the most-promising strategy for

sustained, substantive school improvement is developing the ability of school personnel to function as professional learning communities" (p. xi). However, little evidence exists that the implementation of PLCs leads to improved student achievement.

In North Carolina, the creation of PLCs in schools is a priority. It is clearly evident from the state educational leadership that PLCs are to be embedded in the educational fabric of the state. Hence, it appears that school leaders have endorsed the effectiveness of PLCs. This claim is supported by language written into the North Carolina teacher evaluation. The evaluation states the following expectation in the evaluation instrument:

> Teachers demonstrate leadership in the school. Teachers work collaboratively with school personnel to create a *professional learning community.* They analyze and use local, state, and national data to develop goals and strategies in the school improvement plan that enhances student learning and teacher working conditions. Teachers provide input in determining the school budget and in the selection of professional development that meets the needs of students and their professional growth. They participate in the hiring process and collaborate with their colleagues to mentor and support teachers to improve the effectiveness of their departments and grade levels. (Public Schools of North Carolina, 2009, p. 8)

Now that teachers will be evaluated on leadership in a PLC as it relates to student achievement, will this emphasis have an effect on student achievement?

Theoretical Framework of Professional Learning Communities

The concept of a learning community, at least as adopted in educational circles, emerged after the publication of Peter Senge's (1990) book, *The Fifth Discipline.* The business world embraced Senge's work concerning how to bring about change and transformation in business to achieve growth. Senge defined a learning community as

> an organization in which people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free and where people are continually learning how to learn together. (p. 3)

The American educational community embraced the concept of learning communities as a strategy to improve learning among educators, with the explicit objective of improving student learning. The learning community idea promotes collaboration. DuFour and Eaker (1998) asserted that the development of collaborative cultures created learning teams. The term *professional learning community* evolved as the descriptor for schools as learning communities. DuFour and Eaker (1998) elaborated on each term of PLC in the following manner:

> 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 an ongoing study and constant practice that characterize an organization committed

> to continuous improvement. . . . In a professional learning community, educators create an environment that fosters cooperation, emotional support, personal growth as they work together to achieve what they cannot accomplish along. (pp. xi-xii)

According to Hord (1998), a PLC focuses on five dimensions: (a) supportive and shared leadership, (b) shared values and vision, (c) collective learning and the application of learning, (d) supportive conditions, and (e) shared practice. These five dimensions will be explored in detail in chapter 2.

Program Description

The literature on school reform is replete with ideas on how to improve schools. The literature has suggested that in order to increase student achievement then the teaching and learning culture of the school has to be changed (Fullan, 2006; Gronlund, 2006). PLCs are designed to change a school culture with the focus on learning, results, and collaboration (DuFour & Eaker, 1998).

Educational leaders are embracing the principles of PLC to create this cultural shift. However, the majority of the literature simply reports on the positive results of PLCs and why schools should adopt this model, without providing much empirical evidence (Tarnoczi, 2006). There is little evidence that implemented PLCs are yielding the type of results that the PLC literature has claimed (Tarnoczi, 2006; Thomas, 2004). This study is designed to conduct a program evaluation about teacher perceptions of the fidelity of PLC implementation in one district in North Carolina. It does not examine student achievement gains. The findings may reveal to the educational leaders in the

district as well as the educational community at large whether or not they should continue, improve or abandon the PLC implementation process.

Context of the Study

In 1995, North Carolina created an accountability model that was used to assess the achievement levels of students in reading and mathematics. These assessments were designed as a standards-based system entitled, the *North Carolina Standard Course of Study*. In 2007, the North Carolina State Board of Education decided to revamp and refresh the current standard course of study that had been in place (Public Schools of North Carolina, 2012a). A blue ribbon task force was assembled and commissioned by the State Board of Education and the state superintendent to review the current practices and examine what students needed to be "college-and-career-ready" after high school. As a result of their findings, they developed a *framework for change* that addressed curriculum and assessments that, they hoped, would result in increased student learning. Collectively, the framework for change was called the *Accountability and Curriculum Reform Effort* (ACRE). ACRE was used as "a shorthand term to help educators at the state level describe the work underway" (Public Schools of North Carolina, 2012a, p. 3).

The ACRE framework recommended that North Carolina adopt the Common Core State Standards (CCSS) (Public Schools of North Carolina, 2012a). This recommendation was accepted and in the 2012-2013 school year, the CCSS for English language arts and mathematics were adopted. The CCSS replaced the prior North Carolina course of study. Prior to this full implementation year, teachers, administrators, and district personnel received training across the state to prepare the school districts for the rollout of the standards for the 2012-2013 school year (Public Schools of North

Carolina, 2012a). Along with the implementation of the new standards came the development of new assessments. The new assessment, READY end-of-grade, was administered in the spring of the 2012-2013 school year. After the results had been revealed, schools received one of the following three designations for their school's performance as it related to student achievement: exceeded growth, met growth, or did not meet growth (Public Schools of North Carolina, 2012a). Prior to adopting the ACRE framework and administering this new test with the new standards as the basis of curriculum, instruction, and assessment, schools across North Carolina had already begun the process of implementing PLCs.

The PLC movement in North Carolina emerged from the Department of Professional Development in the North Carolina Department of Public Instruction (NCDPI, 2010). Hord (1997) stated, "As an organizational arrangement, the PLC is seen as a powerful staff-development approach and a potent strategy for school change and improvement" (p. 1). Consistent with this statement, PLCs are being used as a vehicle to provide relevant and collaborative professional development to all educators in North Carolina. Thus, the NCDPI has adopted the concept of learning communities from Senge's (1990) work on learning communities.

According to NCDPI (2014), they endorsed the five PLCs dimensions in order to improve teacher learning that will subsequently affect student learning and achievement. These attributes, as articulated by Hord (1997), are (a) supportive and shared leadership, (b) shared values and vision, collective application and learning, (c) collective learning and application (d) shared personal practice, and (e)supportive conditions .

In addition to using PLCs as a vehicle for relevant and collaborative professional development, NCDPI has adopted this model of school reform to reduce isolation and increase collaboration to share and discuss best practices concerning curriculum, instruction, and assessment. Carmichael (1982) argued that "teachers are the first learners" (pp. 58-59). Therefore, teachers' participation in PLCs was intended to support teachers and help them become more effective in achieving gains in student achievement. As a result, student outcomes could improve when teachers were the first partakers of the learning process. NCDPI (2014) declared the following, "The benefits of PLC to educators and students include reduced isolation of teachers, better informed and committed teachers, and academic gains for students" (Public Schools of North Carolina, 2014c, p. 1). Supporting the idea of teachers as the first learners, NCDPI also provided a benefit for the students based on Hord's (1997) research:

> 1) decreased dropout rate and fewer classes 'skipped,' 2) lower rates of absenteeism, 3) increased learning that is distributed more equitably in the smaller high schools, 4) greater academic gains in math, science, history, and reading than in traditional schools, and 5) smaller achievement gaps between students from different backgrounds. (Public Schools of North Carolina, 2014c, p. 1)

Subsequently, the North Carolina Department of Public Instruction (2010) adopted the PLC model of school reform to measure differences in the teaching and learning conditions of the students and the teachers in order to increase student

achievement for the students of North Carolina.[1] In a statement, State Superintendent June Atkinson (2011) noted, "North Carolina public schools have been very focused on improving instruction and learning for students over the past decade and we're making additional improvements to continue this focus" (Public Schools of North Carolina, 2014, p. 1). NCDPI has supported their commitment to providing comprehensive, targeted professional development by providing PLC coaches to support the work of PLCs in North Carolina (Public Schools of North Carolina, 2014a)

Description of the Program

All school districts in North Carolina are expected to implement and utilize PLCs as a vehicle of professional development in order to promote collaboration. There is an assumption that if PLCs are being implemented then eventually student achievement will increase. Purportedly, teacher learning is embedded in their school's ongoing collaborative process. The goal of this intentional collaboration is to discuss instructional practices and data from formative and summative assessments. These collaborative conversations are to be used to make instructional decisions about student achievement.

In this study's targeted school district, there is an assumption that PLCs are being implemented to promote collaboration to improve student learning in all schools in the district. This school district serves approximately 22,000 students and employs approximately 700 content-area (math, science, social studies, and English) teachers. The goal of the program is to utilize PLCs as a vehicle of professional development and to foster collaboration during grade level meetings, vertical team meetings as well as

[1] NCDPI Office of Professional Development was contacted on December 14, 2014 to determine the timeframe of PLC implementation in North Carolina. No timeframe could be determined by the Office of Professional Development Representative.

district level teams and district level meetings that would ultimately result in increased student growth and achievement.

This study was used to explore the degree of fidelity in the implementation of the PLC concept in the district. According to a district administrator (personal communication, October 31, 2014), school leaders in the district were not trained extensively on the concepts and practices of PLCs. Discussions of PLCs were held in leadership academy meetings with novice principals and assistant principals. Also, books were distributed to the leaders of the school district about PLCs and book studies were conducted. Although stakeholders did not receive extensive, systemic training, the expectation was communicated that PLCs would be implemented at the school level.

Furthermore, in 2010 North Carolina implemented a new teacher evaluation system to evaluate teacher effectiveness. In this system, teacher leadership is tied to PLCs. Seemingly, North Carolina has placed a high expectation on the effectiveness of PLCs to create teachers leaders that affect student achievement through this model.

Historically, teachers in K-12 education have too frequently worked in isolation (DuFour, DuFour, & Eaker, 2002; Hipp & Huffman, 2003; Hord, 1998). Schools that have chosen to reculture their schools by adopting the PLC model are attempting to abandon teacher isolation by creating a culture of collaboration. Teague and Anfara (2012) suggested that "growing numbers of schools have implemented PLCs as a method for bringing about sustainable change" (p. 58). If so, to what degree are these PLCs being implemented with fidelity to achieve the intended learning outcomes?

Overview of Evaluation Approach

The purpose of this program evaluation is to gather evidence from elementary, middle, and high school teacher perceptions to assess the fidelity of implementation of PLCs in an eastern North Carolina school district. The findings provide the district and school leadership with data on the perceived effectiveness of PLC's implementation at each school on each level. Additionally, in this study I endeavor to gain information on how to develop a common understanding about the purpose of PLCs and common expectations for each grade level.

Program Evaluation Model

The theory of change logic model was used to evaluate the fidelity of implementation of PLCs. This model is designed to display what a program could conceivably do once implementation occurs. It is based on the inputs from theory, research, and practice, plus assumptions of what will be achieved as a result of the implementation of a program. "Theory of change models present a very high-level and simple explanation of "do and get" (Knowlton, 2012, p. 13).

> Logic models can be used to assess progress and unravel the multifaceted relationships among the professional learning community constructs. They offer a way to describe and share an understanding of relationships (or connections) among elements necessary to operate a program or change effort. Logic models describe a bounded project or initiative: both what is planned (the doing) and what results are expected (the getting). They provide a clear road map to a specified end. The development of models (or the modeling process) provides an

opportunity to review the strength of connection between activities and outcomes (Knowlton, 2012, p. 4).

Focus of the Evaluation

The program evaluation focused on the fidelity of implementation of PLCs through gathering teacher perceptions about all five dimensions of PLCs as asserted by Hord (1998). A change logic model is being utilized to gather information about what the research says about PLCs, what is in practice, assumptions about PLCs and their effectiveness and the intended results of this model. Table 1 below illustrates the theory of change logic model used to guide this program evaluation.

Table 1

Implementation Factors for Evaluation of Professional Learning Communities Model

	Believe		Do		Get
Research	"Monitoring teachers' fidelity of implementation helps researchers and practitioners connect the dots between service delivery and impact; in short, it determines which parts of a program contributed to desired outcomes" (Fieghan, Heeren, & Feldman, 2011, p. 8).	Strategies	Training on professional learning communities' implementation. Provide all stakeholders with information about professional learning communities and its effectiveness.	Results	Increased collaboration. Increased student achievement.
Practice	All schools are expected to implement and facilitated professional learning communities in all				

	schools at all levels.
Theory	When implemented with fidelity, professional learning communities increase collaboration, reduce teacher isolation, thereby increasing student achievement.
Assumption-ions	Professional learning communities are being implemented in all schools at all levels with fidelity.

Evaluation Questions

The following evaluation questions were the focus of this study:

1. To what degree do teachers in the Eastern Region School District perceive fidelity of implementation of PLCs in their schools?
    a. To what degree do teacher perceptions describe supportive and shared leadership?
    b. To what degree do teacher perceptions describe shared values and vision?
    c. To what degree do teacher perceptions describe collective learning and application?
    d. To what degree do teacher perceptions describe shared personal practice?
    e. To what degree do teacher perceptions describe supportive conditions?

2. To what degree do the perceptions of teachers concerning the fidelity of PLC implementation vary by school level?
3. To what extent do they perceive PLCs has improved student achievement in their school?
4. To what extent do teachers perceive challenges of implementing PLCs?
5. What suggestions do teachers in the Eastern Region School District have to improve the fidelity of implementation of PLCs in order to garner the promised benefits?

Evaluation Audiences

The data collected from this program evaluation is directed to the following audiences: district level leadership, school level leadership, teachers, and the educational community at large. The district level leadership includes the superintendent, human resources, curriculum and instruction staff and professional development staff. The data collected from this evaluation provide the leadership with a picture of how PLCs are being implemented at all levels. Additionally, district level leaders are able to glean perceptions from the teachers about how this affects them instructionally and professionally in regards to how they provide support to their students. Also, the district leadership is able to use the feedback to make district-wide decisions on professional development that may be needed, clarify expectations and common language development about PLCs, and provide support to impact the implementation of PLCs at each grade level.

The school-level leadership includes principals, assistant principals, curriculum specialist, curriculum facilitators, and instructional coaches with data on how PLCs are

being implemented at their respective levels: elementary, middle, and high school. School level leadership can utilize this information to direct scheduling, provide support for implementation, and provide them with how the teachers have perceived the process at their level. This information may inform them on how to change, modify or stop the process if feasible.

The teachers may use this information to inform their PLC groups. Teachers can use the information to guide them on what is expected in PLCs and how their colleagues perceive the PLCs process from their perspective. Since the teachers are the closest to the implementation process, they need to be informed about expectations and possible strategies to facilitate collaboration. In addition to equipping them with information, teachers can ask essential questions about the PLC process and its effect on their evaluation and professional growth in the profession.

Lastly, this program evaluation provides the educational community with additional research about how the implementation process of PLCs looks in schools at all levels. Hopefully, the data collected and the analysis of this data will provide the educational community with information on how to start, improve, or discard PLCs in their districts.

Significance of the Program Evaluation

The PLC movement is being touted as the best hope for school reform. The basic premise for this contention is that if the PLC model is implemented in schools with fidelity, then the schools will recognize their student achievement, as the literature purports. A. critique of the literature is found in chapter 2.

The North Carolina Department of Public Instruction (2010) has institutionalized the five dimensions of PLCs as a part of their literature, research, and evaluation instruments. The educational resources do not provide the stakeholders with a balanced perspective about PLCs. The North Carolina Department of Public Instruction (NCDPI) reports that PLCs are implemented from a state level via professional development and at the school level through school levels and grade level teams. Since PLCs are "implemented" in schools and teacher leadership is evaluated based on their involvement in "sharing vision, working and learning collaboratively, visiting and observing classrooms, and participating in shared decision making" (NCDPI, 2014) in PLCs (NCDPI, 2010, para. 12), then it raises the question about whether they are being implemented with fidelity based on the fundamentals that the leadership has communicated as the components of effective PLCs.

Definition of Terms

The following terms were used in this study and the accompanying definitions were used to enhance shared meaning when implementing the study:

Collaboration: People working and learning together (Ferriter & Graham, 2010, Kindle Location 449).

Collective learning: Involves individuals learning new knowledge and skills together and sharing knowledge to develop new products (Hord, 1998)

Common Core State Standards (CCSS) K-12: English language arts and mathematics standards developed in collaboration with a variety of stakeholders including states, governors, chief state school officers, content experts, teachers, school administrators, and parents. The standards establish clear and consistent goals for

learning to prepare students for college and careers. As of December 2011, the common core state standards were adopted by 45 states and the District of Columbia (Public Schools of North Carolina, 2012b, p. 13).

Growth: Student growth is the amount of academic progress that students make over the course of a grade or class (Public Schools of North Carolina, 2014b, p. 1).

National Assessment of Educational Progress (NAEP): The largest nationally representative and continuing assessment of what Americas' students know and can do in various subject areas. Assessments are conducted periodically in mathematics, reading, science, writing, the arts, civics, economics, geography, US history, and beginning in 2014, in technology and engineering literacy. (National Center for Education Statistics, 2014, p. 1)

North Carolina Educator Evaluation System (NCEES): The intended purpose of North Carolina Teacher Evaluation Process is to assess the teacher's performance in relation to the North Carolina Professional Teaching Standards and to design a plan for professional growth. The principal or a designee (hereinafter *principal*) will conduct the evaluation process in which the teacher will actively participate through the use of self-assessment, reflection, presentation of artifacts, and classroom demonstration(s) (Public Schools of North Carolina, 2012a, p. 4).

Professional Learning Community: Framework including five dimensions of a professional learning community; defined PLC as the professional staff learning together to direct their efforts toward improved student learning (Hord, 1997, p. 6).

Race to the Top: Race to the Top was a $400 million federal grant awarded to North Carolina in August 2010. Its purpose was to support the significant changes in

curriculum and accountability along with technology necessary to ensure that more students graduate from high school prepared for college and careers (Public Schools of North Carolina, 2012a, p. 13).

READY end-of-grade: Designed to measure student performance on the goals, objectives, and grade level competencies specified in the North Carolina standard course of study. They are used to sample a student's knowledge of subject-related concepts as specified in the North Carolina standard course of study and to provide a global estimate of the student's mastery of the material in a particular content area (Public Schools of North Carolina, 2012b, p. 1).

READY initiative: The READY initiative replaces the ABCs nomenclature. The READY initiative refers to North Carolina's new common core state standards (CCSS) and North Carolina essential standards (NCES), the new accountability model, efforts to support low-performing schools and to provide a stronger technology infrastructure statewide (Public Schools of North Carolina, 2012b, p. 13).

Shared mission, vision, values, and goals: This includes the commitment of the staff toward improved student learning through the development of statements to guide them through this process (DuFour & Eaker, 1998; Hord, 1998).

Student achievement: The extent to which students are achieving the intended learning outcomes of instruction (Gronlund, 2006, p. 3). For this study, the term is defined as student performance on the North Carolina READY end-of-grade assessment.

Supportive conditions: School conditions and capacities that support the staff's arrangement as a professional learning organization. Throughout our work, we found

supportive conditions to be the glue that holds all other dimensions together (Hipp & Huffman, 2003; Kindle Locations 409-410).

Supportive and shared leadership: The sharing of authority and power with the school staff to make school decisions (DuFour & Eaker, 1998; Hord, 1998).

The Trends in International Mathematics and Science Study (TIMMS): This is an international comparative study of student achievement.

Chapter 2: Review of the Literature

Educational Reform and Change in North Carolina

In an effort to remain effective and current with changing practices in education, North Carolina revamped its accountability model to meet the needs of students and prepare them for the 21st century. The new accountability model is known as ACRE. As part of its development, North Carolina received *Race to the Top* funding in 2010 from the U.S. Department of Education to facilitate educational reform and change in North Carolina. As a part of this change initiative, North Carolina adopted the Professional Learning Communities reform model to create a more collaborative teaching and learning environment in all schools and districts in North Carolina.

Race to the Top in North Carolina

Race to the Top funding was awarded as a $400 million federal grant to North Carolina in August 2010. Its purpose was to support the significant changes in curriculum and accountability along with the technology necessary to ensure that more students graduate from high school prepared for college and careers (Public Schools of North Carolina, 2012b, p. 13). The funds were released over a 4-year period from the U.S. Department of Education to North Carolina on July 31, 2011. However, on August 31, 2014, North Carolina received a no-cost extension into Year 5 to accomplish their goals.

The funds from *Race to the Top* were used to develop a comprehensive plan to increase student achievement. All schools and districts received benefits from these funds. The plan was based on two key ideas:

(a) every student should be held to high academic expectations, the achievement of which will enable him or her to graduate ready for life in the global economy and (b) for every student to have the opportunity to grow academically and achieve, every student must have an effective teacher and every school must have an effective principal. (Public Schools of North Carolina, 2014c, p. 1)

To achieve these two ideas, the developers of the *Race to the Top* proposal created the following initiatives:

- Quality standards and assessment
  - Adopt common core standards
  - Transition to new standards and assessments
- Turnaround of lowest achieving schools
  - Build district and school transformation and capacity,
  - Support science, technology, engineering, and mathematics thematic schools network,
- Data systems to improve instruction
  - Enhance the statewide longitudinal data system,
  - Develop the statewide instructional improvement system,
- Great teachers and principals
  - Improve the teacher and principal evaluation process,
  - Institute regional leadership academies,
  - Expand teacher recruitment and licensure programs,
  - Initiate strategic staffing,
  - Deliver virtual and blended classes,

- Initiate statewide professional development, and
- College- and career-ready students (Public Schools of North Carolina, 2010, pp. 29-30).

These initiatives were all designed to achieve the final stated goal: college- and career-ready students. As a result of the initiatives being in place, the U.S. Department of Education (1993) cited North Carolina as a leader in educational reform in the United States. In a forward to the 2014 report on Public Schools of North Carolina, Education Secretary Arne Duncan wrote that over the past few years, we have seen *Race to the Top* states build systems and framework that they have been developing to lay the foundation for long-term, sustainable progress. North Carolina has made key steps in implementing its plans, developing great teachers and leaders and improving student outcomes. As North Carolina completes the third year of implementing its *Race to the Top* grant, it has continued to demonstrate leadership in education reform (Public Schools of North Carolina, 2014d, p. 1).

The North Carolina *Race to the Top* plan notes that communicating these initiatives to all educators and educational leaders will be delivered through professional development. The *Race to the Top* grant was used to provide professional development via PLCs to bring about increases in student achievement. The teachers are achieving this goal by "convening in PLCs to share insights and instructional strategies for teaching the standards, raising the achievement of all students and closing achievement gaps" (Public Schools of North Carolina, 2010, p. 65). The educators, political leaders, and educational leaders have recognized that ensuring that the entire *Race to the Top*

initiatives is met will also include challenges. However, the plans are in place with the goal of ensuring improvement in student outcomes.

Excellent Public Schools Act

In addition to receiving the *Race to the Top* funding, North Carolina legislators have passed laws to ensure that students are college- and career-ready as well as increasing student outcomes for all students. In April 2012, the North Carolina General Assembly passed the Excellent Public Schools Act. The act reads as follows:

> A bill to be entitled an act to make changes to improve K-3 literacy; provide literacy volunteer leave time; assign school performance grades; maximize instructional time; adjust the school calendar; fund five additional instructional days within the existing school calendar; establish an NC Teacher Corps; strengthen teacher licensure requirements; provide proof of state-funded liability insurance; establish plans for pay for excellence; clarify NC Pre-K program eligibility and add slots; repeal prohibition on teacher prepayment; provide tax deductions for educational supplies; establish teacher contracts, and eliminate public finance for the office of the Superintendent of Public Instruction. (General Assembly of North Carolina, 2012, p. 1)

Since North Carolina is known for being a leader of educational reform and change, the Excellent Public Schools Act was designed to guarantee that all schools in North Carolina are producing students who are literate citizens. For North Carolina students to be prepared for the global economy, literacy is the equalizer and determinant of student achievement and success.

Math Measures to Improve Student Achievement

Along with the North Carolina General Assembly passing the Excellent Public Schools Act to improve literacy in Grades K-3, the NCPI established resources to improve student achievement in math as well. During the 2009-2010 school year, NCDPI added a Quantile score to the end-of-grade and end-of-course score reports. The Quantile score is used to provide teachers and parents with a gauge of their students' math achievement levels. This score allows teachers to provide instructional resources that will target a student's math ability in order to assist him or her in increasing math achievement. The NCDPI (2010) adopted the Quantile Framework to provide the following data:

> The Quantile framework was developed by MetaMetrics. The Quantile score provides a common developmental scale for measuring student mathematics achievement, the difficulty of mathematical skills and concepts, and the materials for teaching mathematics. By placing the curriculum, teaching materials and students on the same scale, Quantile measures enable teachers to describe which math skills and concepts a student is ready to learn and identify those that will require additional instruction so students can be matched with resources that meet their learning needs. North Carolina is one of four states currently using this framework. (p. 1)

Student Achievement and Accountability in North Carolina

Prior to North Carolina implementing ACRE, their new accountability model, the number of schools meeting or exceeding growth in student achievement was decreasing.

In 2012-2013, North Carolina transitioned to the new accountability model using the funds from the state received from the U.S. Department of Education *Race to the Top* funding. Despite these results, North Carolina had other data to determine the level of student achievement—NAEP and TIMMS reports to archive and track student achievement in North Carolina. It is important to note that during the transition from the old accountability model, ABCs, and the new accountability model, ACRE, the department of professional development at NCDPI was already utilizing PLCs to facilitate collaboration and to implement relevant and timely training to help teachers become more effective in increasing student achievement.

North Carolina NAEP Math Achievement

The National Assessment of Educational Progress (NAEP) is administered to a sample of students in all states in the United States every other year. In 2011, the NAEP results revealed that North Carolina's fourth grade students were scoring just above average. The average score was 245 in comparison to the national average score of 240. This is a significant improvement considering that when the test was first administered in North Carolina in1992, approximately half of the fourth graders scored below basic. In spite of fluctuations, the fourth-grade trend in math scores has been showing average student achievement scores at a basic level or above (Public Schools of North Carolina, 2011, pp. 1-2).

TIMMS report: Trends in Math Achievement in North Carolina

In 2011, North Carolina was selected to participate in a TIMMS study. The study included fourth grade students in 57 countries. The United States was represented by Florida and North Carolina in the year that this study was conducted. The NAEP and the

TIMMS show that mathematics scores in North Carolina trend toward improvement. However, it is unclear whether this improvement has been indicative of more efficient instruction and collaboration via PLCs (Public Schools of NC, 2011). In addition, it is useful to examine how the data from these two tests of student achievement compare to the effects on achievement on the North Carolina state math assessment, READY end-of-grade assessment.

North Carolina NAEP Reading Achievement

The reading achievement level in North Carolina has not yielded the same results as in mathematics. According to the state superintendent, "mathematics and reading are critical skills for all students and provide the foundation for learning in other disciplines. Our NAEP scores show that we have made progress in mathematics, but we continue to face challenges in improving reading performance" (Public Schools of North Carolina, 2011, pp. 1-2). "The NAEP assesses reading in both literary and informational texts. The assessments are given to a representative sample of North Carolina students selected by the NCES as representative of the state" (Public Schools of North Carolina, 2011, pp. 1-2). The 2011 NAEP results revealed that students in North Carolina were reading on par with their peers. North Carolina's average was 221 while the national average was 220. North Carolina's fourth grade students were lower than 13 states, and the scores were placed in the state below 27 other states on the NAEP" (Public Schools of North Carolina, 2011, pp. 1-2). In a press release, the following was stated, "In the recent years of NAEP, North Carolina students have shown steady improvements in mathematics. Reading performance has experienced more fluctuations" (Public Schools of North Carolina, 2011, pp. 1-2). Overall, the reading scores in North Carolina fourth graders

have not shown a significant difference in achievement in comparison to the national average reading score as evidenced on the NAEP.

Read to Achieve in North Carolina

In response to the challenges that North Carolina schools have faced concerning improving reading achievement, the legislators in the North Carolina General Assembly passed the Read to Achieve law. The law was a part of the *Excellent Public Schools Act of 2012*, and the law states the following: "Read to Achieve was created to hold schools accountable for ensuring that students are reading on grade level prior to being promoted to Grade 4" (Public Schools of North Carolina, 2014d, p. 1). State Superintendent June Atkinson stated, "Read to Achieve was developed with the goal of all children becoming good readers by the end of the third grade" (Public Schools of North Carolina, 2014d, p. 1).

As part of this bill, teachers were required to administer reading assessments to show reading proficiency. The reading portfolio were to be used to demonstrate the student's proficiency along with their READY end-of-grade reading assessment at the end of the 2013-2014 school year to determine if students would be retained or promoted. To support this assessment process, the local education agencies (LEAs) had to support teacher collaboration by scheduling PLC time for teachers to share instructional ideas, discuss the reading plan for achievement, and utilize data to make instructional decisions. In addition, PLC time was used to determine which reading instructional strategies were needed (North Carolina Legislature, 2011). The school leader is responsible for providing time for teachers to schedule participation in the PLCs.

North Carolina Reading Plan and Professional Learning Communities

In response to the *Excellent Public Schools Act*, NCDPI (2013-2014) developed the North Carolina Read to Achieve Comprehensive Reading Plan K-12.

> The document provides a consistent voice with which to address literacy challenges in the state and provides a plan for focused support from the North Carolina Department of Public Instruction for all state initiatives. This proposed Comprehensive Reading Plan will become a supplement to the State Literacy Plan. The reading plan will specifically address the requirements of the state law and the feedback received from the participants in the focus group sessions. (p. 3)

This plan outlines how NCDPI would implement the components of the Read to Achieve law to all school districts in the state. The plan responded to all stakeholders: NCDPI, LEAs, school administrators, and teachers. Each component included a plan for the standards-based curriculum, leadership, instruction, professional development, assessment and partnerships, and communication.

The connection between the reading plan and PLCs is outlined in the plan. The NCDPI expects the leadership and the teachers to collaborate on reading practices, instructional planning, curriculum evaluation, and data-driven conversations via PLCs. To ensure that this collaborative process is occurring, the NCDPI expects the school leadership to "attend and lead PLCs with stakeholders to discuss the use of research-based strategies for reading instruction across all content areas" (North Carolina, 2013-2014, p. 35). The teacher has a role in the PLC as well. The teachers are being held accountable to "use available data to inform instruction and participate in PLCs to

develop an understanding of current reading, teaching, and learning research" (North Carolina, 2013-2014, p. 36).

Therefore, North Carolina has embraced the PLC model as a vehicle to create a collaborative environment to improve student achievement in reading and math. This study attempts to determine if these plans and expectations are yielding the results that are expected from the leaders and the teacher's active participation in PLCs.

The ACRE framework and the use of Quantile scores to improve mathematics achievement, and professional development that is utilizing the PLC model to facilitate these educational reform and change measures. However, does using the PLC model as the modus operandi to creating collaboration affect the READY end-of-grade scores in reading and mathematics?

Background on Professional Learning Communities

Leading a school to assist all stakeholders to focus continually on student improvement is a challenge. To address this challenge, many school districts have adopted the school reform model known as PLCs to transform the current model for conducting the business of school to a place where all stakeholders are learners-teachers and students alike. The dynamic of interdependence requires collaboration that is paradoxical to a culture of isolation. In DuFour's opinion, "therefore, school administrators and teachers must build collaborative cultures in which they work together interdependently and assume collective responsibility for the learning of all students" (DuFour et al., 2008, p. 18). Table 2 provides an overview of the emerging themes that are present within the review of literature of PLCs and is addressed throughout this chapter.

Theoretical Framework of Professional Learning Communities

The business world has embraced Senge's (1990) work on how to bring about change and transformation in business to achieve growth. Senge defined *learning community* as the following:

> organizations in which people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free and where people are continually learning how to learn together. (Senge, 1990, p. 3)

Astuto, Clark, Reed, McGree, and Fernandez (1993) proposed three related communities: (a) the professional community of educators, (b) learning communities of teachers and students (and among students) both within and outside the classroom, and (c) the stakeholder community. Astuto et al. labeled the collaborative teaching and learning culture as a professional community of learners, in which the teachers in the school and its administrators continuously seek and share learning and act on their learning (as cited in Hord, 1997, p. 10). Organizational learning has a positive effect on the culture, communication, and problem solving in the school.

Why Professional Learning Communities

PLCs can be used as a school reform model to promote student achievement. PLC implementation seeks to work from the center of the schools' culture by altering the way they conduct business. This cultural shift focuses on collaboration and continuous learning. This is a paradigm shift from the traditional model that promoted teacher isolation. The twenty-first century schools require students to be critical thinkers, incorporating skills of collaboration, creativity, and innovation within a given context.

Teachers are preparing students to live in this new world. For teachers to prepare students to be competent in the twenty-first century, they must be the first partakers of this type of learning as well. In a PLC, collaborative inquiry, communication, and problem solving are at the heart of this school reform model.

Professional Learning Communities Defined

Each word in the name PLC defines the purpose of this cultural change in teaching and learning. Hirsh (2012) stated the following:

> professional-who will participate? PLCs include the staff responsible and accountable for an effective instructional program, ensuring that students achieve high standards of learning. This means that PLCs include administrators, teachers, and instructional support staff such as counselors, librarians, and school psychologist. Learning-what will be the work of a professional learning community? Combined ignorance will not lead to better outcomes. The needs of the professionals are paramount. Their learning must cover the content and activities to supply the knowledge and skills they identify as necessary to increase their effectiveness. Community-how are educators organized to achieve the intended outcomes of the learning community? Productive communities operate according to structures and processes that facilitate learning and accelerate achievement. (Hirsh, 2012, p. 64)

Hord (1998) expounded on the how of PLCs in this manner:

> communities of continuous learners-professional learners are the key element of school capacity, a way of working, and the more powerful professional development, and change strategy available for improving our educational

> system. When professionals, school wide come together frequently and regularly to reflect on their practice, to assess their effectiveness, to collaboratively study in a social context consider to be areas in need of attention and to make decisions about what they need to learn to become more effective, they are operating as a community of professional learners. (Hord, 1998, p. vii)

Wenger, McDermott, and Snyder (2002) conducted studies on what he and colleagues titled as communities of practice. These communities of practice included the following attributes:

> possessing a shared concern or domain of interest that provides the community with a unique identity, engaging in joint activities and discussions, and developing shared practice that includes strategies for solving problems. The professional learning community members meet over time; they develop a unique perspective on their topic as well as a body of common knowledge, practices, and approaches. (Wenger et al., 2002, p. 5)

Wegner et al. promoted that the communities of practice solve problems and discuss situations while developing collegial relationships.

The Five Dimensions of Professional Learning Communities

In a PLC, teachers work together in collaborative teams to examine their students' work and ask themselves: "What do we need to do differently to get the work we would like from our students?" (Sparks, 1998, p. 19). Additionally, Hord (1997) defined a *professional learning community* as a "professional staff learning together to direct efforts toward improved student learning" (pp. 5-6). Commonalities exist between

Hord's, (1998) and DuFour et al.'s (1998) definitions of PLCs; that commonality is working together to improve student learning.

Hord (2006) conducted research on PLCs through the Southwest Educational Development Laboratory (SEDL). The findings from her study on school improvement in schools that instituted PLCs revealed that a PLC contains the following five attributes: shared and supportive leadership, shared values and vision, collective learning and application, shared personal practice, and supportive conditions. Subsequently, Hord's findings revealed that reforming the current system requires a change in the teaching and learning culture in the school. Reculturing schools is needed to support PLCs. Alternatively, DuFour and Eaker (1998) added three significant ideas that PLCs embody: focusing on results, ensuring that students learn, and developing a culture of collaboration.

The idea behind PLCs is that all stakeholders in the school are learners to include the teachers, administrators, and the students. In a PLC, learning involving teachers is done in an effort to increase their instructional capacity to help students learn. Learning in a PLC is a reciprocal relationship. When the students are learning the teachers are learning and vice versa.

Supportive and shared leadership. In a community, it is the norm that members work together toward a shared vision. This can be done through shared and supportive leadership. Hipp and Huffman (2003) have defined shared and supportive leadership as, "school administrators participate democratically with teachers by sharing power, authority, and decision-making, and by promoting and nurturing leadership among staff" (p. 29). Shared and supportive leadership is critical to involve all stakeholders in the

decisions that affect teaching and learning in schools. The teacher's involvement is influential in creating conditions that facilitate student achievement.

This PLC dimension embodies the following attributes: trust, respect, and collegiality, positive relationships among all students, teachers, and school leaders. "Schools immersed in a PLC concept have used shared leadership and decision-making to bring about school improvement" (Teague & Anfara, 2012, p. 61). Shared and supportive leadership fosters leadership among all staff members within a PLC. There is a democratic approach to making decisions and administrators share the power and authority with teachers to make teaching and learning decisions. Hord (1997) further defined this dimension by stating that shared and supportive leadership occurs with administrators and teachers working in a democratic manner to make decisions. Within this dimension, teachers and administrators share concerns and ideas to enhance student achievement, subsequently, building a platform for collegial relationships to develop and build organizational capacity. In two research studies conducted by Hord (1997) and Hipp and Huffman (2003), administrators in schools with effective PLCs participated in a nurturing relationship with the school that allowed for shared leadership, shared power, shared authority, and shared responsibility (as cited in Teague & Anfara, 2012, p. 61).

Hipp and Huffman (2003) studied schools' readiness for implementing professional communities categorizing schools into two categories: low readiness schools and high readiness schools. These descriptors were based on the school's demonstration of characteristics of shared leadership based on 38 interviews conducted using an interview protocol based on Hord's (1997) five dimensions of a PLC survey. The study revealed that teachers in high readiness schools embraced their leadership roles and

responsibilities. According to their findings, "structures were established that enhanced the values, beliefs, and goals of the organization with a clear focus on student learning" (Hipp & Huffman, 2003, p. 14). These structures were put into place by the principal to support shared leadership. In addition, the research revealed the following about teacher behaviors, "teachers were apt to embrace leadership responsibility as compared to those in low readiness schools because conditions were established for trust and respect" (Hipp & Huffman, 2003, p. 15).

Shared values and vision. The school staff promoted shared values and vision by using agreed upon norms to guide behaviors and collaborative meetings. Shared values and vision guide all stakeholders toward a common vision and mission that was developed in a collaborative manner, "shared vision, beliefs, and values imply more than a mission statement that is handed down to the group of teachers" (Teague & Anfara, 2012, p. 60). The values and vision drive all decision making concerning student achievement and the teaching and learning process. Senge (1990) suggested, "You cannot have a learning organization without a shared vision" (p. 209). A vision provides an organization with direction and inspiration. A learning organization with shared values and vision leads to the development of establishing norms that drive the organization's attitudes, behaviors, and belief systems. "Shared values and vision impact the ways in which teachers work individually and collectively toward common goals" (Teague & Anfara, 2012, p. 60). The values and the vision that are communicated in a PLC should be developed in a collaborative manner. DuFour et al. (2002) added that,

> PLC recognizes that beliefs are important but also makes an effort to go beyond beliefs and focus on behaviors. We ask, how do we need to behave if we are going to become the kind of school we said we seek to become. (p. 16)

Shared vision and value affect the teaching and learning environment by motivating them to ensure that high expectations are communicated throughout the school. Staff shares values and visions for school improvement based on student needs and high expectations. Shared vision reflects norms of behavior that guide decisions about teaching and learning" (Hipp & Huffman, 2003, p. 39). The by-product of the teachers and administrators being motivated in turn reaps the results of increased student achievement and academic performance.

Collective learning and application. Collective learning and application refers to the "staff's collective learning and application of the learnings (take action) that create high intellectual tasks and solutions to address student needs" (Hord, 1997, p. 1). In a PLC, all staff members share information freely with one another. This is contradictory to the current culture of isolation in which teachers have a tendency to hold their resources and are not eager to share their knowledge with their colleagues. Hipp and Huffman (2003) suggested "staff at all levels of the school share information and work collaboratively to plan, solve problems, and improve learning opportunities. Together they seek knowledge, skills, and strategies, and apply what they learn to their work" (p. 45). Thereby, they work collaboratively to plan lessons, discuss data, problem solve, and make decisions about teaching and learning. While working collaboratively, the teachers gain knowledge, skills, and understanding on what direction they could take to improve learning outcomes for all of their students. Hipp and Huffman (2003) asserted that the

"teachers within professional learning communities share their practices, study together, focus instructional strategies on student needs and use data to make decisions about their teaching" (p. 10).

Teacher leadership emerges within a PLC, learn together, apply what they have learned, and reflect on their learning with each other. However, in order to incorporate the behavior of teachers learning together, then the past must be used as a reference point rather than a resting place. Kouzes and Posner (2007) stated that "Improvement comes when you engage in conscious introspection. You need to do more to reflect on your past, attend to the present, prospect the future and feel your passion" (p. 107).

Nevertheless, in a culture of collaboration in which collective learning and application takes place, not all participants will necessarily embrace the process. In theory, teachers learning and sharing with other colleagues is a good platform for learning; however, there is another side to collaboration. In a study that focused on learning organizations, "Transforming Schools into Learning Organizations: Supports and Barriers to Educational Reform," researchers revealed that, "collaboration is not an end in itself and that certain kinds of collaboration were worse than no collaboration" (Williams, Brien, & LeBlanc, 2012, p. 25). Overusing collaboration that only happens for the sake of collaborating can deplete the resolve of the teachers. Therefore, collaboration should be strategic and intentional to yield results in teacher learning, thereby achieving gains in student learning. Fullan (2006) also noted that in order for learning to occur in schools, leaders need to declare that the agenda in their schools is changing the learning culture of the school. In addition, implementing collective learning requires a cultural change and cultural changes are more difficult to achieve.

Shared Personal Practice

This idea of sharing personal practice is not new. John Dewey proposed a scientific approach to schools. He proposed a laboratory school model. These schools would center on collective inquiry by the teachers. This inquiry would be weighed against empirical research studies on their discussions and practices. Subsequently, these discussions would prompt professional conversations and generate ongoing knowledge construction by the teachers in order to improve learning outcomes for students. Shared personal practice emerged from the research conducted by Hord (1998) in which five dimensions of PLCs were identified. Hord (1998) defined shared personal practice as, "peers visit with and observe one another to offer encouragement and to provide feedback on instructional practices to assist in student achievement and increase individual and organizational capacity" (Hipp & Huffman, 2003, p. 6). Shared personal practice encourages teachers to share instructional practices with one another. According to Hord (1997), "Sharing personal classroom practice might sensibly be included among conditions that support the community" (p. iii). This dimension centers on the concept of 'peers helping peers'" (Hipp & Huffman, 2003, p. 12). Hipp and Huffman (2003) suggested that "underlying this process is the desire for both individual and whole-school improvement, and it is rendered possible only after mutual respect, and trustworthiness has been established among staff members" (p. 12). This type of a collaborative culture fosters an environment with professional relationships that share achievements and failures while their focus centers on increasing student achievement.

Supportive conditions. The conditions within a PLC have collegial relationships that are built on trust, respect, and positive caring relationships. These supportive

conditions extend to all teachers, students, and administrators. In addition to the interpersonal characteristics, the school's schedule reflects supportive conditions by providing times for teachers to communicate and meet to discuss instructional best practices. For a school to be a PLC, the school organization must support this process. All stakeholders must be prepared and have a spirit of readiness for change. According to Hipp and Huffman (2003), transforming a school into a PLC entails,

> creating a readiness for change is critical and often does not occur without focusing on the people in the organization and the interaction among all stakeholders. Some call it the human side of change, which is critical in establishing the culture of the school. (p. 57)

The research on professional learning communities informs us about the logistics of PLCs-the when, where, what, and how the staff regularly and frequently come together as one group to do their reflection, inquiry and learning, problem solving and decision making - the work that characterizes the purpose of the PLC. There are, however, two types of supportive conditions: the logistical conditions noted previously and the capacities and relationships developed across the participants in order that they work well and productively, and pleasantly, with each other" (Hord & Sommers, 2008, Kindle Location 300).

Additionally, in creating a supportive environment in a PLC is structure. The structure of the learning environment describes how the school day is organized to promote collaboration that is critical to PLCs. In a PLC, a collaborative culture reduces teacher isolation. Creating a culture that breaks down the walls of isolation and building in structure to support collaboration will foster collegial conversations about student

learning, and promote relationship building and interdependence (DuFour & Eaker, 1998; Hipp & Huffman, 2003; Teague & Anfara, 2012).

This would not be able to occur unless the supportive conditions were in place to conduct the work. Subsequently, the supportive conditions that are implemented in the PLC will bring about a transformation from moving from just day-to-day interactions in caring relationships with colleagues to higher-level relationships that embody and reflect trust, respect, and recognition.

Impediments to PLCs

The supporters of PLCs are avid proponents for organizational learning and sharing; this process is not as simple as believing that teachers will adopt this practice. In a research study conducted in 2003, Collinson and Cook identified four factors that impede the dissemination of knowledge and sharing of knowledge and personal practice in schools: (a) professional isolation, (b) professional autonomy, (c) teacher's views of knowledge, and (d) time.

Professional isolation. Professional isolation is a long-standing tradition and practice in schools. Isolation is an imposed barrier to shared personal practice and knowledge dissemination. This is a contrast to what Hord (1997), Hipp and Huffman (2003), and DuFour and Eaker (1998) prescribed as a component of a PLC. Teachers who are comfortable with isolation by choice or the pure nature of the culture might view sharing and discussing their craft as an imposition rather than a professional practice that might prove to be valuable. .

Professional autonomy. Just like professional isolation has become a tradition in schools, so has professional autonomy. Teachers have been given the autonomy to serve

as independent contractors in their classrooms. Autonomy encourages isolation and it is a barrier to sharing as well. If one is autonomous, then what one does practice or say is sacred, thereby, impeding the input from other colleagues, nor is it welcomed. Wasley (1991) purported, "it is ironic in a profession directed toward fostering a love of learning throughout life that teachers themselves appear to have such a difficult time learning from their colleagues" (p. 166).

Teachers' view of knowledge. In the literature on PLCs, shared personal practice is designed for teachers to observe one another, provide feedback, and share their knowledge with others in order to increase student achievement. Teacher expertise for evaluating and disseminating knowledge about pedagogy has not been the norm for teachers. In other words, teachers are not expected to share knowledge with the group. Lortie (1975) agreed stating, "there is, in short, no tradition honoring contributions to the craft" (p. 41).

Alternatively, if teachers do share knowledge and embrace a practice that they have learned, they want immediate results. Simply stated, "Teachers are considerably interested in and responsive to immediate student reaction rather than evidence of long term accomplishment" (Doyle & Ponder, 1977, pp. 4-5). There is a challenge with sharing personal practice. There is an assumption that teachers adopt practices based on "what works well for them or what works with the student and the teacher is the judge of what works" (Collinson & Cooper, 2003, p. 4). In addition, in this qualitative study conducted by Collinson and Cooper, one teacher stated, "I think it is important that the teacher is respected for her ideas about teaching and isn't told how to do it" (p. 131).

With beliefs like this, it is clear that creating a culture in which there is shared personal practice is not as seamless as it appears.

Time. The last factor that impedes shared personal practice and the dissemination of knowledge is time. Time has always been an enemy to the teacher. The study indicated that teachers believed that the time to meet and share with others is scarce. Shared personal practice is based on the assumption that teachers have the time to collaborate and share. Consequently, this study revealed that teachers believed that observing other teachers' classrooms was disrupting the time of the teacher who is being observed. The teachers in the study believed that this was an invasion of the teacher's time that was already scarce as well as the observing teacher trying to find the time to conduct the observation. They viewed this invasion as a lack of respect; "those who intrude on the teachers' scarce time are doing more than inhibiting work processes; they are manifesting a lack of respect for what teachers consider their core functions" (Collinson & Cooper, 2003, p. 179).

In a qualitative study that involved three schools as they were going through the reform process. The researchers concluded the following:

> although the school is frequently considered the unit of change, the success or failure of initiatives in schools depends on individual teachers-their interest in the innovation, their perception of benefits to students, their willingness to learn and their opportunities to share their learning (Collinson & Cooper, 2003, p. 13).

The findings from this study, as well as others, offer implications for infusing this dimension of PLC in their schools. The four factors uncovered in this study provide a contrast to what proponents of PLCs proclaim. The behaviors, beliefs, and practices of

the teachers are a force to be reckoned with in order to implement PLCs and infuse sharing of personal practice into the culture of the school.

The culture of collaboration. NCLB legislation calls schools to task on raising student achievement and reforming education Folkman (2002) argued, "While there is little disagreement over the need to improve public education there is significant controversy on how to get there" (p. 32). Therefore, how does implementing a PLC facilitate this reform? How do teachers learn within the context of a PLC? According to the principles of a PLC, adult learning is taking place in a collaborative team. A shift from teachers working in isolation to teachers working collaboratively toward a shared vision is a hallmark of PLCs. DuFour et al. (2002) defined *collaborative teams* by stating, "the culture of PLC is characterized, in part, by collaborative teams whose members work interdependently to achieve common goals" (p. 11). The term *community* in a PLC hinges on the stakeholders' ability to collaborate with another to solve the problem, discuss best practices for teaching and learning, and make instructional decisions that will affect student achievement. The next section reviews studies that examine whether PLCs increase student achievement.

Professional Learning Communities and Student Achievement

While there is a wealth of articles and books on the principles of PLC and its positive effects, the wealth of empirical research studies on its possible effects on student achievement is not as plentiful. In a review of related studies, the available research shows that PLCs have an effect on student achievement.

There have been studies in which the findings did not clearly point to gains in student achievement even after the implementation of a PLC program. In a quantitative

study, Carter (2008) used one group pretest-posttest study to determine student achievement on the criterion-referenced competency test (CRCT) in the state of Georgia. The researcher used the 2007 student data as the pretest and the 2008 data as the posttest. These students were exposed to instructional strategies via a pyramid of simultaneous interventions within a PLC as the treatment. The students' achievement on the CRCT math and reading tests were the predictors of student achievement. The teachers participated in PLCs to discuss student data and on the pyramid of interventions that should be deployed to assist students. The *t* tests revealed that the implementation of the PLC principles were correlated with statistically significant improvements in reading. Alternatively, the math data on the CRCT did not reveal statistically significant improvement. The researcher attributed this to the change in math standards implemented during the year of this study. Therefore, the students were tested on the new standards during the year of this study. Moreover; "the study also revealed that the implementation of the PLCs and the pyramid of interventions had a positive impact on the Adequate Yearly Progress (AYP) status of the schools" (Carter, 2008, p. 64).

Other studies have reported on the benefits of PLCs (DiNardo, 2010). DiNardo (2010) used student test scores on the Dynamic Indicators of Basic Literacy Skills (DIBELS) reading assessment, which is "a set of procedures and measures for assessing the acquisition of early literacy skills from kindergarten through sixth grade" (Good & Kaminski, 2014, p. 1) along with qualitative data collected from interviews and classroom observations to determine the effects of student achievement and teacher perceptions about their participation in PLCs. The results revealed that those teachers who participated in the PLCs and implemented strategies did show an increase in student

achievement as evinced by the students' test scores. In addition, DiNardo (2010) discovered that "teachers did state that receiving assistance was beneficial but felt like it was too much trouble to ask and that it was easier to do the best they could and isolation is too accepted in elementary schools" (p. 57). Ultimately, this study did show that student achievement scores on the DIBELS assessment improved when teachers played an active role in the collaborative process of PLCs.

In a quantitative study conducted by Burdett (2009), the researcher used the Early Childhood Longitudinal Study (ECLS-K-5) to determine if student achievement on reading and math scores has a correlation to the teacher's participation in PLCs. The study measured student growth over time using a multilevel growth model to determine the degree of correlation between student achievement and the presence of the five dimensions of PLCs. The school used in this study participated in PLCs and adopted Hord's (1998) five dimensions of PLCs: shared supportive leadership, shared values and mission, collective learning and application, shared personal practice, and supportive conditions. The researcher compared the correlation data from the ECLS scores to the selected dimensions of PLCs. Burdett (2009) found "the support and collaborative variables have a positive impact on both math and reading achievement from Grades 3-5" (p. 3). Support and collaboration variables were distinguished from the other variables due to the nature of these variables include the social aspect of PLCs. Burdett's (2009) findings revealed that when administrators attend to the social needs of the teachers – support and collaboration the results revealed a significant correlation to increased student achievement (p. 119).

In a mixed methods design study, Rose (2008) used the team teacher collaboration scale to collect data about teacher perceptions of collaboration in PLCs. The findings in this study revealed a negative correlation between teacher team perceptions of the skill levels of their team in the application of the collaborative process and student achievement in math and reading. The higher the teams perceived their collaborative skills, the lower their students' reading and math achievement. Collaboration is a significant component of the PLC model. The leadership scheduled times for teachers to collaborate; collaboration was promoted so that teachers could reflect on their instructional practices. Teachers were interviewed as part of the qualitative data collection process. According to the results of the study, the teachers perceived that the following factors changed student achievement: change of instruction, alignment of instruction, and differentiation of instruction. The study revealed a negative correlation due to the effects of culture, climate, time, and structure (scheduling and resources). Rose (2008) surmised in this study that "teachers gathering and conversing does not impact changes in behavior or impact student achievement. An organized structure along with high levels of accountability impacts student achievement" (p. 12).

In a 2011 qualitative study, Benson compared student learning and results on various assessments to the established PLC practices in an Arizona school district in the study. The school district participated in a three-year process of establishing PLCs based on recommendations from the National Staff Development Council. The staff members regularly met and engaged in collective inquiry and action research to increase student achievement. The researcher used the Arizona Instrument to Measure Standards, a state-mandated criterion-referenced test designated to measure student progress, as the basis of

comparison between student achievement and the establishment of PLCs. Benson's findings revealed that the work of PLCs is a complex process that has many positive benefits, at least in some settings and collaborative forms of professional development. Benson reported, "opportunities for consistent and regular school-wide collaboration are critical in building capacity of teachers to improve instructional practices, student achievement and ensure schools success" (p. 188).

In another qualitative study, Carey (2010) used the narrative inquiry method to collect data from focus groups about teacher perceptions in a PLC. The school in this study participated in ATLAS learning communities. "ATLAS learning communities served as the guiding coalition in conjunction with the schools leadership team as they began the process of engaging in PLC at the school" (p. 17). The ATLAS facilitators were present in the school two days per month to conduct training and modeling as the school embraced PLCs. The researcher wanted to reveal if engaging in a PLC affected the ability of teachers to improve student outcomes as well as determine how often they collaborated with other teachers to improve instruction. The interview findings showed that collaborating is important to improve instruction; sharing ideas with colleagues and sharing insights showed positive benefits for student achievement. The theme emerged that PLCs allow that shift from isolation to collaboration to be realized.

The related research studies revealed commonalities about PLCs. Each study revealed that collaboration and collaborative inquiry in a supportive environment could increase dialogue among teachers about instructional practices, thereby increasing student achievement. Alternatively, these factors did not garner increased student achievement if

the teachers did not fully collaborate with their colleagues or recognize the value of the PLC model.

Summary

School improvement and reform focuses on positive student learning outcomes. PLCs are becoming the platform and the format in which educators are having collegial conversations about how to achieve these outcomes. PLCs are not something educators "do." They are an evolutionary process that becomes a part of the school's culture. Therefore, if schools and districts adopt the PLC culture, over time the principles of PLCs should be embedded into the fabric of the teaching and learning environment of the school, thereby starting on a journey of school improvement and reform. However, implementing PLCs is not as simple as attending a professional development session on the implementation process. On the contrary, certain principles should be embedded into the fabric of the school as educators take on this paradigm shift. Schools that implement PLCs should include the following significant ideas of PLCs: shared and supportive leadership, shared values and vision, collective learning and application, shared personal practice, and supportive conditions (Hord, 1998; DuFour & Eaker, 1998).

The PLC framework including five dimensions of a professional learning community; defined a PLC; as the professional staff learning together to direct their efforts toward improved student learning (Hord, 1997, p. 6) The definitions of PLCs differ by authors. However, the definition developed by Hord (1997) was used in this study. This definition is directly aligned to the Professional Learning Communities Assessment-Revised survey that was used to collect data on teachers' perceptions of the five dimensions being implemented in their schools.

See Table 2 below for a detailed explanation of the five dimensions of a PLC and their critical attributes.

Table 2

Five Dimensions of a Professional Learning Communities and Critical Attributes

Five dimensions of Professional Learning Communities	Critical attributes		
Shared and supportive leadership	Democratic participation	Nurturing leadership	Shared power
Shared values and vision	Espoused values and norms	Focus on student learning	Shared vision guides teaching and learning
Collective learning and application	Sharing information	Sharing outcomes of instructional practice	Working collaboratively to plan, solve problems, and improve learning opportunities
Shared personal practice	Feedback to improve instructional practices	Sharing outcomes of instructional practices	Coaching and mentoring
Supportive conditions	Relationships, trust and respect, unified effort to embed change	Structures, resources, time, money, and communication	Risk taking, recognition, and celebration

Note. Source: Hipp & Huffman, 2003, p. 20.

The literature shows that in order to increase student achievement, the teaching and learning culture of the school must change. PLCs are designed to change a school culture in which the focus is on learning, results, and collaboration. Educational leaders are embracing the principles of PLC to create this cultural shift. PLCs create this cultural shift from focusing on creating a school in which all stakeholders work in a learning

environment in which the focus is on student learning, student achievement and teacher collaboration rather than the traditional model focusing on teaching and teacher isolation. Administrators in a PLC provide teachers with time to collaborate, and "information on the extent to which a teacher's students meet agreed upon standards of mastery on a valid test in comparison to all the students in the school attempting to meet the same standard" (Eaker et al., 2002, p. 99). In a PLC, the focus is on learning rather than on teaching. Thompson, Gregg, and Niska (2004) acknowledged that "PLCs have become one of the most talked about ideas in education today. Many K-12 schools are working to become PLCs in the hope that student learning will improve" (p. 35).

Unfortunately, "little is yet known about the potential for establishing enduringly effective PLCs" (Stoll, Bolam, McMahon, Wallace, & Thomas, 2006, p. 247). Therefore, in this study I attempt to uncover how the implementation of the five dimensions of PLCs affects student achievement. North Carolina, where this study took place, has placed PLC principles in the teacher evaluation instrument. The evaluation instrument was developed by McREL. It advocates that teachers participate in PLCs. The teacher evaluation includes the following standards:

1. Teachers demonstrate leadership.
2. Teachers establish a respectful environment for a diverse population of students.
3. Teachers know the content they teach.
4. Teachers facilitate learning for their students.
5. Teachers reflect upon their practice. (Public Schools of North Carolina, 2009)

PLCs are referenced throughout the indicators in the evaluation. The initial statement on the evaluation instrument asserts that,

> Teachers will work collaboratively with school personnel to create a professional learning community. They analyze and use local, state, and national data to develop goals and strategies in the school improvement plan that enhances student learning and teacher working conditions. (The North Carolina Teacher Evaluation Process, 2009, p. 8)

For teachers to achieve this goal, they need to know what a PLC is, what it looks like, and display the collegial behaviors to work together in a collaborative environment. This study examined the factors in making decisions about PLCs and their impact on the teaching and learning culture in the Eastern school district.

Chapter 3: Methodology

The purpose of this study was to evaluate if the five dimensions of PLCs were implemented with fidelity in one Eastern North Carolina school district. The data collected from this program evaluation provided district and school level leaders, teachers, and other educational stakeholders with perceptions from teachers about their PLC experience at each school level: elementary, middle, and high. Furthermore, this program evaluation as related to implementing PLCs provided data that will inform the district level leaders and the school level leaders with information to make decisions about the status of PLCs in this district.

In North Carolina, the Common Core State Standards (CCSS) were implemented during the 2012-2013 school year. Prior to the full implementation of these standards, PLCs were embedded in the schools' culture in the state. The implementation of the five dimensions of PLCs is the consistent thread in the teaching and learning environment in North Carolina schools. Therefore, it begs the question if PLCs are implemented with fidelity, then do the data show increased collaboration among teachers which translate to improve student outcomes?

Evaluation Questions

The following evaluation questions were the focus of this study:

1. To what degree do teachers in the Eastern Region School District perceive fidelity of implementation of PLCs in their schools?
    a. To what degree do teacher perceptions describe supportive and shared leadership?

b. To what degree do teacher perceptions describe shared values and vision?

c. To what degree do teacher perceptions describe collective learning and application?

d. To what degree do teacher perceptions describe shared personal practice?

e. To what degree do teacher perceptions describe supportive conditions?

2. To what degree do the perceptions of teachers concerning the fidelity of PLC implementation vary by school level?

3. To what extent do they perceive PLCs has improved student achievement in their school?

4. To what extent do teachers perceive challenges of implementing PLCs?

5. What suggestions do teachers in the Eastern Region School District have to improve the fidelity of implementation of PLCs in order to garner the promised benefits?

Research Design

This study conducted a program evaluation to collect data about the fidelity of implementation of PLCs. The program evaluation was the best approach to gather information about the fidelity of information about PLCs to gather feedback from teacher perceptions about this model. I utilized the Theory of Change Logic Model (refer to Figure 1 Ch. 1 pg. 12) to systematically direct the study. Hopefully, the more in depth information that was collected will provide educators with useful information on ensuring student achievement.

Participants

A convenience sampling was used to assess the dimensions of professional learning communities in this school district that has identified itself as utilizing the professional learning community model. The participants were teachers from all school levels-elementary, middle and high school. There were 705 teachers in this district that met the criteria to participate in the study. Because of the school districts adoption of the professional learning community this criterion was used to conduct the study in this particular school district.

Thirty-one elementary, middle, and high schools located in an eastern North Carolina school district was the target population of this study. This school district contains 11 elementary schools, seven middle schools, and eight high schools that serve over 21,000 students. The school employs approximately 700 content-area teachers (math, science, ELA, and social studies/history). Only content-area teachers were asked to participate in the study. The rationale for using only the content-area teachers in the district was to gauge the perceptions of teachers that directly teach the Common Core State Standards in these subjects. These subjects will be assessed at the end of every school year on the READY EOG Assessment. Therefore, teacher perceptions would be valuable to the leadership regarding curriculum, instruction, and assessment decisions that are made in this district in regards to PLCs. A convenience sample was used of those who chose to respond to the survey.

All teachers were invited from all three levels of the school district: elementary, middle and high school to take the PLCA-R survey online. Once teachers responded to

the survey questions, their responses were collected in a PLCA-R database created by SEDL Laboratories (See Appendix G).

The survey was distributed to all certified staff ($N = 705$) at elementary, middle, and high schools in the district. All teachers were asked to complete the online PLCA-R. Of the 705 certified staff members that received the online survey at their school-based email address, only 44 (6.5%) responded to the survey. Table 3 displays the percentage of responses by position, years of teaching experience, highest degree obtained, content taught, and specific grade level taught.

Table 3

Frequency Distribution of Demographic Data (N = 44)

Variable	*f*	%
Years of teaching experience		
1-2	6	96.00
3-4	3	13.00
5-10	8	17.00
11-20	15	33.00
21+	14	30.00
Highest degree obtained		
Bachelors	29	63.00
Masters	15	33.00
Masters +30 credits	2	04.00

Table 4 above shows that most (66%) of the teachers had 11-21+ years of experience and had bachelors' degrees (63%). The next table below (Table 7)

summarizes the content taught and teachers' school level. Since the participants could respond to all categories that applied to them, it must be noted that the frequency column does not equal to the number of participants in the study (*N=44*).

Table 4

Multiple responses for additional demographic data (N = 44)

Variable	Number of Responses
Content taught	
Reading	23
Math	15
Language	2
Science	27
Social Studies	25
Special Education	3
Electives	1
School level	
Elementary	42
Middle	21
High School	25
Special Education	2

It can be seen from Table 4 that most teachers taught elementary school (42), although some of these educators may also have taught grades considered by some school districts to be middle school. The most frequent content areas taught included reading,

math, science and language, which are the most common disciplines across all school levels.

Data Sources

An online survey was used as the primary data source in this study. The survey included the instruments described below.

Professional Learning Communities Assessment-Revised. The Professional Learning Communities Assessment-Revised (PLCA-R; Oliver, Hipp, & Huffman, 2010) was used to gather information about teacher perceptions regarding the presences of five dimensions in their respective schools.

Permission was obtained from the creators of the Professional Learning Communities Assessment –Revised survey in order to use this instrument to gather the data needed for the study. The Professional Learning Communities Assessment Revised (PLCA-R) "extends Hord's work and was designed to assess perceptions about the school's principal, staff, and stakeholders (parents and community members) based on the five dimensions of a PLC and the critical attributes. This survey was designed to support and enhance the implementation and development of PLCs in schools. The results from the survey use descriptive statistics to provide a picture of the strengths and weakness of the five dimensions of PLCs. The results can be utilized by examining the results from each dimension individually to determine strengths and weakness. Stakeholders can use the data from each dimension to provide information on specific practices. Also, the results can be examined collectively to determine strength and weakness. When the data are examined from a collective standpoint, then it can be used

as a formative assessment of the schools PLC direction in relation to the five dimensions of PLCs (Hipp & Huffman, 2003, p. 20).

The questionnaire contains statements about practices that occur at the school level. This measure served as a more descriptive tool of those practices observed at the school level relating to shared and supportive leadership; shared values and vision; collective learning and application; shared personal practice; and supportive conditions, both relationships and structures (Oliver et al., 2003, p. 69). The survey uses a 4-point Likert scale that assessed perceptions from 1 = *strongly disagrees* to 4 = *strongly agree.* The survey was validated for content and construct validity and reliability.

The reliability and the validity of this survey were conducted by the developers of the survey. According to Creswell (2008), "reliability refers to whether scores to items on an instrument are internally consistent (i.e., Are the item responses consistent across constructs?), stable over time (test-retest correlations), and show consistency in test administration and scoring" (Kindle Location 5106.). This ensures that the data are consistent and aligned in accordance to what it was designed to measure.

In addition to determining if the items and the scores are consistent, the survey must be a valid instrument. In other words, does the instrument measure what it was designed to measure? This survey was designed to measure perceptions about the implementation of the five dimensions of PLCs in schools. According to the developer of the survey, they determined the reliability and validity in the following manner:

> The widespread use of the instrument provided an opportunity to review the dimensions for internal consistency. Our most recent analyses of this diagnostic tool has confirmed internal consistency resulting in the following Cronbach Alpha

reliability coefficients for factored subscales (N = 1209): Shared and Supportive Leadership (.94); Shared Values and Vision (.92); Collective Learning and Application (.91); Shared Personal Practice (.87); Supportive Conditions—Relationships (.82); Supportive Conditions— Structures (.88); and a one-factor solution (.97). (Hipp & Huffman, 2003, Kindle Locations 555-559)

The Professional Learning Communities Assessment Revised Survey was based on a 4-point Likert Scale. The responses ranged from *Strongly Disagree, Disagree, Agree and Strongly Agree.*

Perceptions of PLC implementation. Five items were added to the survey concerning teachers' perception of the PLC implementation. Teachers were provided with choices to respond to these questions (see Table 4 for the choices). The questions were as follows:

1. What benefits do teachers note concerning the move to PLCs in their school?
2. To what extent do they perceive that the implementation of PLCs has improved student achievement in their school?
3. What challenges in the implementation of PLCs did teachers note?
4. How have the teachers confronted these challenges?
5. What suggestions do teachers in the Eastern Region School District have to improve the fidelity of implementation of PLCs in order to garner promised benefits?

The participants were able to respond to each of the five dimensions with the following responses: a great deal of benefit, to some extent there was a benefit and very little benefit. The choices were converted to numbers to represent their choice by a

number to match their choice: a great deal of benefit (3), to some extent there was a benefit (2) and very little benefit (1).

Demographics. The following demographics were collected from the participants:

1. Educational Level (Bachelors, Masters, Educational Specialists, Doctorate)
2. School Level (Elementary, Middle, or High)
3. Subjects Taught (Math, History/Social Studies, English/Language Arts, Science, All Subjects)
4. Numbers of years teaching

The PLCA-R was used to survey the teachers' perceptions about the fidelity of implementation of PLCs in the Eastern Region School District (pseudonym). The survey contained questions about practices that occur in schools, and was based on a four point Likert scale: (4) - Strongly agree (SA), (3)-Agree (A), (2) Disagree (D), (1) Strongly Disagree (SD). In practical terms, the following range was used to interpret findings:

3.51-4.0 = Strongly agree

2.51-3.5 = Agree

1.51-2.50 = Disagree

1.0 – 1.50 = Strongly disagree

The participants selected a scale point that best reflects their personal agreement or disagreement with the statement that related to the following PLC dimensions: shared and supportive leadership, shared values and vision, collective learning and application, shared personal practice and supportive conditions (relationships and structures).

According to the survey developers, the results of the survey should be interpreted by viewing the items individually to determine the highest and lowest scores. The data

should be analyzed looking for the highest and lowest scores on the five dimensions. Additionally, the results should be analyzed based on a pattern of high or low scores; scores of 2.51 or higher show general agreement with the attribute.

Data Collection

Prior to deploying the surveys, permission was requested from the William and Mary Human Subjects Committee to conduct the study. Next, permission was obtained from the Assistant Superintendent of Accountability/Information Technology Services/Athletics to obtain permission to conduct the program evaluation in the district. After permission was received from the district; all content-area teachers in the district were invited to participate in the program evaluation via email. A consent form along with the instructions for how to complete the survey was e-mailed to each teacher. The return of the completed survey confirmed consent. The surveys were deployed electronically via e-mail. The participants answered the survey questions via an online format. The participants' responses were collected in a database that automatically assigned them a number to maintain anonymity, recorded their demographic data and responses to each question.

Data Analysis

The study was designed to gather teacher perceptions about the presence of the five dimensions of PLCs in their schools...The data were inserted into the Statistical Package for the Social Sciences (SPSS) to determine reliability and validity. The developers of the survey have determined the validity and reliability of this survey based on their process. In order to answer Evaluation Question 2, descriptive statistics was

used to determine the teachers' perceptions concerning the fidelity of implementation at all school levels.

In order to answer Evaluation Questions 3 and 4, an excel table was created with the five dimensions of PLC on X axis label as follows: Thirty-one out of the forty-four participants responded to Evaluation Questions 3 and 4. The numbered responses were placed by the anonymous number coded the teacher and matched the teacher to their response. Descriptive statistics were used to analyze the data for these two questions.

Ethical Considerations

Prior to starting the study, permission was obtained from the Human Subjects Committee at The College of William and Mary to conduct the study (see Appendix A). Permission was obtained from the school district's director of accountability to conduct the study in the district (see Appendix B). Next, permission was obtained from the Assistant Superintendent of Accountability/Information Technology Services/Athletics to obtain permission to conduct the program evaluation in the district (See Appendix B). After, permission was received from the district; all content-area teachers in the district were invited to participate in the program evaluation. A consent form along with the instructions for how to complete the survey was e-mailed to each teacher. The return of the completed survey confirmed consent. The surveys were deployed electronically via e-mail. In order to protect the subjects and maintain anonymity, the only person to have access to all data collection and e-mail addresses was the researcher.

Adequate procedures were put into place to ensure that participants were able to maintain anonymity for the participating school district and the participants. These procedures were maintained before, during and after the study.

Assumptions

The first assumption was that the staff members in this school district have knowledge about PLCs. Since the school district incorporates the PLC approach as a tool for school improvement, it is assumed that staff members were familiar with implementing PLCs. The second assumption was that the staff members had training and experience with working within a PLC in this district. Therefore, their knowledge base would be beneficial for gathering data about the fidelity of implementation of PLCs.

Delimitations

The perceptions assessed in this study were delimited to only one school district and all 31 schools (elementary, middle, and high school) in this district. In addition, the data sources were limited to survey responses in an electronic survey, a method that typically results in low response rates.

Chapter 4: Research Findings and Data Analysis

Introduction

The purpose of this quantitative evaluation study was to conduct a program evaluation of teacher perceptions on the fidelity of implementation of Professional Learning Communities (PLCs) in a selected school district. The PLCA-R was deployed in an online format to all teachers in the Eastern Region School District (pseudonym). According to Roberts and Pruitt (2009),

> The learning community paradigm is central to the development of an improved pedagogy and that improved teaching, learning and educational outcomes for students can be achieved when teachers come together to collaboratively search for and resolve the problems of practice in their schools. (p. xi)

This study explored PLC implementation from the teachers' perspective to determine teachers' perceptions about the fidelity of PLC implementation.

Responses Categorized by Demographics

The responses to the PLCA-R are provided and analyzed in the next section in order to answer the research questions. This section will, however, include a summary of the responses categorized by the demographic data. These data will provide a broader picture of the respondents.

Table 5 below displays the means and standard deviations of all the teachers' ratings on the PCLA-R. Based on the scale range for agreement, these data show that teachers agree that there is fidelity of implementation with PLCs in their schools, but a more thorough discussion of the scores on individual dimensions will be found below in the Evaluation Questions section.

Table 5

Overall Summary Statistics of Responses to the PCLA-R (N= 44)

PLC Dimensions	Shared and Supportive Leadership	Shared Values and Visions	Collective Learning and Application	Shared Personal Practice	Supportive Conditions-Relationships	Supportive Conditions-Structures
Mean	3.04	3.06	3.06	2.95	3.07	2.92
Standard Deviation	0.66	0.60	0.64	0.62	0.62	0.68

Table 6 presents a summary of the means and standard deviations of respondents categorized by years of teaching experience. Mean scores across the dimensions evidenced minimal diversity, with the scores ranging from 2.78 to 3.26 (range = .48). It is interesting to note that only two mean scores fell below the 3.00 point of the agreement range for teachers with less experience. Specifically, for teachers with 1-2 years of experience, only the score for supportive conditions, structures fell below 3.00. All of the means were over 3.00 for teachers with 3-4 years of experience, and only the mean score for shared personal practice was below 3.00 for teachers with 5 – 10 years of experience. In Table 6, the participants' years of teaching experience is noted in table and their responses. Their responses evidenced mean scores below the 3.00 point of the agreement scale on 3 dimensions, shared and supportive leadership, shared personal practice, and supportive conditions, structures. All of the mean scores of teachers with 21 or more years of experience fell below the 3.00 mark. However, these declines were very minimal and the mean scores of all categories of years of experience were above the

midpoint of 2.5 and thus in the range considered to be in agreement with the fidelity of implementation of PLCs in all schools in this district.

Table 6

Participants' responses by years of experience (N = 44)

Selection	#		Shared & Supportive Leadership	Shared Values and Vision	Collective Learning and Application	Shared Personal Practice	Supportive Conditions - Relationships	Supportive Conditions - Structures
1-2	6	Mean	3.23	3.24	3.25	3.10	3.07	2.88
		SD	0.65	0.51	0.60	0.53	0.58	0.67
3-4	3	Mean	3.24	3.22	3.27	3.24	3.07	3.23
		SD	0.50	0.51	0.45	0.44	0.26	0.63
5-10	8	Mean	3.26	3.10	3.15	2.95	3.35	3.09
		SD	0.73	0.70	0.75	0.77	0.70	0.70
11-20	15	Mean	2.91	3.07	3.14	2.97	3.04	2.92
		SD	0.68	0.62	0.61	0.61	0.60	0.73
21+	14	Mean	2.94	2.92	2.80	2.81	2.93	2.78
		SD	0.55	0.53	0.59	0.59	0.62	0.60

Evaluation Questions

Results for Evaluation Question 1a

Question 1: *To what degree do teachers in the Eastern Region School District perceive fidelity of implementation of PLCs in their schools?*

Question 1a analyzes the role of the school administrator on school improvement. In addition, this dimension defines the administrator support provided for teachers to work collaboratively as well as to share decision making responsibilities among all the staff. According to the results, the participants agreed that this dimension was implemented with fidelity with a mean score (*M*) of 3.04 and standard deviation (*SD*)

of.66. Table 7 depicts the descriptive statistics from the teachers who completed the survey.

Table 7

Shared and Supportive Leadership Data (N = 44)

#	Mean Score	Standard Deviation	Statement Text
1.	2.93	0.53	Staff members are consistently involved in discussing and making decisions about most school issues.
2.	3.07	0.65	The principal incorporates advice from staff members to make decisions.
3.	3.00	0.60	Staff members have accessibility to key information.
4.	3.26	0.57	The principal is proactive and addresses areas where support is needed.
5.	2.91	0.66	Opportunities are provided for staff members to initiate change.
6.	3.20	0.62	The principal shares responsibility and rewards for innovative actions.
7.	2.80	0.78	The principal participates democratically with staff sharing power and authority.
8.	3.11	0.64	Leadership is promoted and nurtured among staff members.
9.	3.07	0.68	Decision-making takes place through committees and communication across grade and subject areas.
10.	2.85	0.67	Stakeholders assume shared responsibility and accountability for student learning without evidence of imposed power and authority.
11.	3.28	0.66	Staff members use multiple sources of data to make decisions about teaching and learning.
	3.04 (total Mean)	.66 (total SD)	

Eleven statements were provided for this dimension. Table 7 above reveals that overall; participants agreed that shared and supportive leadership was present in this school district. Shared and supportive leadership includes the following attributes: teachers have access to information, leadership is nurtured among the staff, decision

making takes place in committees, and the information is communicated to the staff. Teachers showed more marginal agreement with statements in regards to these practices being implemented in a consistent manner in this district. Also, the participants showed marginal agreement in regards to the staff having opportunities to be change agents in the district. Thus, the teachers showed overall agreement with this dimension, but there are attributes that received less agreement than others. It should also be noted that the two items with the highest mean scores for this dimension were item 11, staff uses multiple data sources for decision making (M = 3.28) and item 4, the principal is proactive and provides necessary support (M = 3.26). The range for agreement as suggested by the inventory's authors is 2.51 – 3.5. Therefore the teachers, on average, did not strongly agree or reach the higher end of the "agree" scale for this dimension. Yet the mean of the scores for the dimension, 3.04, is just above the point of the "agree" scale range, and it is concluded that all the teachers, on average, perceived their schools to have supportive and shared leadership.

Results for Evaluation Question 1b

Research Question 1b: *To what degree do teacher perceptions describe shared values and vision?*

According to Southwest Educational Development Laboratory SEDL (2000), "A fundamental characteristic of the professional learning community's vision is its unwavering focus on student learning." Shared values and vision drive staff and leadership, the instructional decisions made, and the school's culture and climate:

> The values, as noted earlier, are embedded in the day-to-day actions of the school staff, wherein the learning community engages and develops the commitment and

talents of all individuals in a group effort that pushes for learning of high intellectual quality. (SEDL, 2000, p. 5)

According to the results, the participants agreed that this dimension was implemented with fidelity ($M = 3.06$, $SD = .60$). Table 8 shows the overall results for this research question and PLC dimension.

Nine statements were included under this dimension. Overall, the participants agreed that shared values and vision were present in this district. Specifically, the participants agreed that the district shares the same values and vision about teaching, learning and using data to prioritize action steps to reach a shared vision. Respondents, however, demonstrated less agreement on one statement. The only item for which there is relatively less agreement is Item 19: "Stakeholders are actively involved in creating high expectations that serve to increase student achievement." Even Item 19 remains within the overall agreement range. Thus, there was remarkable inter-item agreement in favor of agreement of fidelity of implementation across the full set of 20 items. Table 8 below depicts the results of the participants' responses in regards to this dimension.

Table 8

Shared Values and Vision Data (N = 44)

#	Mean Score	Standard Deviation	Statement Text
12.	3.04	0.70	A collaborative process exists for developing a shared sense of values among staff.
13.	3.02	0.54	Shared values support norms of behavior that guide decisions about teaching and learning.
14.	3.22	0.55	Staff members share visions for school improvement that have an undeviating focus on student learning.
15.	3.17	0.49	Decisions are made in alignment with the school's values and vision.

16.	3.11	0.53	A collaborative process exists for developing a shared vision among staff.
17.	2.96	0.67	School goals focus on student learning beyond test scores and grades.
18.	3.17	0.44	Policies and programs are aligned to the school's vision.
19.	2.70	0.70	Stakeholders are actively involved in creating high expectations that serve to increase student achievement.
20.	3.17	0.57	Data are used to prioritize actions to reach a shared vision.
	3.06(Total Mean)	0.60(Total SD)	

Results for Research Question 1c

Research Question 1b: *To what degree do teacher perceptions describe collective learning/application?*

This dimension focused on how teachers engaged together to share best practices and instructional strategies with each other. The goal of this collaboration is to create collegial relationships that encourage creative problem solving and the application of those solutions in the classroom to assist students with understanding the curriculum. This dimension focused on the heart of the learning culture in the school: curriculum, instruction, and assessment. According to the results (see Table 9), the data showed that the participants agreed that this dimension was implemented with fidelity ($M = 3.06$, $SD = .64$).

Table 9 summarizes the means and standard deviations of the ten items in this dimension involving participants' perceptions of collective learning and application in this district. The respondents, overall, agreed with collective and learning practices of staff members working together in collegial relationships in which staff work together to

address student needs. In addition, they agreed that staff members work together to seek knowledge and apply that knowledge to their work. Six of the ten items had mean scores above 3.00, which is the point of the "agree" scale range (range = 2.51 – 3.00). Four items (24, 25, 26, and 27) evidenced mean scores of under 3.00, but these scores were so close (M = 2.96, M = 2.98, M = 2.98, M = 2.83 respectively) as to conclude that the difference was not significant. Once again, these educators agreed with the inventory's statements, and it is concluded that they perceive an atmosphere of collective learning/application

Table 9

Collective Learning and Application Data

#	Mean Score	Standard Deviation	Statement Text
21.	3.20	0.69	Staff members work together to seek knowledge, skills and strategies and apply this new learning to their work.
22.	3.15	0.56	Collegial relationships exist among staff members that reflect commitment to school improvement efforts.
23.	3.11	0.64	Staff members plan and work together to search for solutions to address diverse student needs.
24.	2.96	0.67	A variety of opportunities and structures exist for collective learning through open dialogue.
25.	2.98	0.65	Staff members engage in dialogue that reflects a respect for diverse ideas that lead to continued inquiry.
26.	2.98	0.61	Professional development focuses on teaching and learning.
27.	2.83	0.77	School staff members and stakeholders learn together and apply new knowledge to solve problems.
28.	3.20	0.50	School staff members are committed to programs that enhance learning.
29.	3.15	0.63	Staff members collaboratively analyze multiple sources of data to assess the effectiveness of instructional practices.
31.	3.07	0.65	Staff members collaboratively analyze student work to improve teaching and learning.

3.06(Total Mean)	0.64(Total SD)

Results for Evaluation Question 1d

Question 1d: *To what degree do teacher perceptions describe shared personal practice?*

This dimension attempts to break down the walls of isolation and create a culture of collaboration. According to Elmore (2000),

> Schools and school systems that are improving directly and explicitly confront the issue of isolation by creating multiple avenues of interaction among educators and promoting inquiry-oriented practices while working toward high standards of student performance. (p. 32)

The participants agreed that this dimension was implemented with fidelity. Mean scores on each item ranged between 2.78 and 3.24. There was only a difference of less than one half of a point separating the mean scores of the highest and lowest items. Similar to other dimensions reported above, there was little variance in the scores and the total mean score (M =2.95, SD = .62) was close to the midpoint of the scale (midpoint of agreement scale = 3.0). Therefore, it is concluded that teachers are consistent in their perceptions of shared personal practice and agree that their schools provide varied opportunities for interaction with each other. Table 10 contains the overall results for this research question and PLC dimension.

Table *10*

Shared Personal Practice Data

#	Mean Score	Standard Deviation	Statement Text
31.	2.91	0.66	Opportunities exist for staff members to observe peers and offer encouragement.
32.	2.93	0.68	Staff members provide feedback to peers related to instructional practices.
33.	3.24	0.52	Staff members informally share ideas and suggestions for improving student learning.
34.	2.91	0.59	Staff members collaboratively review student work to share and improve instructional practices.
35.	2.78	0.63	Opportunities exist for coaching and mentoring.
36.	3.04	0.56	Individuals and teams have the opportunity to apply learning and share the results of their practices.
37.	2.83	0.64	Staff members regularly share student work to guide overall school improvement.
	2.95(Total Mean)	0.62(Total SD)	

Results for Evaluation Question 1e

Question 1e: *To what degree do teacher perceptions describe supportive conditions?*

According to Eastwood and Louis (1992),

> Structures that support the vision of a school and learning community are vital to the effectiveness and innovation of teaching at the classroom level. Creating supportive structures, including a collaborative environment, has been described as "the single most important factor" for successful school improvement and "the first order of business" for those seeking to enhance the effectiveness of their school. (p. 215)

Supportive conditions are defined by two constructs: *relationships* and *structures.* Relationships encompass the collegial relationships among staff. The relationships hope to embody shared values, vision, practice, collective learning and application, and trust and respect (Hord, 1997). The data from the PLCA-R showed consistency between the two constructs of this dimension. The participants agreed that supportive conditions are implemented with fidelity as it relates to both the relationships (M = 3.07, SD = .62) and the structures aspects (M = 2.92, SD = 0.68). The relationships component had five items and mean item scores ranged from 2.89 to 3.22. The mean item score for relationships was 3.07 (SD = .62), just above the "agree" anchor. The structures component contained 10 items and these mean scores ranged from 2.74 to 3.11. The overall mean for this component was 2.92 (SD = .60), quite close to the agree point. It is concluded from these results that the respondents perceive supportive conditions in their schools. Table 11 below provides the overall results for this research question and PLC dimension.

Table *11*

Supportive Conditions – Relationships and Structures Data (N = 44)

#	Mean Score	Standard Deviation	Statement Text
Relationships			
38.	3.22	0.59	Caring relationships exist among staff and students that are built on trust and respect.
39.	3.04	0.56	A culture of trust and respect exists for taking risks.
40.	3.13	0.69	Outstanding achievement is recognized and celebrated regularly in our school.
41.	2.89	0.67	School staff and stakeholders exhibit a sustained and unified effort to embed change into the culture of the school.
42.	3.04	0.56	Relationships among staff members support honest and respectful examination of data to enhance teaching and learning

	3.07(Total Mean)	0.62(Total SD)	
Structures			
43.	2.85	0.67	Time is provided to facilitate collaborative work.
44.	2.91	0.66	The school schedule promotes collective learning and shared practice.
44.	2.91	0.66	The school schedule promotes collective learning and shared practice.
46.	2.74	0.85	Appropriate technology and instructional materials are available to staff.
47.	3.04	0.56	Resource people provide expertise and support for continuous learning.
48.	3.07	0.74	The school facility is clean, attractive and inviting.
49.	3.04	0.67	The proximity of grade level and department personnel allows for ease in collaborating with colleagues.
50.	3.11	0.48	Communication systems promote a flow of information among staff members.
51.	2.85	0.63	Communication systems promote a flow of information across the entire school community including: central office personnel, parents, and community members.
52.	2.98	0.58	Data are organized and made available to provide easy access to staff members.
Total	2.92	0.68	

Results for Evaluation Question 2

Question 2: *To what degree do the perceptions of teachers concerning the fidelity of PLC implementation vary by school level?*

Evaluation question 2 was added to the survey to gather data about teachers' perceptions concerning the fidelity of implementation by school level. The participants responded to this question by choosing one of the following: (1) very little (benefit), (2) to some extent (benefit), (3) a great deal (benefit). The teachers response resulted in a mean score of M=2.35. The teachers on average perceived that to some extent PLCs

were being implemented with fidelity by school level. In terms of frequency, 5 teachers responded very little benefit, 21 teachers responded to some benefit and 5 teachers responded a great deal of benefit.

Reeves (2010) proposed that PLCs that were implemented with fidelity improve instructional practices, increased teacher knowledge and showed an increase in student achievement. Teachers meeting does not equate to a PLC. The structure and the protocols that drive the meeting are important and impact fidelity (DuFour, DuFour, Eaker & Many; Hord, 1997).

Evaluation Questions 3 and 4

Evaluation questions 3 and 4 were added to the survey to gather additional perceptions about the implementation of fidelity of PLCs that were not answered in the PLCA-R. In practical terms, the following range was used to interpret the findings for evaluation questions 3 and 4: A three point, Likert-type rating scale was used for the response options ranging from 1: very little or no benefit; 2: to some extent there is benefit; and 3: a great deal of benefit. It is important to note that only 31 teachers from the sample of 44 responded to this question.

Results for Evaluation Question 3

Question 3: *To what extent do teachers perceive PLCs have improved student achievement in their school?*

Respondents were asked to rate their perceptions of the extent to which PLCs have improved student achievement in their schools on all five dimensions, including

shared and supportive leadership, shared values and vision, collective learning and application, shared personal practice and supportive conditions.

Table 12 provides the mean scores and standard deviations of the ratings given by the teachers for all five dimensions. The mean score for every dimension was 2.35 with identical standard deviations of .608. Interestingly, every respondent assigned the same value across all five dimensions. These mean scores indicate that, on average, teachers saw some benefit of PLCs. Further, the mean scores were all above the midpoint of the rating scale which is 2.00, indicating definite benefit from PLCs. A brief review of the frequencies may shed additional light on this finding. In terms of frequency, only two respondents were assigned scores of 1; 17 teachers assigned a rating of 2; and 12 teachers assigned a rating of 3. Therefore, only 6.5% of respondents perceived little of no benefit, almost 55% perceived at least some benefit, and over 38% of the teachers reported a great deal of benefit for student achievement as a result of PLCs. It must be concluded that overall, the teachers who responded to this question do think that PLCs have value for their students.

Table 12

Summary Statistics for Perception of Student Achievement by Dimensions (N = 31)

Dimension	*M*	*SD*
Shared and Supportive Leadership	2.35	.608
Shared Values and Vision	2.35	.608
Collective Learning and Learning Application	2.35	.608
Shared Personal Practice	2.35	.608

Supportive Conditions	2.35	.608
Total	2.35	.608

Results for Evaluation Question 4

Question 4: *To what extent do teachers perceive challenges of implementing PLCs?*

The teachers were asked to note the extent of how challenging the implementation of PLCs was for each of the five dimensions. A three point Likert-type scale was used with response options ranging from: 1, very little; 2, to some extent; and 3, a great deal. Table 15 gives the summary statistics for these findings. As this table shows, results were identical for each dimension. Respondents once again rated challenges in each dimension alike; that is, if they perceived a great deal of challenge in implementing shared and supported leadership, then they perceived a great deal of challenge in every other dimension. The mean scores were above the midpoint of the measuring scale (M = 2.35, SD = .608), indicating that teachers perceived at least some degree of challenge in implementing PLCs. It is worthwhile to also look at the frequencies of the responses to get a broader picture of teacher perceptions. Only two respondents, 6.5% of the total believed that there was very little or no challenge, 16 or 51.6% reported some degree of challenge, and 13 teachers representing 41.9% of the total reported a great deal of challenge in implementing PLCs. Thus, it is concluded that overall, teachers in this study who responded to this item perceived challenges in the actual implementation of PLCs.

Table 13

Summary Statistics for Challenges in the Implementation of PLCs by Dimensions (N = 31)

Dimension	*M*	*SD*
Shared and Supportive		
Leadership	2.35	.608
Shared Values and Vision	2.35	.608
Collective Learning and Learning		
Application	2.35	.608
Shared Personal Practice	2.35	.608
Supportive Conditions	2.35	.608

Results for Evaluation Question 5

Question 5: *What suggestions do teachers in the Eastern Region School District have to improve the fidelity of implementation of PLCs in order to garner the promised benefits?*

The teachers responded anonymously to this survey. Ten out of the 44 participants provided feedback about the implementation of PLCs in the Eastern Region School District. The feedback from the ten participants that provided suggestions for improving the fidelity of implementation commented on communication and consistency. Teacher 14627 stated the following regarding consistency: "Better communication and consistency among all personnel and respect among all grade levels is essential." Also in regards to communication, another teacher referenced the importance of the communication loop being closed: "Sometimes when teachers say things in their PLCs

and enter them in their notebooks, either the situation does not get dealt with immediately or we are not notified" (Teacher 14640).

In addition to communication and consistency, the same ten respondents that provided suggestions and feedback noted that fidelity would improve if resources were available; specifically the resources that were noted in the survey questions. Teacher 14634 stated they needed to "have more readily available resources for staff other than Internet." Lastly, the teachers noted that structure would improve the implementation of PLCs in the Eastern Region School District. Their suggestions included providing time and creating effective groupings for the elective teachers. One of the respondents stated, "There is neither time nor willingness among staff to participate in PLC as [they] should be operated." The teachers believed that the elective teachers should not be grouped together as their subjects do not relate. Another respondent used the word "pointless" to group them together, adding "to group electives together just for the sake of grouping is non-beneficial for those teachers." In summary, overall, the teachers perceive that PLCs are being implemented with fidelity. However, the participants' analysis noted room for improvement in regards to structures, collaboration, and support. The actual responses from the participants are listed below:

- Better communication and consistency among all school personnel. Respect among all grade levels and employees is also essential. 14627
- Consistency. 14633
- Have more readily available resources for staff other than Internet. 14634
- Keep providing the resources named in the above survey. 14638

- Sometimes when teachers say things in their PLC's and enter them in their notebooks, either the situation does not get dealt with immediately or we are not notified. 14640
- Choose the data that will be tracked and allow the teachers to discuss the students' needs based on this. Eliminate the need to discuss items in PLC that do not pertain to student learning. 14644
- Elective teachers grouped with other elective teachers is pointless, unless they are of or from the same elective. There HAS to be a common point of interest. PE instructors don't do what music teachers do; music teachers don't do what art teachers do, etc. To group electives together just for the sake of grouping is non-beneficial for those teachers. 14651
- There is no time nor willingness among staff to participate in PLC as should be operated. 14680
- I do not have any suggestions. 14631
- Are you sure that the answer options to Questions 1-3 are well-chosen? They do not seem to make a great deal of sense. 14609
- N/A. 14623

Summary of Findings

This study evaluated teacher responses to the five dimensions of the PLCA-R to determine the degree of fidelity of implementation of PLCs in their schools and tested these responses to see if they varied by school level (elementary, middle and high school). In addition, teachers were surveyed to assess whether they perceived PLCs had

helped improve student achievement and if there were challenges in implementing PLCs. Finally, the study sought to obtain suggestions from teachers regarding how to improve fidelity of implementation of PLCs.

The first finding was that teachers agreed that there was fidelity of implementation of PLCs in their schools. The mean scores across all the dimensions were notably similar. All mean scores fell within the "agree" scale range of 2.51 to 3.50. A series of ANOVAs were then conducted to address the second research question concerning any significant differences in the mean scores of teachers categorized by school level. Six tests were run, one for each dimension of the PLCA-R. Results indicated that there were no significant differences in the mean scores of teachers in elementary, middle school or high school. The next analysis examined the responses of teachers as to whether PLCs have improved student achievement. The surveyed teachers agreed that PLCs did improve student achievement. Once again mean scores were remarkably similar. Next, the teachers were asked their perception of any challenges of PLC implementation. The analysis of the data found that although they perceived there is value of PLCs, improving student achievement, they agreed that there were challenges in implementing the PLCs.

The final research question, which asked for suggestions for improving implementation of PLCs, resulted in teachers noting that communication, support, availability of resources and consistency were the emerging themes from their feedback. It is interesting to note that the teachers suggested that using the PLCA-R as a guide would assist with improving the challenges in these areas. Table 16 below displays the total statements and responses of all participants.

Table 14

Statement/Response Table – (N=44)

Note: Data reproduced as formatted in Professional Learning Communities Assessment-Revised (PLCA-R) online.

Shared and Supportive Leadership			
#	Avg. Score	Standard Deviation	Statement Text
1.	2.93	0.53	Staff members are consistently involved in discussing and making decisions about most school issues.
2.	3.07	0.65	The principal incorporates advice from staff members to make decisions.
3.	3.00	0.60	Staff members have accessibility to key information.
4.	3.26	0.57	The principal is proactive and addresses areas where support is needed.
5.	2.91	0.66	Opportunities are provided for staff members to initiate change.
6.	3.20	0.62	The principal shares responsibility and rewards for innovative actions.
7.	2.80	0.78	The principal participates democratically with staff sharing power and authority.
8.	3.11	0.64	Leadership is promoted and nurtured among staff members.
9.	3.07	0.68	Decision-making takes place through committees and communication across grade and subject areas.
10.	2.85	0.67	Stakeholders assume shared responsibility and accountability for student learning without evidence of imposed power and authority.

Shared Values and Vision			
#	Avg. Score	Standard Deviation	Statement Text
12.	3.04	0.70	A collaborative process exists for developing a shared sense of values among staff.
13.	3.02	0.54	Shared values support norms of behavior that guide decisions about teaching and learning.
14.	3.22	0.55	Staff members share visions for school improvement that have an undeviating focus on student learning.
15.	3.17	0.49	Decisions are made in alignment with the school's values and vision.
16.	3.11	0.53	A collaborative process exists for developing a shared vision among staff.
17.	2.96	0.67	School goals focus on student learning beyond test scores and grades.
18.	3.17	0.44	Policies and programs are aligned to the school's vision.

19.	2.70	0.70	Stakeholders are actively involved in creating high expectations that serve to increase student achievement.
20.	3.17	0.57	Data are used to prioritize actions to reach a shared vision.

Collective Learning and Application			
#	Avg. Score	Standard Deviation	Statement Text
21.	3.20	0.69	Staff members work together to seek knowledge, skills and strategies and apply this new learning to their work.
22.	3.15	0.56	Collegial relationships exist among staff members that reflect commitment to school improvement efforts.
23.	3.11	0.64	Staff members plan and work together to search for solutions to address diverse student needs.
24.	2.96	0.67	A variety of opportunities and structures exist for collective learning through open dialogue.
25.	2.98	0.65	Staff members engage in dialogue that reflects a respect for diverse ideas that lead to continued inquiry.
26.	2.98	0.61	Professional development focuses on teaching and learning.
27.	2.83	0.77	School staff members and stakeholders learn together and apply new knowledge to solve problems.
28.	3.20	0.50	School staff members are committed to programs that enhance learning.
29.	3.15	0.63	Staff members collaboratively analyze multiple sources of data to assess the effectiveness of instructional practices.
30.	3.07	0.65	Staff members collaboratively analyze student work to improve teaching and learning.

Shared Personal Practice			
#	Avg. Score	Standard Deviation	Statement Text
31.	2.91	0.66	Opportunities exist for staff members to observe peers and offer encouragement.
32.	2.93	0.68	Staff members provide feedback to peers related to instructional practices.
33.	3.24	0.52	Staff members informally share ideas and suggestions for improving student learning.
34.	2.91	0.59	Staff members collaboratively review student work to share and improve instructional practices.
35.	2.78	0.63	Opportunities exist for coaching and mentoring.
36.	3.04	0.56	Individuals and teams have the opportunity to apply learning and share the results

			of their practices.
37.	2.83	0.64	Staff members regularly share student work to guide overall school improvement.

Supportive Conditions - Relationships			
#	Avg. Score	Standard Deviation	Statement Text
38.	3.22	0.59	Caring relationships exist among staff and students that are built on trust and respect.
39.	3.04	0.56	A culture of trust and respect exists for taking risks.
40.	3.13	0.69	Outstanding achievement is recognized and celebrated regularly in our school.
41.	2.89	0.67	School staff and stakeholders exhibit a sustained and unified effort to embed change into the culture of the school.
42.	3.04	0.56	Relationships among staff members support honest and respectful examination of data to enhance teaching and learning.

Supportive Conditions - Structures			
#	Avg. Score	Standard Deviation	Statement Text
43.	2.85	0.67	Time is provided to facilitate collaborative work.
44.	2.91	0.66	The school schedule promotes collective learning and shared practice.
45.	2.63	0.80	Fiscal resources are available for professional development.
46.	2.74	0.85	Appropriate technology and instructional materials are available to staff.
47.	3.04	0.56	Resource people provide expertise and support for continuous learning.
48.	3.07	0.74	The school facility is clean, attractive and inviting.
49.	3.04	0.67	The proximity of grade level and department personnel allows for ease in collaborating with colleagues.
50.	3.11	0.48	Communication systems promote a flow of information among staff members.
51.	2.85	0.63	Communication systems promote a flow of information across the entire school community including: central office personnel, parents, and community members.
52.	2.98	0.58	Data are organized and made available to provide easy access to staff members.

Chapter 5: Discussion, Implications, and Recommendations

The purpose of this quantitative research study was to conduct a program evaluation of the fidelity of implementation of PLCs in the Eastern Region School District in North Carolina. The North Carolina Department of Public Instruction has instituted PLCs in every district in every school in the state. This study focused on the teachers' perceptions of the fidelity of implementation of PLCs in this district, aiming to determine their thoughts about its effectiveness, the PLC model in their schools, and its impacts on relationships, collaboration, availability of resources, and student achievement. The overall responses from the participants agreed that the Eastern Region School District was implementing PLCs with fidelity. However, the results revealed suggestions and implications that could possibly improve the fidelity of implementation in this district.

Discussion

Overall, teachers across the board within multiple groups did not respond exceptionally with high agreement regarding PLCs being implemented with fidelity, nor did they respond with exceptionally low agreement of PLCs being implemented in PLCs. The results suggest that the teachers believe that PLCs are being implemented with fidelity, but their responses can be assumed to be at a moderate level. The standard deviation results reveal variances within the dimensions and within and between the school levels. However, the standard deviation scores support the teachers' perceptions that there is an agreement that the five dimensions of PLCs are present and exist.

Evaluation Question 1a: Supportive and Shared Leadership

Hipp and Huffman (2003) defined shared and supportive leadership as when "school administrators participate democratically with teachers by sharing power, authority, and decision-making, and by promoting and nurturing leadership among staff" (p. 29). Teachers were in overall agreement with the implementation of shared and supportive leadership in the Eastern Region School District. According to Morrissey (2000), in order for shared and supportive leadership to be implemented with fidelity, the leadership of the school has the ultimate influence on how PLCs are implemented.

As such, leadership in the school and district is critical to teachers' shared decision making in the school. Roberts and Pruitt (2009) explained that leadership must shift from centralized leadership to shared decision making in order for school improvement to be realized. Speck (1999) recommended, in order to build and sustain shared and supportive leadership, leaders must: (a) build a shared vision, mission, and values; (b) communicate the vision; (c) develop trust; (d) practice communication skills that foster collaboration; (e) plan and facilitate the change process; (f) promote and develop teachers as collaborative leaders and learners; and (7) ensure sustained academic improvement (p.8). Therefore, to strengthen this area, a suggestion for principals is to involve the teachers in developing a vision, allow them to take part in decisions that affect the entire school community, and analyze data as a team in order to make instructional decisions together.

Evaluation Question 1b: Shared Values and Vision

The teachers were in overall agreement with this dimension. The teachers were in agreement with the components of the shared values and vision dimension were present in the PLC implementation in Eastern Region School District.

Shared values and visions focuses on all participants being on one accord with the vision and mission of the school. "In such a community, the individual staff member is responsible for his/her actions, but the common good is placed on a par with personal ambition. The relationships between individuals are described as caring. Such caring is supported by open communication, made possible by trust" (Fawcett, 1996). This dimension drives the work of the organization. This dimension manifests itself in the operation of the school, how decisions are made, and how the norms of engagement are developed in order to make sure the shared vision and values guide the work of the PLC.

Evaluation Question 1c: Collective Creativity/Application

Collective creativity/application involves individuals learning new knowledge and skills together and sharing knowledge to develop new products (Hord, 1998). The results revealed that teachers were in overall agreement with this dimension.

This dimension describes interactions with teachers as they reflect on learning as well as the application of the learning in their classrooms with their students. This dimension also focuses on teachers learning together, seeking new knowledge to assist teachers, engaging in problem solving, and strengthening collegial relationships among teachers and the principal. The teachers' perceptions in this study reported that these types of opportunities are not present in the schools in the Eastern Region School District. According to Morrissey (2000),

> The collegial relationships that result produce creative and appropriate solutions to problems, strengthening the bond between principal and teachers and increasing their commitment to improvement efforts. Such schools move beyond discussions of revising the schedule or establishing governance procedures to focus on areas that can contribute to significant school improvement-curriculum, instruction, assessment, and the school's culture. (p. 6)

Towery (1995) further stated,

> Teamwork is often like the weather—everyone talks about it, but often nobody does anything about it. It is seldom achieved by intellectualization, but is rather the practical application of attitude, common goals, and experience working together. It is a learned art. (p. 18)

This quote exemplifies the dimension of collective learning and application. In order for this area to be improved, York-Barr et al. (2006) suggested the following: (a) establish norms, (b) engage in reflective practice, (c) discuss problems with the intent to provide solutions, and (d) develop a culture of instructional exploration with a focus on school improvement (p. 147). Teachers and principals that continuously engage in collective learning and application ultimately improve teacher learning.

Evaluation Question 1d: Shared Personal Practice

As with earlier questions, the respondents agreed overall with implementation with fidelity. Shared personal practice is defined as schools and school systems that are improving and that directly and explicitly confront the issue of creating a community of mutual respect and trustworthiness among the teachers. A possible recommendation to reduce isolation may be done by creating multiple avenues of interaction among

educators and promoting inquiry-oriented practices while working towards high standards of student performance (Elmore, 2000). A culture of collaboration that embodies shared personal practice is based on a foundation of trust and mutual respect. Therefore, schools and school systems that choose to embody PLC practices should provide opportunities for teachers to work collaboratively to share personal practice.

Evaluation Question 1e: Supportive Conditions

A supportive condition is defined as school conditions and capacities that support the staff's arrangement as a professional learning organization. They are the glue that holds all other dimensions together (Hipp & Huffman, 2003, Kindle Locations 409-410). The supportive conditions dimensions were divided into two parts: relationships and structures.

Relationships refers to the "positive collegial relationships to include attitudes, widely shared vision or sense of purpose, norms of continuous critical inquiry and improvement, respect, trust and positive, caring relationships" (Morrissey, 2000, p. 7). The teachers' perceptions of the relationships received an overall agreement that this dimensions was implemented with fidelity. According to the literature, supportive conditions relate to promoting collaboration. Paradoxically, this occurs when isolation is reduced. "School-change projects bear out that the dialogue that occurs when isolation is reduced is perceived by teachers as an exchange of valuable information with peers" (Roberts et al., 2009, p. 18). Barth (2006) further stated, "The nature of the relationships among the adults within a school has a greater influence on the character and quality of that school and on student accomplishment than anything else" (p. 9). According to York-Barr et al., (2006) collegial relationships become embedded and sustained through

collaboration, reflection, sharing of resources, and adherence to shared goals, mission, and vision of the school. Isolation is reduced by building sustainable relationships.

"Structures are defined as changes that arise as a result of scheduling, teacher assignments, organizational changes, and so on" (DuFour et al., 2008, p. 89). The teachers' perceptions showed minor challenges with scheduling, communication, resources, and dispensing data to the teachers. Eastwood and Louis (1992) stated, "Creating supportive structures, including a collaborative environment has been described as the single most important factor for successful school improvement and the first order of business for those seeking to enhance the effectiveness of their school" (p. 215). Scheduling, communication, and availability of resources are critical to supporting the vision and mission of the school.

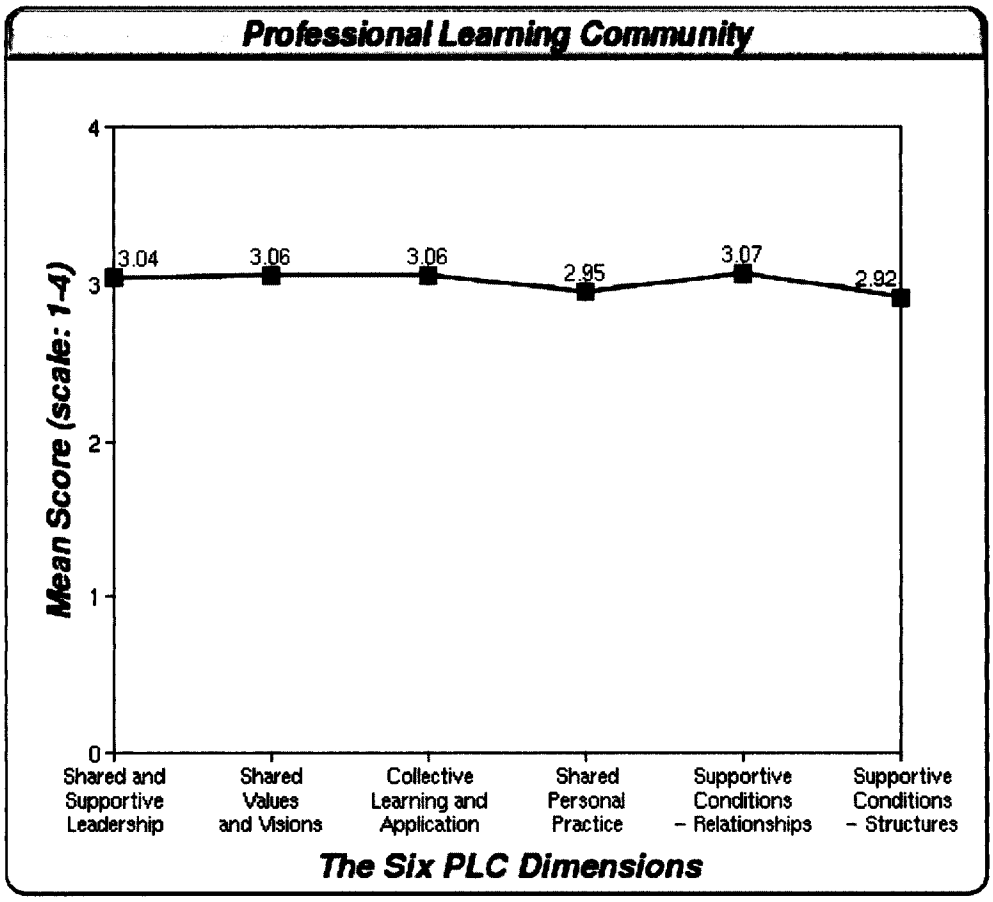
Supportive conditions are the foundation of the transformational change and collaboration needed to accomplish student achievement. In this study, the teachers agreed that these resources are necessary for them to do their jobs effectively.

Overall Results for Evaluation Question 1. The graph (Graph 1) below displays the overall mean scores for all five dimensions. The graph shows that the participants agreed that all five dimensions were being implemented with fidelity in this district. The participants noted that their highest agreement with supportive conditions-relationships (M=3.07). The participants responded equally in agreement with shared values and visions and collective learning and application (M=3.06). They responded slightly below the previously mentioned dimensions to the dimension shared and supportive leadership (M.3.04). Next, the respondents agreed with supportive conditions

–structures (M=2.92) and shared personal practice (M=2.95) in the range of agreement of 2.51-3.5.

Graph 1

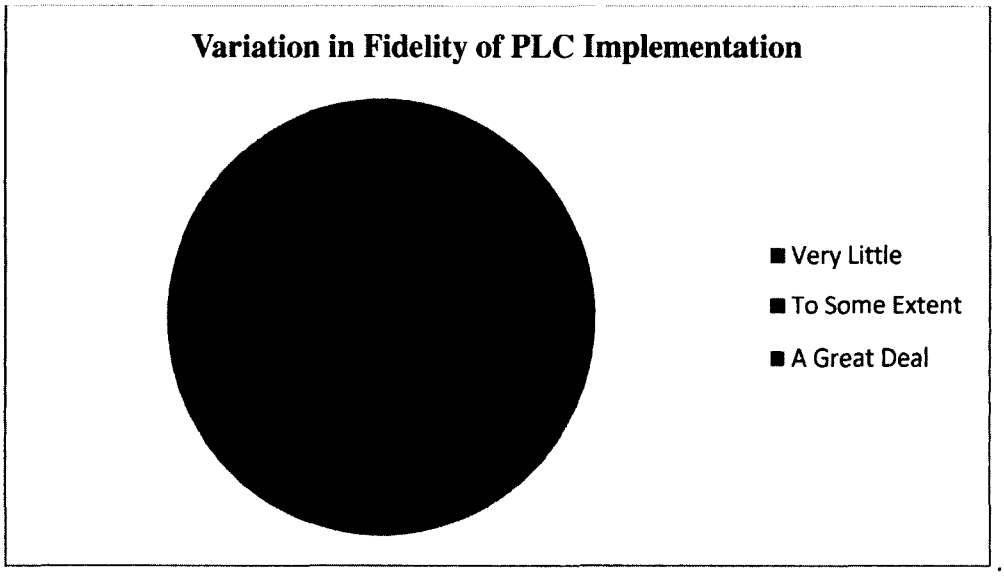
Overall Results from the survey participants by the PLC Dimensions



Evaluation Question 2: Variation in Fidelity of PLC Implementation by School Level

The participants marginally agreed that "to some extent" PLCs are being implemented by school level. The teachers did not provide examples of why they perceive that PLCs were being implemented with fidelity. The participants responded as follows: 5-very little, 21-to some extent, and 5-a great deal (See Graph 2).

Graph 2



Evaluation Question 3: School Achievement

Overall, the participants' marginally agree that PLCs have some effect on student achievement "to some extent." However, although the teachers tend to believe that PLCs make a difference to student achievement, we really do not know how they affect student achievement. The teacher data does not provide examples of how the PLCs affect student achievement. A research study conducted by Reyes, Scribner, and Paredes (1999) determined benefits of implementing PLCs, including that it assisted staff with overcoming challenges from previous reform efforts. Consequently, the researchers

stated, "School staff learned to develop their own capacities in order to produce improved student outcomes from year to year, despite increasing changes in their school and surrounding communities that made teaching and learning more challenging" (Reyes, Scribner, & Paredes, 1999 as cited in Morrisey, 2000, p. 9). The survey did not ascertain what factors of PLCs impacted student achievement.

Evaluation Question 4: Challenges to PLC Implementation

The teachers noted that to some extent there were challenges with implementation of PLCs across the Eastern Region School District. This question was a forced-choice response question. The data revealed that the participants mean score fall at the midpoint range regarding challenges to PLC implementation. The literature has also indicated challenges to implementing PLCs, which are designed to change the culture of the school and school system. Roberts and Pruitt (2009) stated, "As educators engaged in school reform have found it easier to make changes that it is to maintain them" (p. 215). It is important to note than in order to maintain sustainability of PLCs, the change process should be continually addressed during the implementation process.

Bryk and Schneider (2002) found building relational trust is the catalyst for influencing individuals to change, highlighting the "significance of trust as a dynamic that influences the willingness of individuals to be open about their practices and reflect with others" (as cited in Robert & Pruitt, 2009, pp. 52-53). The teachers in this study did not identify how teachers confronted the challenges of PLCs. However, many researchers have suggested the following strategies: "(a) foster trust; (b) develop common goals, norms, and vision; and (c) adopt shared leadership in decision making among the teachers and the principal. Just as cultural factors should be addressed so should

instructional changes. It is important to note that in order to confront the challenges of sustainability of PLCs and any reform effort, structures should be put into place to support learning communities. For example, school professionals should maintain a focus on student learning achievement while providing opportunities for collaboration (York-Barr et al., 2006, pp. 208-209). Lastly, challenges can be confronted by investing in leaders at all levels, and using data to make decisions and to develop common goals and plans together.

Evaluation Question 5: Improving Fidelity of PLC Implementation

The survey results revealed the teachers' showed marginal agreement with all five dimensions of PLCs being practiced in this district. Therefore, the assumption can be that the five dimensions of PLCs were implemented with fidelity in this district. However, the ANOVAs revealed that there were no significant differences between the grade levels concerning this perception. In this question, the teachers were asked to provide suggestions for improving the fidelity of implementation of PLCs. The themes that emerged from the teachers' suggestions included better communication among all school personnel. The teachers also noted that the communication should be consistent among all levels and when questions and concerns arise, there should be following up about questions and concerns. In addition, teachers suggest that the availability of resources should be provided for example access to data, assessments, textbooks and instructional programs. The participants suggested using the components of the PLCA-R assessment as a guide to providing resources so that PLCs can be implemented with fidelity. Lastly, the participants revealed that data driven decision making is important to collaboration. The participants suggested that the data used be aligned to student needs

and that all PLC discussions should be aligned to the data the district has identified as important to their work. Subsequently, the participants noted that with communication, consistency among grade levels, using data that only focuses on student learning, and then the PLC conversations would only be focused on improving student outcomes in the district.

Implications for Central Administration/District Leadership

The role of the influence of the central office has often been neglected. Waters and Marzano (2006), research revealed that there is a significant relationship between central office leadership and student achievement. However, their leadership, direction, buy-in, and support via professional development and the provision of resources support the implementation of PLCs.

Central administration and content leaders should ensure that curriculum and instructional pacing guides and assessments should be aligned. These resources should be coordinated and embedded in professional development and then communicated to the schools with a plan for continuing to communicate the resources at the school level as well. In addition, PLC practices should be communicated from central administration to school level leaders.

While school districts navigate through the PLC implementation process, stable leadership is needed to sustain improvement until these practices become embedded in the culture and climate in the district. Lastly, if districts choose to implement PLCs, support is needed from central administration to manage the impact of external factors. (Shannon & Bylsma, 2004 as cited in DuFour, et. al., 2008, p. 338).

These recommendations are supported by this study's findings. For example, teachers recommended the following: "Better communication and consistency among all school personnel," "Have more readily available resources for staff other than the Internet," and "Choose the data that will be tracked and allow the teachers to discuss the students' needs based on this (Teacher 14644)." (See Appendix J)

DuFour and Marzano (2011) stated, "principals do indeed make a difference in student learning and the most powerful strategy for having a positive impact on that learning is to facilitate the learning of educators who serve those students through the PLC process"(p. 630). Therefore, the implications for central/district and school leadership includes providing curriculum, instruction and assessment report for schools to be able to make data driven decision making, stable leadership to navigate ensure consistency, and navigating the change process while managing this change process. The tone of the central/ district leadership and school leadership must reflect change for implementing PLCs with fidelity.

Implications for Teachers

Administrators must navigate their staff through the change process if the school district adopts PLCs or a collaborative model as their framework for school improvement. All stakeholders must be willing and open to the change process. Muhammad (2009) identified four types of teachers: (a) the believers are flexible to change, (b) the tweeners have a loose connection to change, (c) the survivors have a flight response to change, and (d) the fundamentalists are opposed to change. Muhammad (2009) further stated: "Fundamentalists' resistance to change maintains the status quo when schools should be ahead of the curve and actively seeking strategies that will allow

them to fulfill their ultimate goal to the best of their ability: universal student achievement" (p. 83). In order to be proactive with change, then teachers should be the first learners in the building. Carmichael (1982) stated, "Teacher learning comes first in such communities with a firm belief that students cannot raise their level of achievement until teachers become more effective in their own practice" (pp. 58-59).

Teachers can support PLC implementation by supporting school growth by working cooperatively with district and school leadership to ensure that they contribute their leadership to the PLC process. Teacher 14680 noted a challenge to implementing PLCs with fidelity. Teacher 14680 stated the following, "there is neither time nor willingness among staff to participate in PLC as should be operated" (Teacher 14680). The PLC dimension of collective learning and application supports this finding from the participant. The participants showed agreement with the following statements that support the need for opportunities to collaborate: "A variety of opportunities and structures exist for collective learning through open dialogue M= 2.96; school staff members are committed to programs that enhance learning M = 3.20; and staff members collaboratively analyze student work to improve teaching and learning M = 3.07" (teacher 14680). Robert and Pruitt (2006) reported that providing opportunities and training on group processing skills can assist teachers with how to operate and communicate in intentional collaborative setting. In addition, teachers need support from school level leadership to ensure that the schedule and structure of the reflects time for ongoing PLCs to discuss continuous improvement and provide teachers with coaching opportunities to assist them will allow for collective learning and application to occur in their instructional delivery (pp. .222-223).

Teachers working collaboratively with administration while facilitating change will hopefully lead to improved student achievement. Teachers must be willing to work with the administration to implement PLCs. This work cannot be done without the teacher and the leadership cannot do this alone. This study assessed the teachers' perceptions of shared and supportive leadership. The participants responded with overall agreement with working collaboratively with leadership and they are consistently involved in discussing and making decisions about most school issues (M = *2.93*) and the principal incorporates advice from staff members to make decision (M = *3.07*). The teacher carries out the change. Statement 5 on the PLCA-R shows that the teachers were in agreement (M = *2.91*) that they were given opportunities to initiate change. Lastly, teachers' commitment to the implementation process will impact fidelity. Teachers holding themselves accountable to their students and embracing the process ensures fidelity. The teachers are the catalyst by being committed to the process and realizing that this is a process not a destination. Ongoing collaborative relationships, collegial conversations that use data to drive instruction on a continual basis by the teachers will ensure fidelity. Ultimately, continual practice will ensure that practices become embedded into the teaching and learning culture of the school.

Lastly, teachers embracing the process of collaboration and abandoning the practice of isolation can impact fidelity. "Isolation and insulation are the expected conditions in too many schools. These conditions do not foster individual teacher growth and school improvement" (Lieberman & Rosenholtz, 1987, p.94). This old paradigm is paradoxical to implementing PLCs with fidelity. Unfortunately, the pervasive culture still exists to some degree in schools. Therefore, teachers that are a part of a district that

has embraced the five dimensions of PLCs as their model for school reform must shift from isolation to collaboration. This change can occur when intentional collaboration with other teachers in a structured format with supportive leadership to make the shift. It is important to note that teachers' mindsets about teaching and learning have to change in order for the fidelity to be realized. Teacher buy in is crucial to fidelity. The PLC dimension shared and supportive practice describes actions that could be taken to shift teachers from isolation to collaboration. The participants marginally agreed with these components being implemented at the time of this study: "Staff members regularly share student work to guide overall school improvement (M=*2.83*). Staff members provide feedback to peers related to instructional practices (M=*2.91*). Opportunities exist for coaching and mentoring (M=*2.78*)" (PLCA-R, 2010). The participant's marginal agreement to these statements indicates there is room for growth in this area. Teachers working collaboratively with the principal to make this shift from isolation to collaboration are key to improve student achievement. Louis et al. (2010) stated the following:

> Our evidence also points to the continuing preference of many of teachers to [be] "left alone." These teachers typically view the presence of a principal in their classrooms as unnecessary as sometimes bothersome...Maintenance of status quo, which for most secondary school teachers meant not having direct and frequent contact with the principal (or anyone else, for that matter) about ways to improve instruction was preferred. (p. 91)

Shared and supportive leadership can provide direction on how teachers make this shift to occur in schools that adopt PLCs.

Recommendations

A synthesis of the PLC data and the suggestions from the teachers revealed four findings that may improve the fidelity of implementation in the Eastern Region School District: availability of resources, support, consistency and communication.

Availability of Resources

Out of the ten participants to respond to Evaluation Question number 5, teacher 14634 suggested the following, "have more readily available resources for staff other than Internet" (Teacher 14634). The respondent did not elaborate on what specific resources he or she was referring to in this study. However, resources are tangible supplies needed to assist teachers with instruction. In this study, the PLC dimension supportive conditions refer to the availability of resources. The participants agreed with this as evidenced by a mean score of $M = 2.98$. It is important that "data are organized and made available to provide easy access to staff members" (PLCA-R, 2010). Supportive conditions include structures and relationships. First, leaders can provide resources through scheduling that will allow time for teachers to collaborate, allocation of fiscal resources to provide instructional materials, resource people such as instructional coaches to support continuous learning and the availability of data to use to support lesson planning and instructional delivery.

Teacher 14644 supported this finding in regards to availability of resources by stating that the district should "choose the data that will be tracked and allow the teachers to discuss the students' needs based on this. Eliminate the need to discuss items in PLC

that do not pertain to student learning" (Teacher 14644). The literature supports that availability of data resources. According to Rose (2006), what data is collected is just as important as what data should be used and analyzed to make the right instructional decisions. In sum, leaders must create the support and time for teachers to delve into the data to inform their practice. Ultimately, the availability of resources provides teachers with tools necessary to be involved in continuous learning in order to implement PLCs with fidelity.

Support

Support is needed in order for teachers to share personal practices and learning collectively. In relation to this study, supportive conditions –relationships and structure support this finding. Teachers can use PLCs most beneficially by embracing the PLC practice. This requires that change must occur in the teacher's practices in school.

According to results depicted in this study, teachers want to be able to share personal practices (M = *2.95)* as well as working in supportive conditions that build collegial relationships with structures (M = *2.92*) in order for the teachers to work together consistently and cohesively to focus on student learning and achievement. Interestingly, Teacher 14638 suggested that leaders use the PLCA-R as a guide of how to improve PLCs and garner the benefits they promise by using the survey as a guide.

Communication

If districts choose PLCs as a model of reform, then central administration/district leadership play an important role in communicating consistent expectations and resources. These resources should be coordinated and embedded in professional development and then communicated to the schools with a plan for continuing to

communicate the resources at the school level as well. Provide effective leadership by establishing high expectations focused on learning goals and eliminating distractions and competing programs.

Communication from the district leadership is translated to the leaders at the school level. School level leaders and teacher leaders should communicate the expectations of PLCs via structures such as time for collaboration, norms, protocols, and agendas to communicate clear expectations for the collaborative team meetings. Teachers working in groups can make sure that PLCs are intentional, structured, and focused on the data. The teachers that participate in the PLCs should develop a set of norms, create agendas to organize the discussion, and assign each teacher leadership duties to perform in the group such as a facilitator to guide the discussion and a time keeper to ensure that meeting is focused on the agenda items and that the meeting ends on time. Also, a note taker should archive the decisions made in the discussion as well document next steps in regards what they discussed as the meeting so that the teachers bring all agreed up deliverables so they will be prepared for the next meeting. The participants in the survey showed agreement with the statement,

Communication systems promote a flow of information among staff members, finding with a mean score of *M = 3.11*- Communication systems promote a flow of information among staff members and M=*2.85* – Communication systems promote a flow of information across the entire school community including: central office personnel, parents, and community members (PLCA-R, 2010).

According to DuFour, DuFour and Eaker (2006) these communication tools "make their collective experience more satisfying and fulfilling" (p.284

Consistency

Teachers noted that consistency is a factor in implementing PLCs with fidelity. District leadership and school leadership should promote consistency by ensuring that there is balance between the roles of the district leadership and school leadership. This will ensure balance between tight and loose leadership.

Also, consistency between expectations by nurturing a culture of professionalism with actions and decisions being aligned with the dimensions of PLCs communicate a collaborative culture. The PLC dimension supportive conditions- relationships support this study's findings of related to consistency. Consistency is communicated through relationships by what we say and do through relationships in the PLC. Consistency builds trust. Trust supports the professional learning community model and paradoxically it can impede and hinder the capacity building to support this model.

The participants responded in agreement with the following components of the supportive conditions PLC dimension. The participants supported this finding by showing agreement with the following statements of supportive conditions and relationships: caring relationships exist among staff and students that are built on trust and respect (*M = 3.22)*; a culture of trust and respect exists for taking risks (*M=3.04)*; relationships among staff members support honest and respectful examination of data to enhance teaching and learning- (*M = 3.04).* (PLCA-R, 2010)

According to Tschannen-Moran (2000),

> collaboration and trust are reciprocal processes; they depend upon and foster one another. Collaboration takes place between autonomous partners who choose

whether or not to participate: therefore, it is unlikely that collaboration will develop without at least a measure of trust" (Tschannen-Moran, 2000, p. 315). The participants agreed with this finding by coupling communication with consistency. Therefore, teachers, central/district leadership, and school level leadership can foster consistency by building trusting relationships.

In sum, if districts choose to embark on the implementation of the five dimensions of PLCs with fidelity, then all stakeholders must provide resources and communicate expectations while developing trusting collegial relationships with consistency in actions and deeds.

Limitations

This study had the following limitations. The results are directly generalizable to the Eastern School District only. In addition, the response rate was low. Only 44 out of approximately 705 content area teachers responded to the survey. The survey and the study were introduced to the principals in the district in an email from the Assistant Superintendent of Accountability (see Appendix B). After the introductory email was sent, several reminder emails were sent to the principals. Therefore, if the principals did not introduce the study and survey to the staff, then the teachers were not provided an opportunity to complete the survey.

The survey was deployed via the participants' school email, which had strengths as well as limitations. The survey response rate was limited if the teachers did not read their email. Also, the survey was deployed in April after spring break: teachers may have been unavailable due to end-of-year responsibilities.

The regional nature of the sample limits the generalizability of the findings. Expanding the pool of surveys to a larger region and more schools could allow for the consideration of the fidelity of implementation on a larger scale. The findings are also limited by the smaller number of participants; having a larger participation group may have increased the knowledge gleaned from the administration of the survey.

Recommendations for Further Research

Only 44 out of 705 (6.5%) content area teachers participated in this study, central office staff, special area teachers, principals, and assistant principals did not participate in this study. Since teachers are the main stakeholders on the educational team in a school system, recommendations for further research include collecting more quantitative and qualitative data that includes teachers. Therefore, recommendations for further research are as follows:

1. To assess teachers' perceptions of the five dimensions of PLCs and its effect on student achievement;
2. To gain an understanding of trust in PLCs and its effect on a school culture that is embracing the five dimensions of PLCs.
3. To gain an understanding of how PLCs are implementing the five dimensions of PLCs, use the PLCA-R as a pre- and post-assessment to determine growth and perceptions from beginning to the end.
4. To gain an understanding of how the five dimensions of PLCs are implemented at each level, conduct a study that focuses on each level (i.e., elementary, middle, and high school) independently to determine the similarities and differences of teachers' perceptions within the levels.

5. To gain an understanding of leadership readiness, conduct a study that focuses on central office leadership and school leadership to determine their understanding of the five dimensions of PLCs prior to implementing PLCs in their district and schools.
6. To gain an understanding of instructional coaching PLCs on the effect of student achievement.

Conclusion

When schools embark upon reform, stakeholders must take into consideration policy, planning, and leadership. The foundation of these three factors hinges on embracing change. Weick (1996) stated, "People may refuse to change because change may mean admitting failure." The literature and this study's findings show that the stakeholder who holds the answers to school reform and its success is the teacher. Leaders must include teachers in leadership decisions, especially as it relates to how reforms will affect the teachers at the classroom level. Whether or not the schools use the term PLCs to define a collaborative culture of change, the ultimate conclusion is that all stakeholders must develop and know the values and mission of the school and be given opportunities to collaborate and share with their colleagues. The results of the study revealed that fidelity of implementation happens when communication occurs between schools and within schools. In addition, the findings revealed that consistency and communication of expectations and practices should be recommended with a committee of stakeholders, building trust and making resources available for the teachers to work collaboratively.

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Appendices

Appendix A: IRB Approval

Status of protocol EDIRC-2015-03-08-10212-jhstro set to active
WM Compliance <compli@wm.edu>
Mar 26
to me, jhstro, mxtsch, edirc-l, me, mxtsch, jhstro

This is to notify you on behalf of the Education Internal Review Committee (EDIRC) that protocol EDIRC-2015-03-08-10212-jhstro titled A Program Evaluation of Teacher Perceptions on the Fidelity of Implementation of Professional Learning Communities has been EXEMPTED from formal review because it falls under the following category(ies) defined by DHHS Federal Regulations: 45CFR46.101.b.2.

Work on this protocol may begin on 2015-03-26 and must be discontinued on 2016-03-26.
Should there be any changes to this protocol, please submit these changes to the committee for determination of continuing exemption using the Protocol and Compliance Management application (https://compliance.wm.edu).

Please add the following statement to the footer of all consent forms, cover letters, etc.: THIS PROJECT WAS FOUND TO COMPLY WITH APPROPRIATE ETHICAL STANDARDS AND WAS EXEMPTED FROM THE NEED FOR FORMAL REVIEW BY THE COLLEGE OF WILLIAM AND MARY PROTECTION OF HUMAN SUBJECTS COMMITTEE (Phone 757-221-3966) ON 2015-03-26 AND EXPIRES ON 2016-03-26.

You are required to notify Dr. Ward, chair of the EDIRC, at 757-221-2358 (EDIRC-L@wm.edu) and Dr. Ray McCoy, Chair of the PHSC at 757-221-2783(rwmcco@wm.edu) if any issues arise during this study.

Good luck with your study.

COMMENTS

2015-03-13 08:28:36 (Tom Ward)

Starting January 15, 2015, the PHSC, and thus the EDIRC, requires that training certificates be attached to human subjects protocols. All individuals listed on the protocol, not just the PI, must attach a certificate of training to the protocol before the Committee can approve a project. This protocol is missing one or more certificates for listed researchers. Please attach a copy of the missing certificate(s) so that we may process your protocol.

BASIC INFO

Title: A Program Evaluation of Teacher Perceptions on the Fidelity of Implementation of Professional Learning Communities
Start Date: 2015-03-26
Year Number: 1
Years Total: 1
Campus: Main
Committee(s): EDIRC
Cc: Emails: exnapp@email,mxtsch@wm.edu,jhstro@wm.edu

PI INFO

W&M UserID: exnapp
Full Name: Napper, Elondra
Role: Graduate Student
Department: EPPL
Day/Work Phone: 7576798732
Ext:
Alternate Phone:

W&M UserID: jhstro
Full Name: Stronge, James
Role: Faculty
Department: EPPL
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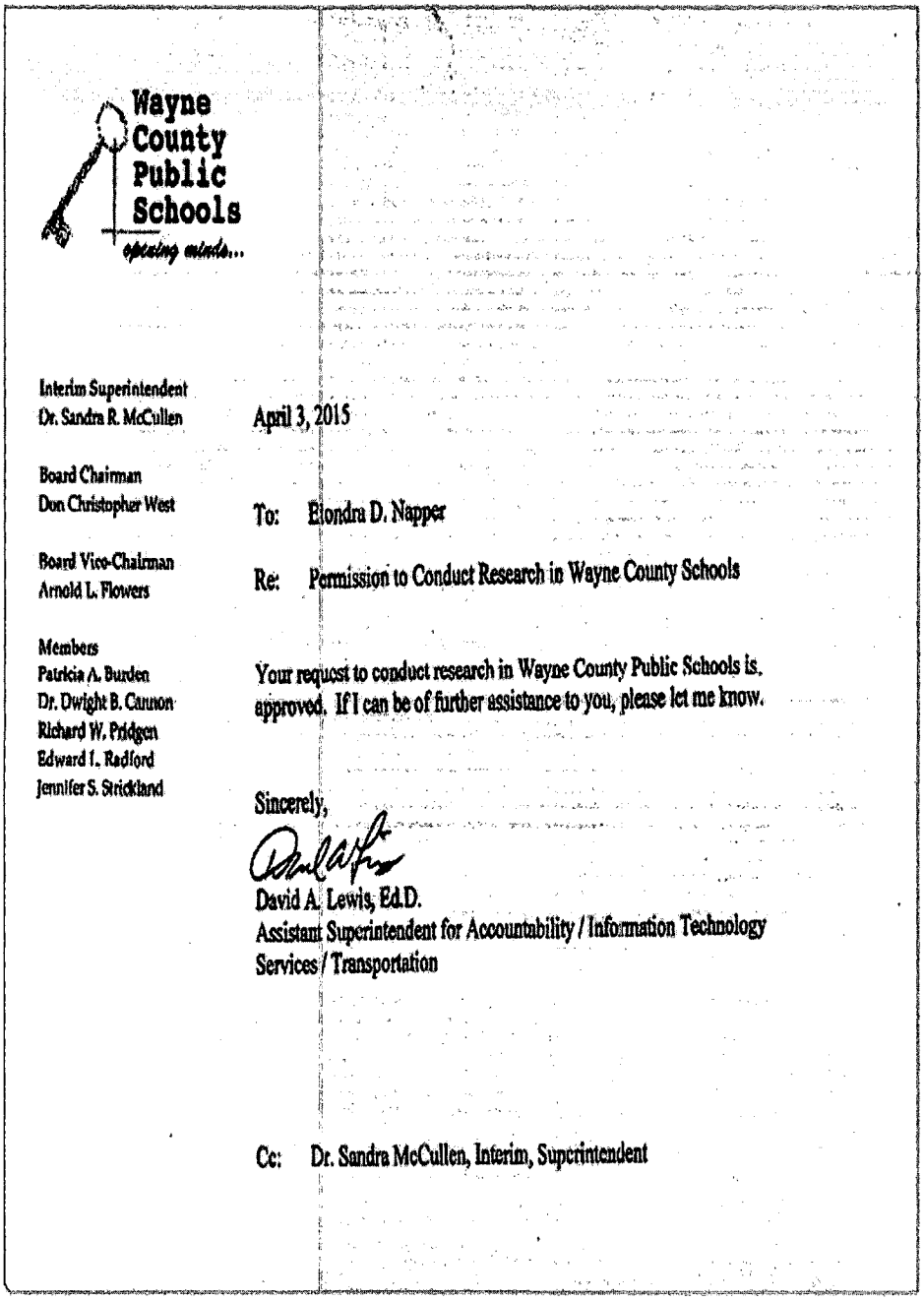
Ext:
Alternate Phone:

W&M UserID: mxtsch
Full Name: Tschannen-Moran, Megan
Role: Faculty
Department: EPPL
Day/Work Phone: +1 757 221 2187
Ext:
Alternate Phone:

Protocol modified by tjward on 2015-03-26 20:50:32

Appendix B: Authorization from School District



Wayne County Public Schools
opening minds...

Interim Superintendent
Dr. Sandra R. McCullen

Board Chairman
Don Christopher West

Board Vice-Chairman
Arnold L. Flowers

Members
Patricia A. Burden
Dr. Dwight B. Cannon
Richard W. Pridgen
Edward L. Radford
Jennifer S. Strickland

April 3, 2015

To: Elondra D. Napper

Re: Permission to Conduct Research in Wayne County Schools

Your request to conduct research in Wayne County Public Schools is approved. If I can be of further assistance to you, please let me know.

Sincerely,

David A. Lewis, Ed.D.
Assistant Superintendent for Accountability / Information Technology Services / Transportation

Cc: Dr. Sandra McCullen, Interim, Superintendent

Appendix C: Permission to Use the Professional Learning Communities Assessment – Revised (PLCA-R)

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

June 16, 2014

Elondra Napper
705 South Harding Dr., Unit 401
Goldsboro, NC

Dear Ms. Napper:

This correspondence is to grant permission to utilize the *Professional Learning Community Assessment-Revised* (PLCA-R) as your instrument for data collection for your doctoral study through The College of William and Mary, Williamsburg, VA. I believe your research *exploring the impact of professional learning community practices on student achievement* will contribute to the PLC literature, as well as to high performing schools seeking strategies to enhance student performance. I am pleased that you are interested in using the PLCA-R measure in your research.

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

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

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

Sincerely,
Dianne F. Olivier
Dianne F. Olivier, Ph. D.
Associate Professor
Joan D. and Alexander S. Haig/BORSF Professor
Department of Educational Foundations and Leadership
College of Education, University of Louisiana at Lafayette
P.O. Box 43091, Lafayette, LA 70504-3091
(337) 482-6408 (Office) dolivier@louisiana.edu

Appendix D: Participants Consent Form

Dear Educator,

You are being asked to participate in a dissertation research study. Prior to deciding to participate please read the following benefits to participating in this research study:

Title Of Research: A Program Evaluation of Teacher Perceptions on the Fidelity of Implementation of Professional Learning Communities

Researcher: College of William and Mary Doctoral Candidate

The benefit of participating in this study will be to gain information about what factors influence the implementation of professional learning communities in a school district with urban, suburban and rural schools with fidelity. The information and feedback gained from this experience will provide other educators with knowledge on what factors are needed to implement professional learning communities in their schools and if this implementation will assist all educational stakeholders with improving the teaching and learning environment to improve student achievement.

The Professional Learning Communities Assessment Revised (PLCA-R) Survey will be used to collect data on teacher perceptions for this study.

Participating in this study in voluntary. You will not be penalized for participating or not participating. In order for you to make an informed decision about participating please read the consent form. This form provides you with the purpose of the research, procedures to be used and your rights.

Informed Consent Form

Title: A Program Evaluation of Teacher Perceptions on the Fidelity of Implementation of Professional Learning Communities

This is to certify that you have been provided the following information with respect to my participation in this study:

1. Purpose of the research: To gather evidence from teacher perceptions about the fidelity of implementation of PLCs in all grade levels (elementary, middle, and high school) and all schools in the Eastern Region School District.

2. Procedure to be followed: As a participant in this study, you will be asked to complete a survey.

3. Discomforts and risks: There are no known risks associated with the completion of this

survey.

4. Duration of participation: Participation in this study will take approximately 15-20 minutes.

5. Statement of confidentiality: Your participation is confidential. The data you contribute to this research will be identifiable only by a number assigned by the experimenter. Once you complete the survey online, there will be no way to connect your responses with your personal identity. Moreover, all data and records will be stored on a password-protected computer and your data will be anonymous. Your data will not be associated with your name or any code so that your responses can not be linked to your name in any way.

6. Voluntary participation: Participation is voluntary. You are free to withdraw at any time without penalty or loss of benefits. You may choose to skip any question or activity.

7. Incentive for participation: Participants will not be compensated for their participation.

8. Potential benefits: There are no known benefits of participating in the study. However, your participation in this research will contribute to the development of our understanding about the nature study.

9. Termination of participation: Participation may be terminated by the experimenter if it is deemed that the participant is unable to perform the tasks presented.

10. Questions or concerns regarding participation in this research should be directed to: Dr. Stronge 757-221-2339 at the College of William and Mary -School of Education Williamsburg, VA.

I am aware that I must be at least 18 years of age to participate in this project.

I am aware that I may report dissatisfactions with any aspect of this study to Dr. Ray McCoy, Ph.D., the Chair of the Protection of Human Subjects Committee by telephone (757-221-2783) or email (rwmcco@wm.edu).

I agree to participate in this study and have read all the information provided on this form.
My completion of the online survey confirms that my participation in this project is voluntary, and that I have received a copy of this consent form.

Appendix E: Directions for Administering Survey

Click on the Continue to questionnaire button below to start taking the survey.

Only content area teachers (K-12 Math, Science, English/Language Arts and Social Studies) should complete this survey.

About the Professional Learning Communities Assessment-Revised

Directions:
This questionnaire assesses your perceptions about your principal, staff, and stakeholders based on the dimensions of a professional learning community (PLC) and related attributes. This questionnaire contains a number of statements about practices which occur in some schools. Read each statement and then use the scale below to select the scale point that best reflects your personal degree of agreement with the statement. Select the appropriate option provided to the right of each statement. Select one response for each statement. Comments after each dimension section are optional.

Key Terms:

- Principal = Principal, not Associate or Assistant Principal
- Staff/Staff Members = All adult staff directly associated with curriculum, instruction, and assessment of students
- Stakeholders = Parents and community members

Scale:
1 = Strongly Disagree (SD)
2 = Disagree (D)
3 = Agree (A)
4 = Strongly Agree (SA)

Please click the button below to start the questionnaire.

Appendix F: Emails to Principals

Principals, please forward this information to all K-12 CORE CONTENT (ELA, Science, Math, & Social Studies) teachers in your schools. This research is being conducted specifically to assist Wayne County Public Schools. Thank you.

Dear Educator,

You are being asked to participate in a dissertation research study. Prior to deciding to participate please read the following benefits to participating in this research study:

Title Of Research: A Program Evaluation of Teacher Perceptions on the Fidelity of Implementation of Professional Learning Communities

Researcher: College of William and Mary Doctoral Candidate

The benefit of participating in this study will be to gain information about what factors influence the implementation of professional learning communities in a school district with urban, suburban and rural schools with fidelity. The information and feedback gained from this experience will provide other educators with knowledge on what factors are needed to implement professional learning communities in their schools and if this implementation will assist all educational stakeholders with improving the teaching and learning environment to improve student achievement.

The Professional Learning Communities Assessment Revised (PLCA-R) Survey will be used to collect data on teacher perceptions for this study.

Participating in this study in voluntary. You will not be penalized for participating or not participating. In order for you to make an informed decision about participating please read the consent form. This form provides you with the purpose of the research, procedures to be used and your rights.

Informed Consent Form

Title: A Program Evaluation of Teacher Perceptions on the Fidelity of Implementation of Professional Learning Communities

This is to certify that I have been provided the following information with respect to my participation in this study:

1. Purpose of the research: To gather evidence from teacher perceptions about the fidelity of implementation of PLCs in all grade levels (elementary, middle, and high school) and all schools in the Eastern Region School District.

2. Procedure to be followed: As a participant in this study, you will be asked to complete a survey.

3. Discomforts and risks: There are no known risks associated with the completion of this survey.

4. Duration of participation: Participation in this study will take approximately 15-20 minutes.

5. Statement of confidentiality: Your participation is confidential. The data you contribute to this research will be identifiable only by a number assigned by the experimenter. Once you complete the survey online, there will be no way to connect your responses with your personal identity. Moreover, all data and records will be stored on a password-protected computer and your data will be anonymous. Your data will not be associated with your name or any code so that your responses can not be linked to your name in any way.

6. Voluntary participation: Participation is voluntary. You are free to withdraw at any time without penalty or loss of benefits. You may choose to skip any question or activity.

7. Incentive for participation: Participants will not be compensated for their participation.

8. Potential benefits: There are no known benefits of participating in the study. However, your participation in this research will contribute to the development of our understanding about the nature study.

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I am aware that I must be at least 18 years of age to participate in this project.

I am aware that I may report dissatisfaction with any aspect of this study to Dr. Ray McCoy, Ph.D., the Chair of the Protection of Human Subjects Committee by telephone (757-221-2783) or email (rwmcco@wm.edu).

I agree to participate in this study and have read all the information provided on this form.

My completion of the online survey confirms that my participation in this project is voluntary, and that I have received a copy of this consent form.

Click on the link below to start taking the survey.

https://www.sedl.org/plc/survey/index.cgi?sc=2zkkkn

Only content area teachers (K-12 Math, Science, English/Language Arts and Social Studies) should complete this survey.

Thank you for your time and your help!

College of William and Mary -Williamsburg, VA
Doctoral Candidate

--
David A. Lewis, Ed.D.
Assistant Superintendent for Accountability / Information & Technology Services / Transportation
Wayne County Public Schools
P.O. Drawer 1797
Goldsboro, NC 27533-1797
919-731-5900 - phone
919-705-6199 - fax

Appendix G: Copy of the Professional Learning Communities Assessment – Revised with Additional Questions

Professional Learning Communities Assessment – Revised

Directions:
This questionnaire assesses your perceptions about your principal, staff, and stakeholders based on the dimensions of a professional learning community (PLC) and related attributes. This questionnaire contains a number of statements about practices which occur in some schools. Read each statement and then use the scale below to select the scale point that best reflects your personal degree of agreement with the statement. Shade the appropriate oval provided to the right of each statement. Be certain to select only one response for each statement. Comments after each dimension section are optional.

Key Terms:
- Principal = Principal, not Associate or Assistant Principal
- Staff/Staff Members = All adult staff directly associated with curriculum, instruction, and assessment of students
- Stakeholders = Parents and community members

Scale:
1 = Strongly Disagree (SD)
2 = Disagree (D)
3 = Agree (A)
4 = Strongly Agree (SA)

STATEMENTS		SCALE			
	Shared and Supportive Leadership	**SD**	**D**	**A**	**SA**
1.	Staff members are consistently involved in discussing and making decisions about most school issues.	0	0	0	0
2.	The principal incorporates advice from staff members to make decisions.	0	0	0	0
3.	Staff members have accessibility to key information.	0	0	0	0
4.	The principal is proactive and addresses areas where support is needed.	0	0	0	0
5.	Opportunities are provided for staff members to initiate change.	0	0	0	0
6.	The principal shares responsibility and rewards for innovative	0	0	0	0

	actions.				
7.	The principal participates democratically with staff sharing power and authority.	0	0	0	0
8.	Leadership is promoted and nurtured among staff members.	0	0	0	0
9.	Decision-making takes place through committees and communication across grade and subject areas.	0	0	0	0
10.	Stakeholders assume shared responsibility and accountability for student learning without evidence of imposed power and authority.	0	0	0	0
11.	Staff members use multiple sources of data to make decisions about teaching and learning.	0	0	0	0
	Shared Values and Vision	**SD**	**D**	**A**	**SA**
12.	A collaborative process exists for developing a shared sense of values among staff.	0	0	0	0
13.	Shared values support norms of behavior that guide decisions about teaching and learning.	0	0	0	0
14.	Staff members share visions for school improvement that have an undeviating focus on student learning.	0	0	0	0
15.	Decisions are made in alignment with the school's values and vision.	0	0	0	0
16.	A collaborative process exists for developing a shared vision among staff.	0	0	0	0
17.	School goals focus on student learning beyond test scores and grades.	0	0	0	0
18.	Policies and programs are aligned to the school's vision.	0	0	0	0
19.	Stakeholders are actively involved in creating high expectations that serve to increase student achievement.	0	0	0	0
20.	Data are used to prioritize actions to reach a shared vision.	0	0	0	0
	Collective Learning and Application	**SD**	**D**	**A**	**SA**

21.	Staff members work together to seek knowledge, skills and strategies and apply this new learning to their work.	0	0	0	0
22.	Collegial relationships exist among staff members that reflect commitment to school improvement efforts.	0	0	0	0
23.	Staff members plan and work together to search for solutions to address diverse student needs.	0	0	0	0
24.	A variety of opportunities and structures exist for collective learning through open dialogue.	0	0	0	0
25.	Staff members engage in dialogue that reflects a respect for diverse ideas that lead to continued inquiry.	0	0	0	0
26.	Professional development focuses on teaching and learning.	0	0	0	0
27.	School staff members and stakeholders learn together and apply new knowledge to solve problems.	0	0	0	0
28.	School staff members are committed to programs that enhance learning.	0	0	0	0
29.	Staff members collaboratively analyze multiple sources of data to assess the effectiveness of instructional practices.	0	0	0	0
30.	Staff members collaboratively analyze student work to improve teaching and learning.	0	0	0	0
	Shared Personal Practice	**SD**	**D**	**A**	**SA**
31.	Opportunities exist for staff members to observe peers and offer encouragement.	0	0	0	0
32.	Staff members provide feedback to peers related to instructional practices.	0	0	0	0
33.	Staff members informally share ideas and suggestions for improving student learning.	0	0	0	0
34.	Staff members collaboratively review student work to share and improve instructional practices.	0	0	0	0
35.	Opportunities exist for coaching and mentoring.	0	0	0	0
36.	Individuals and teams have the opportunity to apply learning and	0	0	0	0

	share the results of their practices.				
37.	Staff members regularly share student work to guide overall school improvement.	0	0	0	0
	Supportive Conditions - Relationships	**SD**	**D**	**A**	**SA**
38.	Caring relationships exist among staff and students that are built on trust and respect.	0	0	0	0
39.	A culture of trust and respect exists for taking risks.	0	0	0	0
40.	Outstanding achievement is recognized and celebrated regularly in our school.	0	0	0	0
41.	School staff and stakeholders exhibit a sustained and unified effort to embed change into the culture of the school.	0	0	0	0
42.	Relationships among staff members support honest and respectful examination of data to enhance teaching and learning.	0	0	0	0
	Supportive Conditions - Structures	**SD**	**D**	**A**	**SA**
43.	Time is provided to facilitate collaborative work.	0	0	0	0
44.	The school schedule promotes collective learning and shared practice.	0	0	0	0
45.	Fiscal resources are available for professional development.	0	0	0	0
46.	Appropriate technology and instructional materials are available to staff.	0	0	0	0
47.	Resource people provide expertise and support for continuous learning.	0	0	0	0
48.	The school facility is clean, attractive and inviting.	0	0	0	0
49.	The proximity of grade level and department personnel allows for ease in collaborating with colleagues.	0	0	0	0
50.	Communication systems promote a flow of information among staff members.	0	0	0	0
51.	Communication systems promote a flow of information across	0	0	0	0

	the entire school community including: central office personnel, parents, and community members.				
52.	Data are organized and made available to provide easy access to staff members.	0	0	0	0

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

Additional Questions added to the survey developed by the Dissertation Committee and Doctoral Candidate

To what degree do the perceptions of teachers concerning the fidelity of PLC implementation vary by school level?

Very little (to no benefit)

To some extent (there is a benefit)

A great deal (of benefit)

To what extent do they perceive PLCs has improved student achievement in their school?

Very little (to no benefit)

To some extent (there is a benefit)

A great deal (of benefit)

To what extent do teachers perceive challenges implementing PLCs?

Very little (to no benefit)

To some extent (there is a benefit)

A great deal (of benefit)

Position:

School Level Administrator

Teacher

Administrative Support Staff

Demographic Data
Years of teaching experience:

1-2

5-10

11-20

21+

Highest degree obtained:

Bachelor's Degree

Master's Degree

Masters +30

Doctoral Degree

Content taught: (select all that apply)

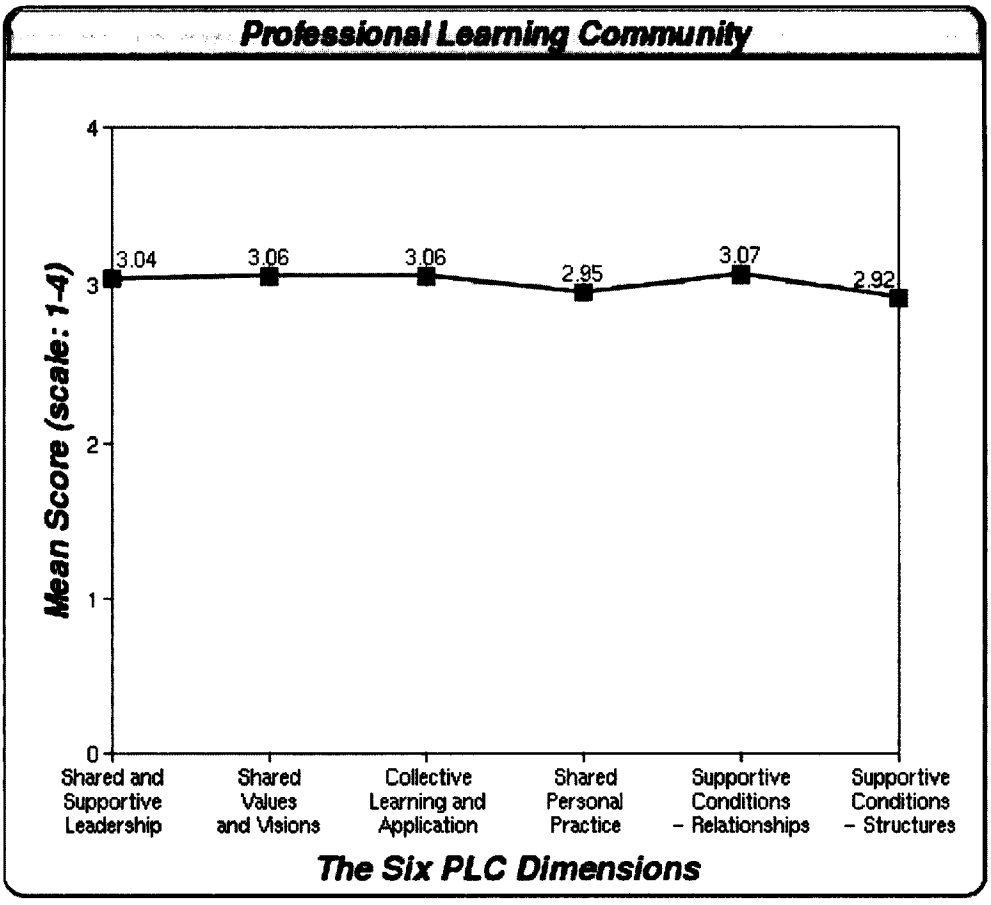
Reading
Math
Language
Science
Social Studies
Special Education
Electives
Health/Physical Education
Other

If you selected "other," please specify:

Specific grade level: (select all that apply)
Pre-K
K
1
2
3
4
5
6
7
8
9
10
11
12
Special Education

Appendix H-Overall Results from the Survey Participants

PLC Dimensions



Appendix I : Demographic Data

Position	**Teachers**	**44**					
Year of teaching experience	1-2 6	3-4 3	5-10 8	11-20 15	21+ 14		
Highest Degree obtained	Bachelor's Degree	Master's Degree	Master's Plus 30				
	29	13	2				
Content Taught	Reading	Math	Language	Science	Social Studies	Special Education	Electives
	25	29	15	27	25	3	1
Specific Grade Level	Pre-K	K-2	3-5	6-8	9-12	Special Education	
	1	23	18	21	25	2	

***There were 44 participants. Numbers vary based on overlap of grade levels taught and content taught.**

Appendix J: Statements from Research Questions 2-4

Note: Data reproduced as formatted in Professional Learning Communities Assessment-Revised (PLCA-R) online.

Responses	Very Little (to no benefit)	To some extent(there is a benefit)	A great deal(of benefit)
Question #2: To what degree do the perceptions of teachers concerning the fidelity of PLC implementation vary by school level?	2	18	11
Question #3: To what extent do they perceive PLCs has improved student achievement in their school?	5	21	5

Question #4: To what extent do teachers perceive challenges of implementing PLCs?

Dimension	*M*	*SD*
Shared and Supportive		
Leadership	2.35	.608
Shared Values and Vision	2.35	.608
Collective Learning and Learning		
Application	2.35	.608
Shared Personal Practice	2.35	.608
Supportive Conditions	2.35	.608
Total	2.35	.608

Appendix K: Statements from Evaluation Question 5

Evaluation Question 5: What suggestions do teachers in the Eastern Region School District have to improve the fidelity of implementation of PLCs in order to garner the promised benefits?

- Are you sure that the answer options to Questions 1-3 are well-chosen? They do not seem to make a great deal of sense. 14609
- N/A. 14623
- Better communication and consistency among all school personnel. Respect among all grade levels and employees is also essential. 14627
- I do not have any suggestions. 14631
- Consistency. 14633
- Have more readily available resources for staff other than Internet. 14634
- Keep providing the resources named in the above survey. 14638
- Sometimes when teachers say things in their PLC's and enter them in their notebooks, either the situation does not get dealt with immediately or we are not notified. 14640
- Choose the data that will be tracked and allow the teachers to discuss the students' needs based on this. Eliminate the need to discuss items in PLC that do not pertain to student learning. 14644
- Elective teachers grouped with other elective teachers is pointless, unless they are of or from the same elective. There HAS to be a common point of interest. PE instructors don't do what music teachers do; music teachers don't do what art teachers do, etc. To group electives together just for the sake of grouping is non-beneficial for those teachers. 14651
- There is no time nor willingness among staff to participate in PLC as should be operated. 14680

Appendix L: Literature Review Table of Specifications

Emerging themes	Researcher and citation
Collaboration	Benson, 2011; Carey, 2010; Cranston, 2011; DuFour, 2010; DuFour & Eaker, 1998; Ferriter & Graham, 2010; Hipp & Huffman, 2003; Public Schools of North Carolina, 2009; Rose, 2008; Teague & Anfara, 2012; William, Brien, & LeBlanc, 2012
Collegial feedback	Carey, 2010; Hord, 1997; Wenger
Collective learning and application	DuFour, DuFour, & Eaker, 2002; Fullan, 2006; Hipp & Huffman, 2003; Hord, 1997; Hord & Sommers, 2008
Continuous improvement	DuFour & Eaker, 1998
Cultural change	DuFour, 2008; Fullan, 2006; Hipp & Huffman, 2003; Hord, 1997
Five dimensions of professional learning communities	Burdett, 2009; Hipp & Huffman, 2003; Hord, 1998; Public Schools of North Carolina, 2014; Rose, 2008
Effective professional learning communities	Stoll, Bolam, McMahon, Wallace, & Thomas, 2006
Focus on learning for students and staff	Atkinson, 2011; Carmichael, 1982; Fullan, 2006; Hord, 1998; Public Schools of North Carolina, 2009, 2014; Senge, 1990
Focus on results/student achievement	Benson, 2011; Burdett, 2009; Carey, 2010; Carter, 2008; DiNardo, 2010; DuFour, 2010; DuFour & Eaker, 1998; Gronlund, 2006; Hord, 1997; Public Schools of North Carolina, 2014; Rose, 2008; Teague &Anfara, 2012; Thompson, Gregg, & Miska, 2004

Emerging themes	Researcher and citation
Learning organization/community	Astuto et al., 2008; DuFour & Eaker, 1998; Public Schools of North Carolina, 2009; Senge, 1990
Leadership capacity	Hord, 1997
Shared vision	Boyd, 1992; DuFour et al., 2002; DuFour & Eaker, 1998; Hipp & Huffman, 2003; Public Schools of North Carolina, 2014; Senge, 1990; Teague & Anfara, 2012
Norms, Values and Beliefs	DuFour et al., 2008
Professional learning communities-school reform model	Benson, 2011; Burdett, 2009; Carey, 2010; Carter, 2008; DiNardo, 2010; DuFour & Eaker, 1998; Folkman, 2008; Hord, 1997; Hipp & Huffman, 2003; Stoll et al., 2006; Teague and Anfara, 2012; Thompson et al., 2004
Relationships	Hipp & Huffman, 2003; Hord, 1998
Resistance to Change/Change	Boyd, 1992; Hargreaves, 2005; Hord, 1997; Teague & Anfara, 2012
Shared personal practice	Collinson & Cook, 2003; DuFour et al., 2002; Hipp & Huffman, 2003; Hord, 1998; Teague & Anfara, 2012; Wenger
Shared values and vision	Hord, 1998; Public Schools of North Carolina, 2014; Teague & Anfara, 2012
Shared and supportive leadership	Hipp & Huffman, 2003; Hord, 1998; Teague & Anfara, 2012
Structures	DuFour & Eaker, 1998; Hipp & Huffman, 2003
Supportive conditions	DuFour et al., 2002; Hipp & Huffman, 2003
Teacher isolation	Collinson & Cook, 2003; DuFour et al., 2002
Theory of change model	Knowlton, 2012

Appendix M: Table of Specifications-Evaluation Questions

Evaluation Questions (EQ)	Data Sources and Analysis	Sample Responses
EQ1 To what degree do teachers in the Eastern District perceive fidelity of implementation of professional learning communities in their schools?	PLCA-R	4-point Likert SD=Strongly disagree D=Disagree A=Agree SA=Strongly agree
a. Supportive and shared leadership	PLCA-R Questions 1-11	
b. Shared values and vision	PLCA-R Questions 12-20	
c. Collective learning/application	PLCA-R Questions 21-30	
d. Shared personal practice	PLCA-R Questions 31-37	
e. Supportive Conditions-Relationships and Structures	PLCA-R Questions 38-52	
EQ2 To what degree does the perceptions of teachers concerning the fidelity of PLC implementation varies by school level?	PLCA-R Demographics Descriptive Statistics	School Level (Elementary, Middle or High)
EQ3 What benefits do teachers note concerning the implementation of PLCs in their school?	Descriptive statistics	3- point Likert o 3-A great deal o 2-To some extent o 1-Very little
EQ.4 To what extent do teachers perceive challenges of implementing PLCs?	Descriptive statistics	o 3-A great deal o 2-To some extent o 1-Very little
EQ.5 What suggestions do teachers in the Eastern Region School District have to improve the fidelity of implementation of PLCs in order to garner promised benefits?	Qualitative analysis-emerging themes Open ended	o Feedback from participants

Appendix N: Evaluation Questions and Data Sources

Evaluation Question (EQ)	Data Sources	Data Analysis
EQ1 To what degree do teachers in the Eastern Region District perceive fidelity of implementation of professional learning communities in their schools? a. To what degree do teacher perceptions describe supportive and shared leadership? b. To what degree do teacher perceptions describe collective creativity/application? c. To what degree do teacher perceptions describe shared values and vision? d. To what degree do teacher perceptions describe supportive conditions? e. To what degree do teacher perceptions describe shared personal practice?	PLCA-R	Descriptive statistics
EQ2 To what degrees do the perceptions of teachers concerning the fidelity of PLC implementation vary by school level?	PLCA-R Demographics	Descriptive Statistics
EQ3 To what extent do teachers perceive PLCs have improved student achievement in their school?	Additional questions added to the PLCA-R	Descriptive statistics
EQ4 To what extent do teachers perceive challenges of implementing PLCs?	Additional questions added to the PLCA-R	Descriptive statistics
EQ5 What suggestions do teachers in the Eastern Region School District have to improve the fidelity of implementation of PLCs in order to garner promised benefits?	Additional questions added to the PLCA-R	Analyzing for emerging themes

Appendix O: Themes and Matching Quotes from the Participants

Emerging Themes from the study	Direct Quotes from the Teachers
Availability of Resources	Have more readily available resources for staff other than Internet Keep providing the resources named in the above survey Choose the data that will be tracked and allow the teachers to discuss the students' needs based on this. Eliminate the need to discuss items in PLC that do not pertain to student learning.
Support	Choose the data that will be tracked and allow the teachers to discuss the students' needs based on this. Eliminate the need to discuss items in PLC that do not pertain to student learning. There is no time nor willingness among staff to participate in PLC as should be operated.
Communication	Better communication and consistency among all school personnel. Respect among all grade levels and employees is also essential. Sometimes when teachers say things in their PLC's and enter them in their notebooks, either the situation does not get dealt with immediately or we are not notified Choose the data that will be tracked and allow the teachers to discuss the students' needs based on this. Eliminate the need to discuss items in PLC that do not pertain to student learning. There is no time nor willingness among staff to participate in PLC as should be operated.

	Elective teachers grouped with other elective teachers is pointless, unless they are of or from the same elective. There HAS to be a common point of interest. PE instructors don't do what music teachers do; music teachers don't do what art teachers do, etc. To group electives together just for the sake of grouping is non-beneficial for those teachers.
Consistency	Consistency Better communication and consistency among all school personnel. Respect among all grade levels and employees is also essential. Elective teachers grouped with other elective teachers is pointless, unless they are of or from the same elective. There HAS to be a common point of interest. PE instructors don't do what music teachers do; music teachers don't do what art teachers do, etc. To group electives together just for the sake of grouping is non-beneficial for those teachers.