THE RELATIONSHIP BETWEEN PROFESSIONAL LEARNING COMMUNITIES
AND INSTRUCTIONAL PRACTICES

Joanne H. Jones

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William J. Glenn, Chair

Carol S. Cash

Norman W. Tripp

Travis W. Twiford

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ABSTRACT

This case study examined the implementation of the Professional Learning Communities (PLCs) at a high school that was labeled as a turnaround school (overall academic achievement proficiency below 55%) in 2006-2007. The foundation of PLCs is built on a shared vision and mission. The PLC principles of learning for all students, a collaborative culture, and a focus on results were the components most identified in the literature review, which helped shape the design of the methodology. Under the leadership of a new principal and with the implementation and focus on PLCs, Ocean Breeze High School's (OBHS) academic achievement proficiency grew from 48.6% to 87.5% within a three-year period. Based on this phenomenal progress, this case study investigated the relationship between PLC characteristics and instructional practices at this school. The data sources included fourteen interviews with eleven teachers and three administrators, observations of two PLC meetings, fourteen classroom observations, and a document review.

The data from the interviews were transcribed and themes were matched to reflect common perceptions from teachers and administrators on PLC practices. PLC meetings were observed to identify collaborative interactions between team members. A document review included any documents or artifacts that the school has used to implement PLC principles or similar practices. Classroom observations were conducted to compare if instructional practices correlate with interview responses, PLC meetings, and the documents reviewed.

This study found that there is a relationship between PLCs and instructional practices. The findings included: (a) teachers ensure that all students learn by developing common instructional guides that support the state curriculum; (b) teachers meet to discuss the curriculum, pedagogical strategies, and assessments in PLC meetings; and (c) teachers and administrators analyze data to make instructional decisions to enhance teaching and learning.

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Chapter 1

Context of Study

During the past century, there have been many attempts to reform education; however, little evidence indicates significant changes in helping schools meet the challenges of raising student achievement for all students. The Excellence Movement of the 1980s represented a top-down model that relied on standardization and rules and regulations imposed at the local levels. The Restructuring Movement of the 1990s based its school reform efforts on national and local goals, as well as site-based autonomy in hopes of making change. Past efforts to improve public education have not yielded the desired results due to the complexity of the tasks, ineffective strategies, lack of clarity on intended results, failure to persist and endure, and a misunderstanding of the change process (Dufour & Eaker, 1998).

The No Child Left behind Act (NCLB) of 2001 represents President Bush's education reform plan and contains the most extensive changes to the Elementary and Secondary Education Act since it was enacted in 1965. NCLB changed the federal government's role in K-12 education by focusing on school success as measured by student achievement. The North Carolina Department of Public Instruction (NCDPI, 2008) stated that the act contains four basic education reform principles: stronger accountability for results; increased flexibility and local control; more options and choice for parents; and an emphasis on best teaching methods. Achievement is measured by Adequate Yearly Progress (AYP) under NCLB. Adequate Yearly Progress measures the growth of different subgroups of students at the school, district, and state levels against annual targets in reading/language arts and mathematics. When AYP is not achieved, schools and districts must provide parents and students with educational options to

help them reach the desired goals (North Carolina Department of Public Instruction [NCDPI], 2008).

Statement of Problem

This history of educational reform places school improvement initiatives at a crucial stage because so many have witnessed the downfall of past reform efforts. This cycle of futile initiatives brings about uncertainty, confusion, and skepticism before the new initiative or program can get off the ground. The lack of commitment from teachers often elicits implementation problems that lead to premature conclusions that the initiative has failed to bring about the necessary changes. Meanwhile, school leaders and administrators search for the next silver bullet while teachers arbitrarily wait for the next new innovation to come and go (Dufour, 2004).

Thomas Guskey and Kwang Suk Yoon (2009) analyzed 1,343 studies that addressed the effect of professional development on student learning outcomes and found that only nine studies met the standards of credible evidence set by the What Works Clearinghouse (WWC), an agency charged with reporting "what works" in education. Four of the investigations focused on measures of language arts and reading, two focused on mathematics, one on science, and two on language arts, mathematics and science. Guskey and Yoon (2009) indicated that there were several common findings that emerged in the What Works Clearinghouse study:

- Each of the studies that showed positive relationships between professional development and student learning linked increased student learning to the teachers taking the strategies learned in the professional development sessions back into their classrooms to implement into practice.

- Professional learning should not be restricted to site-based learning. The studies indicated that the most successful implementation of professional development came from outside experts that helped with the implementation and sustaining process.

- For new innovative practices, staff should engage in 30 or more contact hours of well-organized, content, and pedagogical professional development to see learning effectively adapted into practice.

- All of the studies revealed the importance of follow-up activities. Educators at all levels need job-embedded time to focus and adapt new curricula and practices.

- Professional development on best-practices alone is not effective, but must be combined with specific content, process, and context elements.

- The most powerful professional development was centered on content and pedagogic practices that teachers applied to their individual students' learning styles.

- Professional development should be well-planned considering time and resources; therefore, starting in small increments and piloting with particular groups are recommended to test the effectiveness of a program or initiative.

All nine studies involved elementary schools and were conducted between 1986 and 2003. There were no studies of professional development at the middle or high school levels that met the WWC standards, nor did any of the studies published between the years of 2004 and 2006 meet the standards. These data indicate that more research needs to be done to improve professional development for educators (Guskey & Yoon, 2009).

As accountability standards increase under NCLB, legislators, governmental officials, boards of education, and school districts have initiated multiple initiatives and research-based programs in order to meet federal mandates. Judge Howard Manning, Jr., the presiding judge in

Leandro (Manning, Hoke County v. State of North Carolina, No. 530 PA 02) found that the state of North Carolina had provided inadequate support to schools in rural districts and that these students were not receiving a sound basic education (Manning, Hoke County v. State of North Carolina, No. 530 PA 02). Based on this ruling, several rural districts received funding to bring the educational quality up to a higher standard.

In 2006, Judge Manning reevaluated these rural districts and found that little progress had been made in student performance. He also looked at other low-performing districts across the state and was disappointed by the lack of student achievement within the state as a whole. Manning felt a sense of urgency to involve the NCDPI in developing a plan to assist these low-performing districts. The judge ordered that something be done immediately and that these school districts and the NCDPI would be held accountable for the lack of student achievement if changes were not made. As a result of the judges' orders, the NCDPI identified 66 high schools that needed improvement in student achievement; from that list, 19 were identified as high priority. To expedite Judge Manning's orders to develop a plan, the NCDPI held a restructuring meeting in Raleigh, NC and invited several research-based vendors to conduct presentations from which schools could choose to implement as reform models (Hostetler, 2006).

The Turnaround Schools Table (see Appendix A) identifies the turnaround schools and models that they chose to implement. The NCDPI approved the models based on several criteria, which included a plan of action to address how schools would implement the models, who would be involved, a timeline, resources, costs, and means of assessment. As a result of the turnaround initiative, I selected one of these 66 turnaround high schools to be the case study for this research design. Ocean Breeze High School, a turnaround high school, was identified based

upon their achievement growth and implementation of the professional learning communities'
model.

Significance of the Study

When educational leaders reflect on past failures and recent data that support professional
learning, they argue the movement to develop professional learning communities has the
potential to avoid this cycle. Morrissey (2000) believes that professional learning communities
offer an infrastructure that creates supportive cultures and conditions necessary for achieving
significant gains in teaching and learning. PLCs empower staff to look deeply into the teaching
and learning process in order to become more effective in their instructional work with students
(Morrissey, 2000). Dufour, Dufour, Eaker, and Many (2010) define a professional learning
community as an "ongoing process in which educators work collaboratively in recurring cycles
of collective inquiry and action research to achieve better results for the students they serve" (p.
11).

Since 1998, Dufour, Dufour, and Eaker have worked together to identify six
characteristics, three big ideas, and four guiding questions of professional learning communities.
The six characteristics include: "a shared mission, vision, and values; collective inquiry;
collaborative teams; action orientation and experimentation; continuous improvement; and
results orientation" (p. 25).

Dufour, et al., 1998 emphasized that these characteristics are supported by three core
principles, which serve as the big ideas of PLCs. The first principle is to ensure that all students
learn. This requires a shift from a focus on teaching to a focus on learning. Teachers recognize
that if students aren't learning, then teaching practices need revising in order to meet every

student's needs. The second principle encourages teachers to work collectively to build a culture of collaboration. Teachers must purposefully carve out time to develop a systemic process that encourages collaboration on how they might improve their classroom practice.   Teachers no longer feel the need to work in isolation, but work collectively in teams that engage them in asking questions that promote rigorous thinking and problem-solving. The third principle empowers teachers to focus on results. Teachers in professional learning communities judge their effectiveness on results, rather than intentions. They constantly participate in on-going dialogue and action-oriented processes that help students to improve their current levels of performance (Dufour, et al., 1998).

The guiding questions of a PLC are an on-going, intertwining layer from which the foundation and pillars support. Dufour, et al. (2006) created a workbook for teachers and administrators in which he expanded his original three guiding questions to include a fourth question. He suggests that these four questions become an integral part of what teachers do, as they reflect on the characteristics and core principles of PLCs. Dufour, et al., (2006) listed the four guiding questions of a PLC as:

1. What do we expect our students to learn?

2. How will we know if they have learned it?

3. How will we respond when students experience difficulty in learning?

4. How will we respond when students already know it? (p. 2)

These questions guide professional learning community discussions as teachers analyze student data and performance to develop a systematic plan to address student needs. Furthermore, the process should be timely, based on intervention, rather than remediation; specific, not generic (Dufour, et al., 2006).

The study of professional learning communities is timely because PLCs provide a non-traditional, inquiry-based approach for professional development; engage teachers to work in teams rather than in isolation; and require teachers to analyze data to focus on results and learning for all students. This case study examined the implementation of professional learning communities at a turnaround high school in North Carolina that has made significant gains in student achievement since the implementation of PLCs. Specifically, this qualitative study investigated how instructional practices were influenced by the characteristics, principles, and guiding questions of professional learning communities.

Because the very nature of professional learning communities is to focus on learning, collaboration, and results, PLCs have the capacity to affect many aspects of the school environment. Shirley Hord (2009) compared professional learning communities with the constructivist's approach, which involves the activation of the learner working collectively with colleagues or peers to recognize learning as the process of making sense of information and experiences. Learning constructively necessitates an environment in which learners can work together on authentic activities and thrive as learners in a social context. The constructivist approach and professional learning community model share the philosophy of reflective learning and collective inquiry, which provides opportunities for improved learning (Hord, 2009).

As schools prepare students for careers that have not yet been created, administrators can no longer allow teachers to close their classroom doors and assume that learning is occurring. In order to teach 21st Century learners, teachers must become 21st Century professionals. Dr. Anthony Muhammed (2006), a former high school principal at Southfield High in Michigan, states,

In order to become part of a professional learning community, educators first must

commit to its most fundamental premise: to be a professional. As professionals,

educators are expected to stay current in the constantly evolving knowledge base within

education. It is each educator's responsibility to stay connected with research that

stimulates thought and provides findings that enhance educational practice (p. 6).

In a professional learning community, teachers are challenged to focus on student

learning rather than teaching; become action-oriented learners to improve practice; and focus on

results, rather than intentions. This topic is worthy of investigation because it has the potential to

evoke a shift from traditional high school settings where teachers work in isolation and in

departments to a setting that fosters collaborative inquiry with no boundaries (Dufour, et al.,

2010). In this case study, I investigated a turnaround high school that made significant

improvements in student achievement as a result of developing their own turnaround plan; a

major component of the plan included the implementation of professional learning communities.

<center>**Limitations and Delimitations**</center>

Wholey, Hatry, and Newcomer (2010) define limitations as parameters not controlled by

the authors who affected the study. A limitation in conducting this case study is that my

methodology focuses specifically on the perceptions of the staff at one high school, which

limits me in being able to generalize about the findings in a statistical sense. Although schools

interested in adopting the PLC model can glean some valuable information from this case

school, the findings from the study pertain specifically to this school's implementation efforts.

Delimitations are those parameters which might affect the study but are controlled by the

authors (Wholey, et al., 2010) A delimitation of the study includes the opportunity to select the

PLC school for the case study based upon a significant improvement in student achievement. I purposely selected a turnaround high school because I participated in the NCDPI turnaround process with another turnaround high school in North Carolina. Therefore, for this study, I did not choose to include data on elementary or middle schools that may also be labeled as turnaround schools because I was specifically interested in learning about the reform efforts, changes, and growth of other turnaround high schools.

Research Questions

Overarching question: How has the implementation of professional learning communities impacted instructional practices at Ocean Breeze High School (OBHS)?

1. How do teachers at OBHS address the instructional needs of all students?

2. How do teachers at OBHS collaborate, develop, and/or share lesson pedagogy, common assessments, and instructional best practices?

3. How do teachers and staff at OBHS use data to plan instruction and make decisions?

Operational Definitions

Action Orientation - A belief that an individual or group must experiment and test hypotheses in order to evoke change. It is a collective effort in which members must reflect on practices, analyze the benefits and shortcomings as a team, rather than place blame on individual members (Dufour, 1998).

Collaborative Teams - A group of people that share a common purpose, and are willing to work together as a team to promote organizational growth (Dufour, 1998).

Collective Inquiry - teachers work together to reflect, analyze data, and collectively come up with methods that will improve their practices. They plan together, learn together, and creatively solve problems together (Dufour, 1998).

Continuous Improvement - Members of PLCs are not content with the status quo, but are constantly seeking ways to improve their practices. They reflect upon their purpose, achievement goals, implement new strategies, and self-assess their progress regularly (Dufour, 1998).

Mission - The mission is what an organization believes is its purpose. It challenges members of a group to reflect on the organization's goals, intentions, and why it exist (Dufour, 1998).

Pedagogy - The professional knowledge of a teacher and the enacted practice of teaching set within the context of theories of human development and learning, cultural reproduction, and transformation, political and social progress, and intellectual engagement (Anderson, 2009).

Professional Learning Community - It is an on-going process in which educators work collaboratively in recurring cycles of collective inquiry and action research to achieve better results for the students they serve (Dufour, et al., 2010).

Results Orientation **-** The belief that continuous improvement is based upon results, not intentions. Therefore ongoing assessments are a crucial measurement of the effectiveness of a learning team (Dufour, 1998).

Shared Values - Having the same understandings of common values is imperative in a professional learning community because it articulates what people in the organization believe and what they seek to improve or create (Dufour, 1998).

Turnaround School - A school that has consistently been identified as low-performing with overall achievement proficiency of 55% or less (NCDPI, 2005).

Organization of Dissertation

This qualitative case study design explored research on professional learning communities. I organized this dissertation into five chapters. Chapter 1 provides the purpose of the study and the key characteristics and principles of professional learning communities with theoretical support from the Constructivist view. Chapter 2 contains a synthesis of research studies of schools that have implemented professional learning communities, as well as articles and journals of educators and authors that support PLCs. Chapter 3 describes the methodological design and outlines the approach I used to investigate, gather data, and information during the case study. Chapter 4 explains the findings from the data collection. Finally, Chapter 5 summarizes the findings, assesses' PLC implementation using the Dufour, et al. (2010) Continuum, provides implications, and makes recommendations for future research.

Chapter 2

Review of Literature

The review of literature explored research studies and articles on professional learning communities (PLCs). The chapter is divided into five sections: (a) the stages, foundation, and components of PLCs; (b) ensuring that students learn; (c) creating a collaborative culture; (d) a focus on results; and (e) a synthesis of the research. These sections were chosen based upon the themes found in the research and studies on the topic. *Virginia Tech Electronic Dissertations and Theses On-line, Addison, ProQuest, Eric, Education Research Complete, and WorldCat* were used to locate doctoral dissertations, articles, and books. *Google Scholar* and the *All Things PLC* website were also used to identify studies, empirical articles and books from renowned authors in the educational field. Additional sources included books on professional learning communities, school culture, and data analysis. Key words and phrases to locate the research included: collaboration, community, inquiry, professional community, professional development, professional growth, and professional learning communities.

The Stages of PLCs

PLCs have emerged as an innovative 21st century best practice model for school improvement; however, the evolution of PLCs has gone through several stages of teacher development. Hord (2008) shared that traditionally, teachers have worked as sole proprietors, isolated in closed classrooms, and given the authority to teach the curriculum as they chose. In the 1980s, several elementary teachers worked as teammates with open classrooms, which led to the practice of team teaching and encouraged teachers to share their work and ideas. Although teachers were allotted time to work collegially, no one really monitored what teachers were doing when they met; therefore, most of the time was used discussing managerial issues,

ordering supplies, organizing schedules, and planning field trips. Hord's (2008) third stage of the evolution is teachers as collaborative workers. As teachers began to meet and share ideas with their colleagues, they were able to make some changes in teacher practice and initiate various programs; therefore, districts began to encourage this type of collaborative work (Hord, 2008).

As student accountability increased in 2002, under the NCLB Act, the call for more intentional learning for teachers and administrators became crucial in order to reach targets and growth intervals associated with the federal initiative. The next stage that Hord (2008) presents was educators as learning professionals. At this stage, educators constantly reflect on how they can become more effective in their teaching, so that all students learn. These stages correlate with the PLC principles of ensuring that all students learn, building a collaborative culture, and focusing on results (Hord, 2008).

These stages of PLC development have helped define the purpose of PLCs in schools today. Morrissey (2000) states the purpose of PLCs is to improve teacher effectiveness and practices so that students will benefit. Therefore, the ultimate outcome of PLCs is to enhance student achievement. Jolly (2008) affirms, "The aim is not to develop professional learning teams. The purpose is to provide a way for teachers to come together to become increasingly accomplished instructors for the ultimate benefit of students" (p. 1). Likewise, Killion and Roy (2009) contended, "When schools become learning schools, every student benefits from every educator's expertise, and every educator grows professionally with the support of his or her colleagues" (p. 17).

Additionally, Hord (2009) asserts that the PLC model is theoretically supported by the constructivist approach of the self-initiating learner working along with peers to make meaning of information and experiences. Colleagues learn constructively by engaging in authentic tasks and activities. Additionally, Savery and Duffy (2001) characterize constructivism as a process of understanding and knowing in three propositions: First, understanding is the product of a variety of experiences that relate to the content, context, and goals of the learner. Because understanding is an individual construction, we can compare our understanding with that of others to discover new and different information. Secondly, inquiry and puzzlement are the stimuli for learning; they motivate our curiosity and tapinto prior knowledge or experiences that learners bring to the tasks to construct learning. Finally, knowledge evolves through socialization with others to build a sense of community and capacity among peers.

Therefore, the theory of constructivism challenges teachers to establish a purpose for learning, focus on the context and engagement of the learners, and make discoveries individually, as well as, with others. This environment places the learner at the center, which is applicable to teachers and students as learners, working collectively to gain greater understandings, in order to apply or use learning in a real experience (Savery & Duffy, 2001).

Dufour, et al. (2010) has created a continuum tool for schools to assess the stages and growth of PLC implementation. In general, the continuum divided indicators of effective implementation into five stages:

pre-initiating- the school has not begun to address the principle or practices of a PLC; initiating-the school has made some effort to address the principle or practice, but the effort is minimal and has not made an impact with staff members; implementing- most

staff members are participating in implementing the principle or practice, but it is a sense of compliance rather than commitment; developing-structures are being altered to support changes and resources are being devoted to move them forward. Members are more receptive because they have experienced success. The focus has shifted "Why do we have to do this?" to "How can we do this more effectively?"; sustaining-the principle or practice is embedded in the culture of the school. (p. 42)

The research in this section suggests that schools make assumptions that when teachers work collaboratively, then, professional learning communities have been formed. Consequently, comparable misconceptions have led to failure of the initiative or disappointment in the model due to a lack of understanding and ineffective implementation methods. Therefore, school districts that are interested in implementing PLCs should engage in reading more literature and research-based studies on the model, as well as seek institutes and professional development from experts in the field (Hord, 2008).

<div align="center">**The Foundation and Components of PLCs**</div>

Dufour, et al. (1998) state that in order for PLCs to be effective, schools must examine their current reality by having all stakeholders reflect on their shared vision, mission, values, and goals, which are the foundation of the PLC model. These characteristics drive the school and challenge its members to clarify the fundamental purpose of the school.

The first component of the foundation is the mission, which provides a shared sense of purpose for the organization. The mission asks the question "Why do we exist?" or "Why are we here together?"(p. 58). These questions allow members to reflect on the rationale of their existence, clarify priorities, and accept the responsibility for achieving the purpose. The mission

focuses on why the organization is doing what it does and questions the rationale for making such decisions.

The second component is the vision, which provides a sense of direction for the organization. A vision question asks, "What do we hope to become" (p. 62)? A shared vision should be created by several members of the team, not limited to the leader. The vision paints a vivid image of an ideal school in the minds of the members, so that they may envision that the future will be better than it currently exists. Moreover, the vision provides a target or goal in which members are motivated to achieve (Dufour, et al., 1998).

Dufour, et al. (1998) stated that t he third component of the foundation is values. The value question asks, "How must we behave to make our shared vision a reality?"(p. 88). Values require members of the organization to look within their own beliefs and attitudes to identify the behaviors, which they must demonstrate in order to make the vision come alive. Then, value statements are developed to direct the team's behavior in accomplishing their goals.

Finally, goals are the steps that the members of the team take to measure the progress of advancing the vision of the school. The goals question asks, "What steps will we take first, and when?" (p. 100). The goals provide ongoing accountability and benchmarks in order to check for results and short-term wins. Therefore, members can see progress, which fuels them to work toward the bigger picture (Dufour, et al., 1998).

It is imperative for the principal to lead the staff in understanding the purpose, vision, and goals of PLCs. Wells and Fern (2008) conducted a two-part study over three years with 24 high schools to study PLC concepts. Twelve schools completed the study the first year and twelve schools completed it the next year; each school sent a team of teacher leaders and an

administrator. Training involved the use of collaboration as a tool to improve student learning, and using data to make informed decisions about students who had difficulty learning. The first six schools to complete the training were selected to participate in the study. The purpose of the mixed methods study was to assess the implementation of PLC principles: "supportive and shared leadership; collective creativity; shared vision and values, supportive conditions; and shared personal practice" (Wells & Fern, 2008, p. 46). Based on the Likert-scale results, the study revealed that there was little progress in the growth of implementing PLC principles from the first study to the second. However, the qualitative statements did indicate that teachers appreciated the opportunity to collaborate about instructional practices and share ideas with other teachers.

Although teacher collaboration had improved from the first study, the Wells and Fern (2008) study also noted that the dialogue in the collaborative sessions was superficial and teachers did little to analyze data and come up with solutions when students' struggled with mastering goals and objectives. One teacher stated,

> The area of planning for failing students is one of our weaker areas. We get focused on what kids should learn, not if they are learning. Teachers wanted time to meet and plan, but their needs were centered on sharing resources and materials for class, instead of aligning the curriculum or developing common assessments to measure student learning. (Wells & Fern, 2008, p. 48)

Finally, Wells and Fern (2008) concluded that the school culture had changed very little over the three-year period. Specifically, the PLC principles that were most important (collaboration, learning, and analyzing results) were the ones that were most neglected by the staff; there was a lack of intentionality of purpose as it related to teacher learning. Moreover, the

study also implied that the administrators did not clarify the vision of what effective PLCs should look like in their schools, nor did they effectively monitor the implementation of the PLC principles; therefore, teachers were not empowered to embrace the changes needed to build and sustain effective PLCs.

The Interaction between PLC Components

Hord (2009), Stoll, Bolam, McMahon, Wallace and Thomas (2006), and Williams, Brien and Sprague (2008) shared the belief that a successful PLC requires the interplay of several key factors. These factors include shared, collective leadership, shared values and vision, collective responsibility, reflective professional inquiry, collaboration, group and individual learning, mutual trust, respect and support among staff members, and inclusive membership. These characteristics not only support the implementation of PLCs, they are necessary in transforming the school culture into a learning organization.

Dufour, et al. (2010) stated that the shared mission, vision, value, and goals become the driving force of what leaders and members communicate with one another. Leaders communicate their priorities by what they pay attention to and by being consistent in what they say and what they do. Stakeholders can immediately recognize what a leader values or is committed to because it is communicated consistently. This communication is often symbolized through celebration because it reminds members of the purpose and commitment to the initiative. Moreover, it provides an opportunity to share experiences, tell stories, and to teach.

Sagor (2010) affirmed that educators must examine the strengths and weaknesses of their school in order to achieve better results for students. Collaborative planning requires that educators reflect on areas in which there has been success and identify what worked. They must

also try something different in areas that did not produce positive results, because it is fruitless to continue doing something that doesn't work. Therefore, it is imperative for schools to collaborate about learning and create a plan of how they plan to get there. Sagor (2010) also suggested that having a shared vision along with clear goals is necessary in advancing student achievement. He states,

> A shared vision is a robust, collective image of a future state where our hopes and dreams have been realized. Shared visions are realized through focused efforts at achieving a specified set of goals. To produce universal student success, goals must be clear and unambiguous. (p. 12)

Once a shared vision has been created and members have sanctioned it, a set of clear performance targets and goals should be established. Research suggests that the development of SMART goals is a proven process of managing goals (O'Neil & Conzemius, 2002; Dufour, et al., 2010; Sagor, 2010). Dufour, et al., (2010) defines a SMART goal as, "**S**trategic and **S**pecific, **M**easurable, **A**ttainable, **R**ealistic, and **T**ime-bound" (p. 158). The SMART goals become the plan from, which the team or school sets learning goals, monitors its progress, and measures it successes or areas for improvement. After targets have been met, teams should share and celebrate their accomplishments at staff meetings, post and inform parent of successes on the school's web page, and publish a booklet that highlights the team's success (Sagor, 2010).

In summary, the foundation of professional learning communities rests on having a shared mission, vision, values and goals. The process of a school community examining where they are and looking deeply at their own reality should be done by the collective group, not by a few staff members. This enables all members to become engaged in why the organization exists,

what they hope to accomplish, and how to devise a plan that provides the steps for getting there. According to Dufour, et al. (2010), after the foundation has been built, members can concentrate on the big ideas or principles of effective learning communities: a focus on learning, a collaborative culture, and a results-orientation, which will be discussed in the next three sections.

A Focus on Learning

Creating a focus on learning places the attention on what students should learn as well as the strategies required for monitoring student learning. Dufour, et al. (2010) stated that teachers should engage in collaborative study to identify essential learning to promote clarity, establish consistent priorities, monitor common pacing for formative assessments, adhere to a viable curriculum, and create ownership and accountability to the curriculum. Teachers must thoroughly study the question, "What must our students learn"? Then they must analyze the curriculum to decide which grade level competencies are most important, which goals need the most attention, and which goals need less attention. When teachers collectively collaborate about the curriculum, identify essential standards, develop strategies to support each standard, and create common assessments, teachers will generally embrace the curriculum and take ownership of engaging every learner.

Brophy (2004) asserted, "Effective teachers clarify goals and assessment criteria in ways that help students understand what they need to learn and what strategies are likely to be most useful in enabling them to do so" (p. 79). Clarity about goals and assessments enable students to better understand how they learn and enable them to develop work ethics for learning and completing tasks. Likewise, Saphier (2005) affirmed that in professional learning communities, teachers accept responsibility for students' learning of the essential curricular goals. They set

targets, develop rigorous lessons, and set clear guidelines and expectations for each grade or course, present exemplars of student work with proficiency standards for lessons. Childress, Doyle, and Thomas (2009); and Lezotte (2002) agree that when teachers are clear about learning expectations, share learning goals with students, provide them with choices and differentiated learning opportunities, and feel responsible for all students learning, it is likely to have positive effects on student achievement.

A Viable Curriculum

Marzano (2003) stated that if all teachers commit to teaching the curriculum, all students will have exposure to the essential content, no matter who teaches a particular class. He explains that a viable curriculum must have two major components: opportunity to learn and time. Providing all students with an opportunity to learn is a product of the intended and the attained curriculum. The intended curriculum refers to the content that is taught by the teacher; and the attained curriculum is what students have actually learned. When discrepancies exist between the intended and the implemented curriculum, it affects whether learning will be attained by all students. Therefore, it is imperative that all teachers know, understand, and collaborate about the curriculum, so that it becomes guaranteed for all children.

Marzano (2003) recommended five action steps to implement a viable and guaranteed curriculum. The first action step is to identify and communicate the essential curriculum so that it addresses the postsecondary needs of students who seek college or careers. Teachers should collectively analyze goals and unpack the standards to streamline essential content for all students, not just for those who are entering college. Further, Ainsworth (2003) defines unwrapping the standards as, "a means of identifying the essential concepts and skills found in

both the standards (the general statements of learning outcomes-what students need to know and be able to do) and the indicators (the grade specific learning outcomes)" (p. 5). This process entails that teachers identify what students need to know, and be able to do, before they teach and assess these concepts and skills. In other words, teachers should begin with the end in mind.

Marzano's (2003) second action step is to map out the curriculum to coincide with the school calendar and number of teaching days. Naturally, the content that teachers select to teach cannot exceed the amount of time within the school year; therefore, planning and mapping the curriculum has to be done prior to school beginning. English (2003) and Stoll, Fink and Earl (2003) agree that there is not enough time in a school year to cover the entire curriculum, and so teachers must focus on the essential content that must be mastered.

The third action step presented by Marzano (2003) is to organize the content in a way that students are able to make connections in their learning. The National Council of Teachers of Mathematics (2000) suggested that teachers look at the big ideas within the curriculum and break them down according to terminology, themes, definitions, concepts, and skills. Ainsworth (2003) advised teachers to underline nouns and circle verbs to identify key elements in each goal; then, create a graphic organizer that represents the unwrapped standards.

Marzano (2003) stated that the fourth action step emphasizes that teachers address the essential content according to state and local standards. Fullan, Yoon, and Lee (2005) advise ending the practice of solo teaching in isolated classrooms. Teachers must move beyond protecting individual and personal knowledge, and transform as a collective base. Thus, administrators must support and monitor the implementation of the curriculum through observations, lesson plans, and unit plans. In addition, administrators should conference with

teachers about their performance and help them set professional goals that will assist them in improving their practice.

Finally, Marzano (2003) claimed the fifth action step in having a viable curriculum consists of protecting instructional time during the school day. Thus, administrators should be mindful of time within the school day by minimizing interruptions, and efficiently planning lunch, recess, changing of classes, and announcements. School leaders should convey to teachers and students that learning time is sacred, and it should not be interrupted, except for important events and emergencies. This action step is instrumental in transforming the school culture for both students and staff because it places high expectations for teaching and learning.

Becoming a Learning Organization

Many teachers resist the change that is required to build a strong organizational culture. Knight (2009) suggested eight ways in which teachers are likely to adopt and implement proven practices. These strategies prompt teachers to do the following:

> seek high-leverage teaching practices that are proven and practical, use data to select and monitor the impact of practices, provide quality coaching, balance precise explanations with provisional comments, obtain commitment by offering teachers choices and valuing their voices, focus professional learning on a few critical teaching practices, align all activities related to professional learning, and increase relational trust. (2009, pp. 512-513)

When teachers feel that they have voice in selecting a practice, they are more likely to attempt to implement it, especially if it aligns with other tasks and goals, and they have the appropriate trust and support. Therefore, when beginning PLCs or any initiative that requires

implementing a new practice, it is imperative to empower teachers in the decisions that pertain to their roles. When teacher practices improve, it is likely that students' performance will also improve (Knight, 2009).

Nelson and Slavit (2007) conducted a study involving five schools with sixth through eighth grade science and mathematics teachers who engaged in supportive collaborative inquiry. The researchers' purpose was to understand whether and how this professional development approach served as a resource for teacher growth and improvement of practice to facilitate learning. It also aimed to understand the level in which teachers engage in critical discourse about teaching and learning, student learning, and content knowledge as a result of participating in PLCs. The findings of the study revealed that teachers valued the opportunity to have focused time and conversations with other teachers in the same building, in different departments, and with teachers of the same subject within the same grade level, as well as at other grade levels. Although teachers appreciated time to collaborate, many of the teams progressed at a slow pace. Therefore, Nelson and Slavit (2007) concluded that it takes time to build relationships, establish a sense of community built on trust, respect, and shared values in order for teachers to collaborate with peers about their understanding of content knowledge. Thus, effective implementation of PLCs requires professional development that enables teachers to build relationships, establish shared ownership, and a willingness to collaborate about their practice (Nelson & Slavit, 2007).

Functioning as a Learning Organization

Senge, Cambron-McCabe, Dutton, Kleiner, Lucas, and Smith (2000) suggested that when individual teachers come together to make student learning a priority, the school can begin to

function as a learning organization. As schools function as learning organizations, school

leaders establish clear expectations for teacher practices and engage them in collaborative

decision-making about the curriculum. Hence, teachers feel accountable to their team and

students' learning; they recognize the need to share ideas by developing protocols and common

language that will enable them to collaborate about instructional dilemmas, student work, and

assessment data.

In order to become a learning organization, educators must understand the importance of

learning as professionals. Killion and Roy (2009) share,

Professional development fosters collective responsibility for improved student

performance and must be comprised of professional learning that: (a) is aligned with

rigorous state student academic achievement standards as well as related local

educational agency and school improvement goals; (b) is conducted among educators at

the school and facilitated by well prepared school principals, and/or school-based

professional development coaches, mentors, master teachers, or other teacher leaders; and

(c) occurs several times per week among established teams of teachers, principals, and

other instructional staff members where the team of educators engage in a continuous

cycle of improvement. (p. 18)

In a learning school, Kagan and Headley (2010) emphasize that,

Learning is authentic when it involves real-world problems that has significance for

students; mimics the work of professionals; involves the presentation of findings beyond

the classroom; requires that students use open-ended inquiry and thinking skills; engages

students in discourse and social learning within a community of learners; and enables

students to direct their own work through projects. (p. 85)

Also, when teachers come together in a learning organization, they make instructional

decisions for students, create multiple opportunities for them to learn, and assess learning

continuously. Dufour, et al. (2010) stated that good teachers formatively assess student learning

using oral, written, and various activities each school day. However, there are times that

teachers need to administer more specific and formal assessments for student learning. These

assessments are most powerful when teachers collaborate as a team to develop an assessment

based on agreed upon curriculum goals. This enables teachers to analyze their instructional

practices, learn from other teachers' practices, and develop shared intervention strategies that

will benefit all students (Dufour, et al., 2010).

Dufour, et al. (2010) also shared several reasons why teachers should engage in team-

made, common formative assessments: it promotes efficiency for teachers because teachers are

able to save time by working together; ensures that all students have access to the same essential

standards; ensures that the curriculum is being taught by all teachers; informs teacher practice to

compare students' results by skill; builds a team's capacity to implement the curriculum and

research-based strategies; necessitate a systematic response when students experience difficulty,

and changes adult behavior and practices by focusing in on learner needs.

Thus, when schools function as a learning organization, they are willing to make learning

goals and criteria for assessment clear to students by monitoring learning through the use of

frequent formative assessments. Moreover, when content-alike teachers collaborate and develop

common formative assessments, they are able to focus on the curriculum, identify strengths and weaknesses in their practices, and gaps in students' learning (Schmoker, 2004).

Monitoring Essential Learning

In effective PLCs, identifying and monitoring essential learning goals can be a challenging task for teachers and administrators. Dufour, et al. (2010) recommends that teachers begin by identifying no more than eight to ten essential outcomes that students will be expected to achieve during each semester. Teachers should focus on proficiency in key skills, rather than content coverage. By focusing on key skills teachers not only prepare them for state tests, but also allow time for critical thinking, problem-solving, and reasoning skills. Additionally, Dufour, et al. (2010) expressed,

> One of the most powerful, high-leverage strategies for improving student learning
> available to schools is the creation of frequent, high-quality, common formative
> assessments by teachers who are working collaboratively to help a group of students
> acquire agreed upon knowledge and skills. (p. 75)

Unlike summative assessments that are administered less frequently and used to measure standards at the end of a period, formative assessments contain few items and serve to inform teachers, so that they can provide intervention strategies immediately when students do not master the information (Stiggins, 2005).

Fullan (2005), Marzano (2006), and Thompson (2007) emphasized that formative assessments positively impact students' achievement by providing high-leverage strategies that raises standards of pupils' performance. Similarly, Ainsworth (2007) and Stiggins (2005) state that through the use of common assessments, educators become more skilled and focused at

using student data to guide instruction, especially for low-achieving students. Also, common formative assessments help educators diagnose students' needs and provide modifications in instruction in a timely manner. Schmoker (2004) described common formative assessments as powerful proven structures and noted,

> It starts when a group of teachers meet regularly as a team to identify essential and valued student learning, develop common formative assessments, analyze current levels of achievement, set achievement goals, and then share and create lessons and strategies to improve upon those levels. (p. 48)

Finally, assessments should be used as a means rather than an end. In other words, teachers should work collectively to develop common assessments regularly in order to identify which students need additional help in mastering learning throughout the entire year. Hence, teachers should not wait until the end-of-the-year state assessment to measure what students have learned (Ainsworth & Viegut, 2006; Killion & Davin, 2009; Reeves, 2002, 2005).

Dufour, et al. (2010) expressed that administrators should recognize that the creation of common assessments may lead to teacher anxiety because it may expose weaknesses in their instruction. Therefore, principals should be sensitive to this and separate teacher evaluations from student assessments. The idea is to develop a culture in which teachers share data in order to build capacity for teacher expertise and student learning. Therefore, it is important that teachers, principals, and district administrators have a clear understanding of the purpose of common assessments and how they should be used to improve student learning.

A focus on learning is the core of an effective PLC because learning is the reason why schools exist. This principle also requires that teachers and administrators work collaboratively

to ensure the learning for all students by planning and prioritizing essential standards to identify what they want students to learn. Focusing on learning also empowers teachers to share ideas of proven classroom practices before and after common formative assessments to provide intervention for students when they don't learn, or provide enrichment when students master the learning. Moreover, this principle is cyclical because teachers are constantly collaborating about essential standards, teaching practices, developing common assessments, analyzing data, and developing plans for intervention (Dufour, et al., 2010).

A Collaborative Culture

As accountability benchmarks have increased under the NCLB Act, and economic deficits have burdened America's homes, schools, and businesses, the concept of professional development has taken on a new appearance. The workshop model of sit-and-get workshops in which teachers have little engagement in their own professional learning is fading. Now, school districts are beginning to build capacity with teacher teams as collaborative learners and active participants of their own learning (Stoll, et al., 2006). For the past decade, the National Staff Development Council (NSDC) has been committed to changing the vision of professional learning for educators. Killion & Roy (2009) emphasized, "The closer the professional learning is to the classroom in which students learn, the more deeply connected it will be to student learning needs and student academic standards" (p. 7). The authors, who are directly affiliated with NSDC, state that the organization is currently seeking legislative amendments to clarify a new definition of professional learning for educators nationally. This form of professional learning requires that educational leaders rethink the way in which they view learning, which necessitates a shift in the culture for districts and schools. Killion and Roy (2009) affirmed,

The new definition calls for every educator to engage in professional learning at the

school as part of the workday. Professional learning should tap the experience of

educators in the school and at the district office, with support from universities and other

external experts who help local educators address needs specific to their students and

school improvement goals. (p. 16)

Cultural Challenges

Peterson (2002) shared that the culture of a school is the most important organizational

characteristic. Culture is determined by the beliefs, values and habits that make up the norms for

the organization. Norms help shape how members act, behave, and carry out certain

responsibilities (Dufour, et al., 1998). Transforming or changing the culture of an organization is

challenging for both the leader and his/her followers. Fullan (2001) identified six leadership

styles of which the following four impact change: authoritative (the leader moves members

toward a vision); affiliate (the leader builds bonds and creates harmony with the members);

democratic (the leader seeks consensus in making decisions); and coaching (the leader builds

capacity by developing its members. All four of these leadership styles or combinations of the

four are appropriate for leading change. However, the leader as coach is most appropriate for

implementing the change needed for PLCs because the leader builds capacity through a shared

vision, creates harmony among colleagues, and empowers decision-making in the best interest of

children (Fullan, 2001).

Anthony Muhammed (2009) conducted studies in 34 schools throughout the nation to

observe the culture of schools. He discovered four teacher personalities as it pertains to

adjusting to change.

First, the believers are those that are committed to all students learning and realize that they have the ability to make an impact in student achievement (p. 31). Second, the tweeners are generally compliant new staff members who are learning the culture of the school (p. 43). Next, the survivors are those who are overwhelmed with the demands of the teaching profession and are simply trying to get through each day, week, and month (p. 55). Finally, the fundamentalist are those who believe in tradition and want to keep things the way that they have always been. (p. 61)

Education is a people-oriented professional and working with various teacher personalities is a challenging task. Therefore, transforming culture is often met with various obstacles, opinions, and views; hence, if schools do not redefine their prevailing assumptions and they continue to conduct business as usual, it will become impossible to make the changes that are needed for all students to be successful (Muhammed, 2009).

There are structural and cultural changes that are necessary to transform a school. According to Dufour, et al. (1998) schools often mistakenly focus on structural changes, but neglect cultural changes because structural changes are tangible and can be seen while cultural changes are less visible because they require changes in habits, beliefs, or attitudes. The implementation of PLCs requires cultural shifts that are quite different from traditional school norms. Dufour, et al. (2010) summarized several cultural shifts that are necessary to implement effective PLCs:

Schools must shift from a focus on teaching to a focus on learning; from an external focus on issues outside of the school to an internal focus on steps the staff can take to improve the school; from independence and a language of complaint to interdependence

and a language of commitment; from external training and workshops to job embedded

learning; from isolation to collaboration; from infrequent summative assessments to

frequent common formative assessments; from individual teachers determining the

appropriate response to a systematic response that ensures support for every student.

(p. 249)

These shifts help shape the culture needed to build PLCs. In addition to these shifts,

Dufour, et al. (2010) state that schools should make a shared commitment to answering the four

guiding questions of PLCs:

1. What is it that we want our students to learn?

2. How will we know if each student has learned it?

3. How will we respond when some students do not learn it?

4. How can we extend and enrich the learning for students who have demonstrated

   proficiency? (p. 119)

These questions help guide the collaborative work of teachers to ensure learning for all students,

as well as, enhance reflective practices for teachers.

Structural Challenges and Collaboration

The purpose of teachers working in teams is to enhance the collaboration and efforts

required to improve teaching and learning. Blanchard (2007) states, "A team can make better

decisions, solve more complex problems, and do more to enhance creativity and build skills than

individuals working alone" (p. 17). Similarly, Carroll (2009) stated, "Quality teaching is not an

individual accomplishment, it is a result of a collaborative culture that empowers teachers to

team up to improve student learning beyond what any one of them can achieve alone" (p. 13). When teachers work in collaborative teams, they have greater insights about adolescents, are equipped to plan authentic lessons, critique student work, solve instructional problems, and build capacity among colleagues by growing professionally (National Education Association, 2006; National Middle School Association, 2006).

The transition towards becoming a collaborative culture requires both structural and humanistic changes. Fullan (2001) stated, "Significant educational change consists of changes in beliefs, teaching styles, and materials, which can come only through a process of personal development in a social context" (p. 124). Jackson and Davis (2000) emphasized the need for administrators to provide structures that allow for common planning and time for teachers to collaborate about their practice.

Little (2007) conducted a qualitative comparative study at two middle schools in southeastern, North Carolina in which he analyzed the change process with teachers adapting to a collaborative flexible schedule at a high implementation school and a low implementation school. Little defined a high implementation school as one that has structured common planning for at least 160 minutes per week, while a low implementation school was defined as one in which the teachers did not engage in structured common planning for at least 160 minutes per week. The flexible schedule differed from the traditional middle school schedule because it provided more time for teachers to plan and utilize instructional time at their discretion. Flexible scheduling structures provided opportunities for teachers to collectively collaborate in teams during a common planning time to discuss teaching practices and interventions for students. Therefore, the purpose of the study was to investigate teachers' use of collaboration by

implementing flexible scheduling at one high implementation school and one low implementation school.

Data collection included interviews, observations of common planning, and a document review. The findings from the study revealed that working collaboratively is both a challenging and time consuming task because the day-to-day operations of a school can be overwhelming. The teachers in the high implementation school felt that they had little input in the entire process of scheduling and common planning structure; therefore, the team struggled with the whole idea of collaborative planning time. The low-implementation school was given the opportunity to provide input to the principal; therefore, they had a better understanding and buy-in to the initiative. However, both teams lacked assertive leadership to define their expectations for collaborative structures. In summary, an increase in time designated for planning or instruction (low and high implementation) does not necessarily mean a change in teacher practices. Teachers must understand the purpose and goal, and have shared ownership in school initiatives. Although some teams stated that they benefitted from an increase in instructional time and collaborative planning time with colleagues, there was a lot of time loss and resistance at the beginning of the initiative because most teachers felt they did not have the proper training for collaborative dialogue, data analysis, and had not built trusting relationships within their teaming structures (Little, 2007).

Likewise, Dufour, et al. (2010) emphasized the need for teams to work collaboratively using a systematic process that is intentional, deliberate and precise to ensure that several steps are followed. This type of collaboration requires that teachers focus on the right work in the appropriate manner. The first step is that every staff member should be assigned to a meaningful learning team. Teams are organized and designed to accomplish particular goals. Vertical teams

bring teachers together who teach the same content areas at different grade levels. This enables teachers to become familiar with what students should come to them knowing and what they should know in preparation for the next grade level.

Dufour, et al. (2010) also stated that interdisciplinary teams are most prominent in middle schools in which teachers work with a team of teachers from various subject areas to coordinate overarching curriculum goals. For PLCs, the most recommended team is a same course or content team because it enables teachers that teach the subject to plan together, share strategies, develop common assessments, and respond collectively when students don't learn. Regardless of the team, organizing a structure for collaborative dialogue is a necessary task to encourage action that is aligned with learning and support for teachers and students.

Finally, Dufour, et al. (2010) added that other teams may include electronic teams and logical links. In electronic teams, teachers use technology to discuss curriculum ideas and strategies that may expand beyond the school to district, state, or national teams. With logical links, teachers are linked together by interest and expertise. This generally includes incorporating teachers that teach extracurricular subjects and electives to support the general curriculum. All of the teams are uniquely designed to carry out particular tasks to benefit teaching and learning. Thus, teams should be organized to maximize the needs of the school based upon the desired outcomes in which they are seeking.

Correspondingly, Graham (2007) conducted a case study that investigated the relationship between professional learning community activities and teacher improvement in a newly constructed middle school. The study explored the PLCs model based on the work of Dufour as an approach to teacher improvement. Since the PLC model is very similar to the

middle school model, which encourages teacher collaboration, reflection, and dialogue, the researcher incorporated the PLC model as an approach to build a foundation for collaborative practices at this new middle school. However, Dufour (2004a) emphasizes that collaboration in a PLC is quite different from the traditional interdisciplinary model because PLCs are geared more towards same-subject areas of the curriculum in which teachers focus on curriculum goals, create common assessments, focus on results, and reflect on data to improve teacher practice. Further, Dufour (2004b) states that interdisciplinary teaming would not be sufficient because it hinders the opportunity for teachers to focus on instructional practices and student learning that are connected to a common curriculum. Therefore, the purpose of the study was to implement Dufour's PLC principles in a middle school context to enhance collaboration about teacher practice and student achievement (Graham, 2007).

Graham's (2007) mixed methods study included surveys, interviews, and a document review. Four professional development features were reviewed: collective participation, content focus, coherence, and active learning. Of the four features analyzed, three indicated a positive relationship in teacher practices and skills on sixth and seventh grade teams: content focus, coherence, and active learning. The study found a strong sense of community that created a feedback loop to meeting details such as developing new rules as conflicts arose, enabling teachers to manage conflicts in a productive manner. Graham also found that as teams developed a sense of community, they were able to learn from one another, thus building capacity within the team.

Graham's (2007) study also indicated some areas in which the school needed to improve. Teachers emphasized the need for more training on working as a community of learners to better equip them on how to focus more on student needs and less on what teachers wanted, as well as

how to handle conflicts and problems in a PLC. The collaboration required in a PLC focuses more on curriculum, instruction, and action-orientation to implement best teaching practices and less on general teaching practices found on traditional teams. Leaders should strongly consider the structure of teams and how they can best impact student achievement. These findings were consistent with those of Leonard and Swap (2004) who referred to transferring special expertise and knowledge from employee to employee as deep smarts.

Similarly, Jackson and Bruegmann (2009) reported that students benefit from high-quality teachers and teachers learn from their high-quality peers. Thus, teachers are most likely to be better teachers if they are surrounded by high-quality teachers who are willing to share ideas and collaborate about curriculum practices. Darling-Hammond (2003) affirms, "Principals who work to create professional learning communities that support and invite beginning teacher participation can foster satisfaction among new teachers. Great school leaders create nurturing environments in which accomplished teachers can flourish and grow" (2003, p. 224). Hence, the structure and organization of teams is a methodical process that building administrators must conceive in planning the school year. Thus, team structures and administrative support influence the culture that empowers teacher efficacy.

Collaborative Work in Teams

Killion and Roy (2009) stated that the collaborative work and reflection of teachers working in teams is what drives a professional learning community. This collegial dialogue is continuous, and precise about how to improve teacher practice. Teachers and administrators plan together, create and share materials, and teach each other. Effective collaboration is built on trust and relationships. To function as a collaborative team and generate deep conversations and

honest communication, there must be trust between teacher to teacher, teacher to administrator, and teacher to central support staff. Tschannen-Moran (2004) defined trusts as "one's willingness to be vulnerable to another based on the confidence that the other is benevolent, honest, open, reliable, and competent" (p. 17). Teachers who are not confident in their content knowledge are less likely to open up and share ideas because collaboration is founded on trust. Similarly, Bryk and Schneider (2002) identify four pillars of trust in schools: respect, competence, integrity, and personal regard for others. Thus, it is important for professional development to include protocols and structures that encourage teachers to build trust and a respectful climate that eliminates working in isolation.

In order for trust to become a part of the school culture, school leaders must model and maintain trusting relationships with teachers to create a climate in which openness and sharing become part of the culture. If principals focus on having a clean building then teachers and students will value cleanliness as important. Likewise, if principals model that high-quality instruction is a priority, teachers will value it as important, and students will feel the need to perform up to the expectation that has been set. *In Shaping School Culture: Pitfalls, Paradoxes and Promises,* Terrence Deal and Kent Peterson (2009) state, "The leader needs to unpack and understand the culture, how it came to be, the strength of its influence, and how its prime beneficiaries and most formidable guardians are" (p. 198). Just as teachers are to unpack the curriculum, administrators have to unpack and understand the current school culture before it can be transformed to a new one.

Kruse and Seashore Louise (2009) shared a concept known as PCOLT (professional community, organizational learning, and trust) to assist administrators in developing skills that strengthen professional learning communities. Kruse and Seashore Louis (2009) concurred that

intensified leadership requires that principals act as change agents. Principals who effectively implemented PCOLT have the following characteristics: collective identity, a sense of common purpose of the school's direction and how to get there; a focus on learning with the end goal always clearly on student achievement; a philosophy of contribution where individuals share power and authority, and all are engaged in contributing to shared success; a sense of trust, a feeling that binds parents, students, professionals, and community authority (Killion & Roy 2009; Kruse & Seashore Louis, 2009; Nelson & Slavit, 2007). These characteristics are imperative in order to transform, lead, and structure teams toward becoming a learning school community that is built on trust and shared authority.

To facilitate the collaborative work in teams, Dufour, et al. (2010) recommended that teams set norms and develop protocols for effective advocacy. School leaders can model the importance of norms by establishing them for regular school meetings, leadership, or parent meetings. These structures serve as tools to direct members on how they will collaborate, establish respect, build trust, and carry out certain responsibilities in effective and efficient manners. Dufour, et al. (2010) suggested the following guidelines for norms:

1. Each team should create its own norms.
2. Norms should be stated as commitments to act or behave in certain ways rather than beliefs.
3. Norms should be reviewed at the beginning and end of each meeting for at least six months.
4. Teams should formally evaluate their effectiveness at least twice a year.
5. Teams should focus on a few essential norms rather than creating an extensive laundry list.

6. Violations of team norms must be addressed. (p.136)

In addition to these norms, teams should consider when they will meet; how long the meetings will last; how members will make decisions; how they will listen to each other's problems or ideas; how to participate in the meeting discussions; whether participation is mandatory; and how they will carry out ideas or next steps. Moreover, when norms are developed thoughtfully and thoroughly, they help establish trust, openness, and commitment to accomplishing team goals (Dufour, 2010).

Similarly, Jay McTighe (2008) described three roles for members in a PLC: critical friend, analyst of student work, and continuous learner. The critical friend's role enables teachers to get other opinions of their work by reviewing unit plans, lessons, and assessments to provide constructive feedback to each other in a democratic manner. Dufour, et al., (1998); Easton (2008); Seidel (1998) also support the use of critical friends as a strategy to enhance collaboration to improve teacher practice. Becoming an analyst involves examining student assessment data to provide feedback to students and make decisions about interventions and teacher practices. Finally, the role of continuous learner combines both the critical friend role and the analyst to improve as a professional. This may include enrolling in university classes, joining a professional organization, attending conferences, conducting action research, or participating in a book study (McTighe, 2008).

Curry and Killion (2009) and Sagor (2010) refer to the role of continuous learner as teachers engaging in macro and micro learning. Macro learning is whole group, broad level professional learning in which teachers work collaboratively to build common knowledge and strengthen skills to enhance pedagogical knowledge within their classrooms; however, it does

not necessarily transfer learning into practice. When teachers engage in micro learning, they are able to apply macro learning to their individual classroom and reflect on their practice (Curry & Killion, 2009; Sagor, 2010). Since professional learning communities provide a structure for teachers to meet regularly to discuss teaching and learning, engage teams to use protocols to analyze teacher and student work, manage data, and reflect on individual practice, as well as team practices, the PLC structure supports the role of engaging teachers as continuous learners (Dufour, 2006; Little, 2003; Marzano, Pickering & Pollock, 2001).

Similarly, Wald and Castleberry (2004) described a five stage process for members to function as a learning community. The five stages included:

Stage 1-defining, attaining a common understanding of what the team wants to study; Stage 2-exploring, identifying current practices and exploring new practices; Stage 3-experimenting, constructing knowledge by learning, thinking, and doing through trial and error; Stage 4-reflecting, individual reflecting requires a closer look at one's own practice, while team reflecting enables members to consider multiple perspectives that can be implemented in the future; Stage 5-sharing, after acquiring knowledge through investigation and reflection, members build capacity by sharing and teaching others. As learning teams gain expertise in their topic of study, they become in-house consultants and resources to their school community. (p. 3)

This five-stage process provides a guide to assist learning teams as they collaborate throughout each unit of study or as they plan for new units. In the book, *The Collaborative Teacher,* Erkens, Jakicic, Jessie, King, Kramer, Many, Ranells, Sparks, and Twadell (2008)

concur that intentional, job-embedded professional learning is at the heart of a collaborative culture.

Additionally, Easton (2008) created several designs for collaborative job-embedded learning, which may be used in professional learning teams. These designs may be used individually or combined to assist with maximizing teacher time and accomplishing learning goals. Powerful professional learning requires educators to realize how to help children learn; relies on data collection and analysis; engages teachers in application of best practices in the classroom; emphasizes collaboration, and honors the expertise of all teachers. Some of the powerful designs include activities such as: accessing student voices, action research, assessment as professional learning, case discussions, reflective inquiry, book study, lesson study, and using video to change practice. These designs provide activities to make professional learning more than simply a structure, but establish a culture of quality to improve the work of teachers (Easton, 2008; Senge, 2000; Schlechty, 2002). Moreover, Nelson and Slavit (2007) added,

> There is a balance between giving teachers a prepackaged program approach that may give them confidence to try an inquiry approach and helping them find value in the dialogic inquiry that can lead to authentic questions emerging from their collective confusion. (p. 38)

Killion and Roy (2009) shared that conducting action research is another collaborative method that supports teachers in learning from their own work. Killion and Roy (2009) stated,

> Action research allows teachers to examine the impact of their teaching practices and to understand how contexts influence the results they achieve. Action research is especially

powerful when a team of teachers gathers data about the same or related questions and combines data to create a cross-classroom research study. (p. 124)

Aubusson, Steele, Dinham, and Brady (2007) conducted a three-year study of professional learning communities focusing on whether action learning was informative or transformative. The study involved 83 schools that participated in 50 action learning projects. The researchers investigated whether teacher research is an effective strategy to promote teacher learning in literacy, science, mathematics, and technology. The teams varied from several schools that shared a similar issue or problem to those schools that were located close together, such as high schools collaborating with feeder elementary schools. The sample size included: 20 primary schools, six clusters of primary schools, 13 secondary schools, three special schools, two central schools, and two clusters of primary with secondary schools. The schools ranged from small to large. The nine case studies revealed that 65% of the projects increased collaboration and communication among teachers. Additionally, 28% of the teams reported that they benefitted from the professional dialogue regarding teaching and curriculum issues. While 54% of the teachers appreciated having a set time to meet and collaborate about their work.

Aubusson, et al. (2007) noted that some schools were able to make more progress towards becoming a professional learning community than others. When teams had an inquiry focus, they were able to use data and action research to generate creative ideas and discussions; however, when they were confined to simple projects like developing units of study, the learning experience was limited. Additionally, the teachers stated that the model for shared protocol guided them through observations and reflections of lessons. At first, some reluctance did exist during the process of teacher to teacher observations; consequently, after teachers realized that the observations were not for critique but to reflect on teacher improvement, they soon accepted

the practice and were ready to engage in similar projects. Overall, the teachers felt that the action learning framework enhanced their levels of inquiry to solve issues, and strengthened their pedagogical practices. The observations better informed them of their teaching practices; teachers felt empowered as change agents and took ownership as leaders of their learning.

Similarly, Brown (2002) conducted a study on action research in which she investigated teachers' perceptions about the influence of action research on their roles as teachers, and how action research practices enhanced their content knowledge, teacher pedagogy, and reflective practices. The case study included six teachers at a middle school in Silver Springs, Maryland. Data collection consisted of interviews with teachers, informal classroom observations, and the collection of teacher and student work, and artifacts. The purpose of the study was to evaluate if there was a correlation between structured action research and teacher growth and development. A constant-comparative method was used to identify several themes that teachers found effective in the action project. The themes included: structure, collaboration, using student work data, planning, deliberate reflection, the need for more detailed reflection, and desire to continue the action research process. Consequently, having sufficient time was noted as a constraint.

Brown's (2002) findings revealed that the stages of action research provided teachers with a methodical structure for analyzing teaching and learning processes; they found it to be a clear process of action. The researcher emphasized that teachers attributed changes in their instructional practices with what students needed to learn, with the training they received, and the implementation of action research. Additionally, the researcher stated that teachers reported that the action research process influenced their reflective practices to help them better grasp the art of teaching. The lack of time for learning was noted as an inhibitor for improvement. The lack of time made it difficult for teachers to fully engage in the action research process. Thus,

Brown (2002) concluded that more research is needed on how to support and structure time for job-embedded professional learning.

Research in this section discussed non-traditional, collaborative approaches to professional development. Dufour (2004a) states, "Through informal structures, the best staff development happens in the workplace, rather than a workshop" (p. 2). Thus, more research is needed on job-embedded professional learning opportunities to enable teachers to take ownership of their learning through PLC structures that invite innovation, inquiry, action learning, and reflection on practices. These practices must be supported in a collaborative environment build on relationships and trust. The structure required for collective collaboration in a learning organization is intentional and supported by human and material resources. This process builds capacity among teachers, which strengthens the culture of learning for both teachers and students. When teachers are engaged in improving their practice, then students ultimately benefit (Blanchard, 2007; Dufour, 2002; Graham, 2007; Jackson & Temperley 2007; Tschannen-Moran, 2004).

The next section of this literature review focuses on the third PLC principle of establishing a results orientation that embraces goal setting, data collection strategies, data analysis, team reflection, and crafting interventions for students. A results-orientation supports the PLC principles of learning and collaboration while ensuring that on-going monitoring of student learning is central in the culture. Therefore, the PLC principles of learning, collaboration, and results are a cyclical process that works together (Dufour, et al., 2010).

A Focus on Results

The PLC principles of learning, collaboration, and results work as a cyclical process. A results orientated culture connects all of the PLC processes together: a review of the school's current reality; collaborative planning and goal-setting; action research and job-embedded professional learning; and supporting and providing interventions for students. Consequently, a results orientation requires an on-going monitoring process that ensures both teachers and students are learning. Dufour, et al. (2010) states, "Intervention systems do not require additional resources, but they do require schools to use their existing resources--time, personnel, and materials-differently. Schools must regard time as a tool rather than a limitation" (p. 101). Thus, many of the schools that have organized effective intervention programs do not have an overabundance of resources, but they do commit time and energy to helping students succeed.

Marzano (2003) conducted a meta-analysis on factors that impact student achievement and found that schools that provide focused interventions, also help students overcome economic and background differences. Some students need more time for learning; therefore, a multi-layered intervention system is necessary to support students, especially in high-level courses.

Since PLCs focus on results, the members of a PLC are encouraged to be action-oriented and welcome change as a part of the culture. It becomes the way in which teams accomplish tasks or do things on a daily basis. Planning, learning, and goal-setting are pointless unless they are put into action. Members of a PLC move quickly to turn aspirations into action and visions into reality, under the theory that the best way to learn is by doing (Dufour, et al, 2002; 2006). Action-orientation begins when a staff is willing to assess their current reality and face the brutal facts (Collins, 2005).

Dufour, et al. (2006) suggested that learning begins with reviewing and analyzing past and present district and school data and trends, which enables each team an opportunity to make connections between district and school goals. Then, the teams can proceed to develop SMART goals, "Strategic, Measureable, Attainable, Results-oriented, and Time bound" (Dufour et al. 2010, p. 158). These goals help drive the work and actions of the team, and should be revisited regularly and consistently to analyze the progress of the team's efforts. Dufour, et al. (2006; 2010) also encourage teams to set attainable goals, but challenges teams to also consider stretch goals. "Stretch goals are so ambitious that they could not possibly be achieved unless practices within the organization change significantly. Stretch goals are effective only if they stimulate action, and if people begin to behave in new ways" (2010, p. 160). Blanchard (2007); Dolejs (2006); O'Neil and Conzemius (2005); and Schmoker (2004b) are other scholars that support collaborative goal-setting.

Action-Orientation

Response to Intervention (RTI) operates similarly to PLCs in some respects, so lessons learned from the studies of RTI have application to PLCs. Buffum, Mattos and Weber (2009) defined RTI as a movement that requires the staff to work collectively to provide extra support for students. "Response to intervention is the practice of providing high-quality instruction and interventions that match students' needs, and using students' learning rate over time and level of performance to make important educational decisions" (p.14). RTI combines engaging instruction, assessment, and school-classroom-parent communication to enhance student learning.

RTI is more proactive than reactive; some educators refer to it as a problem-solving model. RTI functions similarly to the PLC model by asking the following guiding questions:

1. What is the problem?

2. Why does it exist?

3. What should be done to address the problem?

4. Did the intervention work?

5. What comes next? (Buffum, et al., 2009, p. 15)

In an effective RTI model, all of the stakeholders, local and outside agencies come together to solve problems for students. Roles of educators are expanded to include in-class support, involvement in screenings, progress monitoring, and participating on teams to include early, high-quality interventions to monitor and analyze student success. In other words, the team expands beyond the classroom teacher for a particular school year, and includes a response team that can follow the student for subsequent years (Buffum, et al., 2009).

Action-orientation in a PLC aligns closely with the RTI model because both require that educators implement research-based strategies to ensure that all students learn, as well as, measure the success of the intervention. The core program of RTI is the Pyramid Response to Intervention (PRTI), which offers a directive, timely, and systematic process that provides a structure to ensure learning for all students. The PRTI is divided into three tiers:

Tier I-Institutes a strong core curriculum and on-going monitoring of all students. It encompasses a strong core with best-teaching practices and differentiation in a regular classroom setting. A successful Tier I program will support at least 75% of the student body.

Tier 2-Interventions are supplemental and targeted for students who are not achieving. Tier 2 Interventions are for both the students who failed to learn as well as for the non-learners or the students who failed to try. Interventions may include: mandatory, study hall, mandatory homework help, frequent progress reports, study-skills classes, and goal-setting and career planning. Tier 2 incorporates about 15% or more of the student body. Tier 3-Interventions are intensive and designed for students who lack the content skills and progress to continue successfully. These students have typically failed at Tier I and 2 interventions, and thus, need one-on-one intensive assistance for additional learning time during the regular school day. Tier 3 Interventions may extend to 12-18 weeks and should only include about 5-10% of the student body (Buffum, et al., 2009). The PRTI is illustrated in Figure 1.
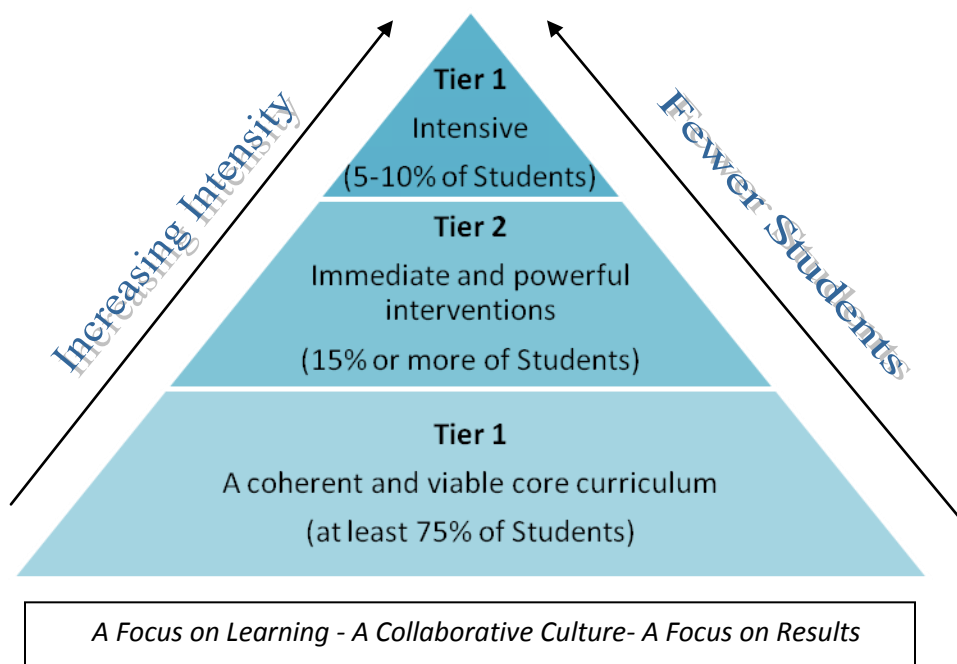
Figure 1. Pyramid Response to Intervention Model.

The PLC and RTI models both focus on student learning and outcomes. Table 1 compares the PLC and RTI models, which are closely aligned to support the same goals (Buffum, et al., 2009, p. 53). Similarly, Dolejs (2006) states, "The most effective factor in providing appropriate interventions for students was the development of layers of support" (p. 3). Additionally, Reeves (2005), and Odden and Archibald (2009) support the use of frequent assessments to gain information of student knowledge and early systems of interventions that specifically addressed the needs of students. These interventions should include multiple layers of support and resources that are monitored closely.

Table 1

PLC/RTI Comparison

PLC Characteristics	RTI Fundamental Elements
Focus on learning and a collaborative culture	Collective responsibility
Focus on results	Universal screenings and progress monitoring
Action experimentation	Systematic interventions and decision protocols
Collective inquiry	Research-based core program and interventions

Types of Data Sources

In a PLC, the focus is on student learning, and all students are expected to succeed. Therefore, individual student data, along with class, and school data should be analyzed before goals can be set. Killion and Roy (2009) stated, "Examining data about student learning are the

initial steps in identifying the focus of the team's work" (p. 110). In order to use data

effectively, teams should possess several competencies: the awareness of the data that are

available to the school; an understanding how to analyze the data through dialogues and

discussions; and knowledge of how to use data routinely as a tool to set instructional goals.

Similarly, Harrison and Bryan (2008) described several types of data conversations and

the frequency required in different contexts. For example, whole school conversations will

include district benchmarks and state assessments, to include the entire staff, with a frequency of

twice a year. Department or grade level teams may engage in conversations about data related to

common assessments, unit assessments, benchmark or state assessments with a meeting

frequency of once a week to once a month. Whether setting student targets or having one-on-one

conversations about student growth, schools must hold these conversations throughout the year

to make decisions that will improve instruction and learning (Harrison & Bryan, 2008).

Love (2009) supports the theory that data analysis is a multifaceted and continuous

process that should be embedded in the school culture. Similarly, Bernhardt (2004) described

four types of data to help school teams plan for student achievement:

> Perception data help the school understand how students, parents, and teachers feel about
>
> the school's learning program; demographic data provides an understanding of the
>
> school's attendance, race, gender, ethnicity, and enrollment; learning data describe
>
> students' performance on standardized tests, grades and grade point averages; and school
>
> process data define the results that teachers receive based upon instruction and
>
> assessments. (pp. 16-17)

Further, Killion and Roy (2009) described 11 steps in the data analysis process: gather

the data; analyze the data; summarize the analysis; brainstorm possible causes; collect

additional data; analyze and interpret the additional data; identify a goal for school

improvement; determine a course of action; take action; collect data; and repeat the

process. (pp. 111-112)

In order to analyze data effectively, Sagor (2010) proposed that teachers should formatively assess students' progress as an on-going process of the instructional program, rather than waiting to receive summative data at the end of a grading period or school year. Formative assessments provide the teacher with necessary data to guide instruction for learning. Stiggins (2004) asserted, "Studies have demonstrated assessment for learning rivals one-on-one tutoring in its effectiveness and that the use of assessment particularly benefits low-achieving students" (p. 27). Also, Reeves (2004) and Marzano (2006) shared that schools that use common formative assessments consistently have the highest gains in student achievement because it's one of the most powerful tools that teachers can employ.

Formative assessments may include, but are not limited to, paired activities, cooperative learning, class discussions, interviews, focus groups, quizzes, written assignments, summary exit cards, and presentations. Sagor (2004) proposed that teachers should receive training in the use of formative assessments because teachers often disaggregate the data inappropriately, which limits the potential for student learning and professional growth. The traditional model of analyzing data is by school; then, by grade level and class; and finally, by student. Sagor (2004) emphasized, "If the goal is to improve instruction and foster professional learning, the traditional model is upside down" (p.101).

Further, Sagor (2004) suggested that using a PLC action-oriented approach will reverse this order to focus on individual student data; then, class and school level performance; and finally, school and system-level performance. Thus, it is imperative to review and analyze subgroups of students by race, socio-economic status, and gender to ensure that the needs of these students are being met equitably.

Using Data to Improve Instruction

Thompson, Gregg and Niska (2004) conducted a study of *Professional Learning Communities, Leadership, and Student Learning*. The case study was based on previous research on PLCs using the work of Dufour et al. (1998), and the work of Senge (1990) who shares that there are five disciplines of a learning organization: systems thinking, personal mastery, mental models, shared vision, and team learning. Thompson,, et al.'s (2004) study analyzed the fidelity of PLC implementation and whether the teachers and principal believed that the school was a PLC and if student learning was occurring. Thompson, et al.'s (2004) study also investigated if the five disciplines presented by Senge (1990) were present in the school culture at six middle schools (three were suburban and three were urban) being studied. The data were triangulated through interviews, focus groups, and survey feedback from the Learning Organization Practice Profile (LOPP).

Thompson, et al.'s (2004) study revealed several factors to help the school improve as a learning organization. First, systems' thinking was mentioned as important by most principals as well as in the teacher survey responses. Second, personal mastery is the ability of teachers to learn by doing; it was mentioned by three of the principals, and was rated highest by teachers. Third, mental models were not mentioned by principals; however, the teachers stated they

appreciated collaborating and sharing ideas. Fourth, shared vision was mentioned by all of the principals; teachers confirmed that the principals' beliefs on shared vision coincided with the LOPP survey and focus groups. Finally, team learning was mentioned several times by the principal, and the teachers also had high ratings in the area of team learning. Other items that were mentioned as highly important by principals were data informed decision-making, relationships, and risk-taking behavior. Overall, Thompson, et al.'s (2004) study indicated that everyone was learning; teacher pedagogy and student learning had improved as a result of PLC implementation. The principals also noted that PLCs helped them to focus their time on what was really important, and that it provided the school with the results to re-culture their school as a learning organization.

At Elizabeth Vaughan Elementary School in Woodbridge, Virginia, Lillie Jessie, a 17-year tenured principal, shared her innovative approach on getting her staff involved in PLCs and data analysis. Principal Jessie asserted that the implementation of PLCs was not an overnight success. The principal reflects on the early days of her school's implementation efforts, "Not only are we teaching in the dark, but we are blaming the poor results on students" (Erkens, et al., 2008, p. 137). Principal Jessie believed that in order to move from hoping to knowing, teachers had to be comfortable enough to expose their strengths, weaknesses, and shortcomings to others on their team. Teachers learn to accept failure as a temporary state and that the power of collaboration is a necessity to succeed (Erkens, et al., 2008).

The journey of examining and sharing data at Vaughan Elementary School began in 1992; however, the school did not receive accreditation until 2002 when the teachers came to the realization that simply sharing wasn't enough. They moved from sharing to actively using data to drive instruction. In 2007, over half of Virginia's schools did not meet Adequate Yearly

Progress, but Vaughan Elementary did. The staff attributed their success to the PLC model, which included the implementation of effective data analysis strategies. Principal Jessie concludes, "The PLC process works, but it is the teachers seeking and implementing strategies to achieve more for their students who make the difference" (Erkens, et al., 2008, p. 138).

Further, Principal Jessie shared that she observed several stages in which her teachers transitioned through to arrive at success: "shock, personal resistance, fear, reluctant compliance, discovering, bargaining and advocacy" (Erkens, et al., 2008, p. 140). The principal concluded that the first strategy to move from shock to advocacy is to have a reality check or a look in the mirror at current data and practices. Next, the administrator needs to establish a supportive and collaborative environment by setting the schedule to allow for collaboration and planning; encourage teachers to take leadership and ownership of team tasks; involve students in data analysis, develop common assessments; plan data sharing days; treat teachers as professionals; and celebrate successes (Erkens, et al., 2008).

Correspondingly, Bernhardt (2009) reported how teachers at Marylin Avenue Elementary School in Livermore, California use data to make decisions about teaching and learning. In 2006, the school organized a team of six teachers, the district data analyst, and the principal of one year to attend a summer data conference. During the training, the team reviewed its current school data: the school had not made AYP from the beginning of NCLB; the English as Second Language population was rising; the free and reduced lunch population was increasing; school culture was not united; there was little instructional coherence; and staff members were not using data to make decisions. The teachers had an average of 14.4 years of teaching experience, which made it somewhat difficult to convince teachers to change their practices.

After analyzing their comprehensive data, the team realized that they had to change their practices in order to meet the diverse needs of their student population. The team began to collect perception data from parents and students and asked them for suggestions and strategies to help meet students' needs. The teachers reviewed the perception data and realized that they had few programs and strategies to accommodate the needs of their students; moreover, they did not utilize any data tools from which to measure their current practices and programs (Bernhardt, 2009).

As a result, Marylin Avenue Elementary School adopted the Education for the Future Continuous Improvement Continuums to self-assess their current state as well as the progression toward seven improvement categories. Then, the school adopted a vision that was shared and monitored by the entire staff; participated in collaborative discussions and problem-solving dialogues that enabled them to collect data and think about decisions critically; participated in job-embedded professional learning; developed common assessments and analyzed their results in collaborative teams; and created a portfolio of all the school's vision, data, and overall plan (Bernhardt, 2009).

Bernhardt (2009) indicated that because the school had a focus on data, Marylin Avenue's results were astonishing. During the two-year period of the study, students' scores increased in all subject areas, in all grades, and included every subgroup. During both years, the school exceeded the state targets and met the Academic Performance Index (API) growth. From 2002-03 to 2007-08, the school's API increased from 681 to 742. The principal attributes much of their success to the data framework for monitoring improvement. In conclusion Bernhardt (2009) noted,

It is not enough for educators to focus on just one thing that they must change; they must

look for commonalities and leverage points; listen to students, staff, and parents; and look

beyond summative student assessment scores. With a big picture view, schools have the

ability to improve all of their processes—and students will be the ultimate beneficiaries.

(p. 27)

Similarly, Principal Campsen (as reported by Valerie Von Frank, 2009) shared how data-driven decision-making made a difference at Ocean View Elementary School in Norfolk, Virginia. Principal Lauren Campsen attributes her school's achievement to their efforts of making data-driven decisions. Data are displayed throughout the school that identifies student proficiency levels on school assessments, as well as, re-assessments after the intervention strategies. Campsen feels that data should never be a secret and teachers shouldn't be reluctant to display their data. "If you're embarrassed by your data, you need to change it. We focus on results, and our school uses data to guide, plan, and deliver instruction" (2009, p. 6). In addition, students are involved in the data process; and they carry data notebooks to set targets and chart graphs of their own progress (Von Frank, 2009).

In 2002-03, Principal Campsen initiated and organized data teams to include subject-area teachers and an instructional specialist. Subject-area teams met weekly for 45 minutes, and once a month in vertical subject-area teams. Campsen met with the leadership team monthly to look at data and discuss interventions for students or implementing new strategies. She also kept data notebooks in her office on all of her students, which she can refer to when teachers or parents have questions or concerns about a child. The notebooks also provided quick, historical data to allow the principal or teachers to go back and look at progress that students had made from year to year (Von Frank, 2009).

Principal Campsen reflected that moving from being one of the lowest schools in the state in 2002 to being recognized as a National Blue Ribbon School in 2008 was a challenging endeavor. She notes, "The first thing that I needed was to be brave enough to be a risk-taker, to stand up to resistance, to reorganize my building" (p. 7). Campsen also shared that she had to research and teach herself before she could teach the staff how to use data. As the school leader, she took student learning personally. She added, "If the children don't make it, the only place you can look is in the mirror; there are no excuses" (Von Frank, 2009, p. 7).

The schools discussed in this section attribute successful results to using data to plan, monitor, and assess the effectiveness of their school performance. Data can be analyzed in many ways: by gender, ethnicity, attendance, behavior, graduation, achievement, and historical growth. Therefore, schools must look beyond summative state assessment data and dig deep into formative assessment data regularly to adjust teacher practices to improve student learning. School leaders must ensure that data are used as a tool to improve results; therefore, collaborative efforts to build relationships must become a part of the school culture. When schools are data rich, the staff is constantly striving to make changes to improve school practices and enhance learning for all students (Bernhardt, 2009; Erkens, et al., 2009; Thompson et al., 2004; Von Frank, 2009).

Additionally, when schools embrace a results orientation, they often reflect, adjust, and change to improve results. Data come in many forms and require that educators utilize a multifaceted approach to focus on the learning for all students, design effective interventions, and instill a monitoring system that supports the achievement for all students. A focus on results is a cyclical process that enables teachers to identify strengths and opportunities for growth by using collaborative inquiry to solve problems and make informed data-driven decisions.

Moreover, school leaders, districts, and provincial agencies must work collectively to provide the support needed to grow and build capacity for a learning culture (Buffum et al., 2009; Dolejs, 2006; Dufour et al., 2010; Sagor, 2010).

Summary

Professional learning communities are reflective of the constructivist theory, which is built on the theory of collaboration, openness to new ideas, and action-orientation. Educators who support this theory of "learning by doing" believe that this approach is imperative in promoting effective teaching and learning. The studies in this literature review focused on the importance of teachers working in professional learning communities to enhance learning for all students, building a collaborative culture with job-embedded professional learning, and instilling a results orientation. The literature also identified cultural elements; leadership; district and provincial support that are needed to build capacity and sustain the implementation of PLCs. Finally, the literature review revealed several PLC assessment tools and data analysis strategies that have used by schools to enhance teacher practices and student achievement (Hord, 2000, 2008; Dufour, 2002, 2004a, 2006; Dufour, et al., 2010; Marzano, 2006; Sagor, 2004).

Findings and implications from the literature review conveyed that professional learning communities require a cultural shift in the way in which teachers communicate, collaborate, and share ideas in order to build trusting relationships that enable them to examine and improve their professional practice. Secondly, teachers must understand the purpose and process of building and sustaining professional learning communities; therefore, they should have clarity of the purpose and expectations before undertaking such an endeavor. Next, principals must encourage teacher autonomy, and teachers should be given the opportunity to make decisions and changes in planning and delivering the curriculum. Additionally, principals should organize professional

development and training in working and functioning as a PLC. It cannot be assumed that teachers know how to work collaboratively to solve instructional dilemmas or know how to build the type of collegial relationships necessary to function as an effective PLC. Moreover, principals, district administrators, and state agencies must work together to structure time for PLC meetings in order to empower teachers to become action-oriented, solve problems, and to share results (Bernhardt, 2004; Buffum, 2009; Dufour, et al, 2010; Erkens, et al., 2009; Love, 2009; Tschannen-Moran, 2004).

Although the studies indicated that teachers benefitted from collaborative processes, all of the studies do not necessarily indicate a causation of changes or improvements in teacher practices or pedagogy over an extended period of time. The schools that experienced marginal success focused only on one aspect of a PLC, like data analysis or action research. However, the PLC process is multi-dimensional and involves a focus on learning, collaboration, and results that culminates into a culture shift with a shared vision. Therefore, more research is needed to assist schools in developing a culture that encompasses all three principles effectively. Moreover, as noted in these studies, if professional learning communities are just a part of what schools say, and not what they do, the impact of professional learning communities may produce insignificant and/or marginal results for teaching and learning (Aubusson et al., 2007; Brown, 2002; Nelson & Slavit, 2007; Thompson, et al, 2004; Wells &Fern,2008).

Chapter 3

Methodology

As educators across the nation strive to prepare students to compete in our global society, schools are searching for more rigorous reform initiatives, becoming outliers, and moving away from traditional approaches to improve teacher development and student learning. The professional learning communities model affords schools with the ability to build capacity among its existing staff in order to empower teachers to collectively make effective instructional decisions, explore research-based strategies to ensure that all students learn, design intervention plans that meet the needs of all students, and analyze student data to make informed decisions to enhance teaching and learning. This chapter sets forth the methodology used to explore the relationship between professional learning communities (PLCs) and instructional practices at Ocean Breeze High School, a school that was labeled as a Turnaround School by the North Carolina Department of Public Instruction at the end of the 2007 school year.

Type of Design

A qualitative methodology was chosen to conduct a case study of the impact of professional learning communities and instructional practices at a turnaround high school. This case study focused on a high school that has made significant growth in student achievement since the implementation of the professional learning communities' model at OBHS. This inductive methodology enabled me to gain knowledge through interviews, observation of PLC meetings, a document review, and classroom observations. This chapter specifies the rationale for choosing a case study design, participant selection process, site selection, informed consent, data collection procedures, data analysis procedures, instrument design, instrument validation, data treatment, data management, timeline, confidentiality protocols, and a summary.

The purpose of research is learning; it begins with questions that are answered by the researcher who collects data to answer the questions. Rossman and Rallis (2003) define data as "images, sounds, words, and numbers. When data are grouped into patterns, they become information. When information is put to use or applied, it becomes knowledge; then knowledge transfers into learning" (p. 4). Rossman and Rallis (2003) use the analogy of building a house to describe qualitative research, as illustrated in Figure 2. The data are the foundation, the information becomes the walls, and the knowledge becomes the roof. The builder and the researchers start with questions and end with a product that can be used in real life situations.
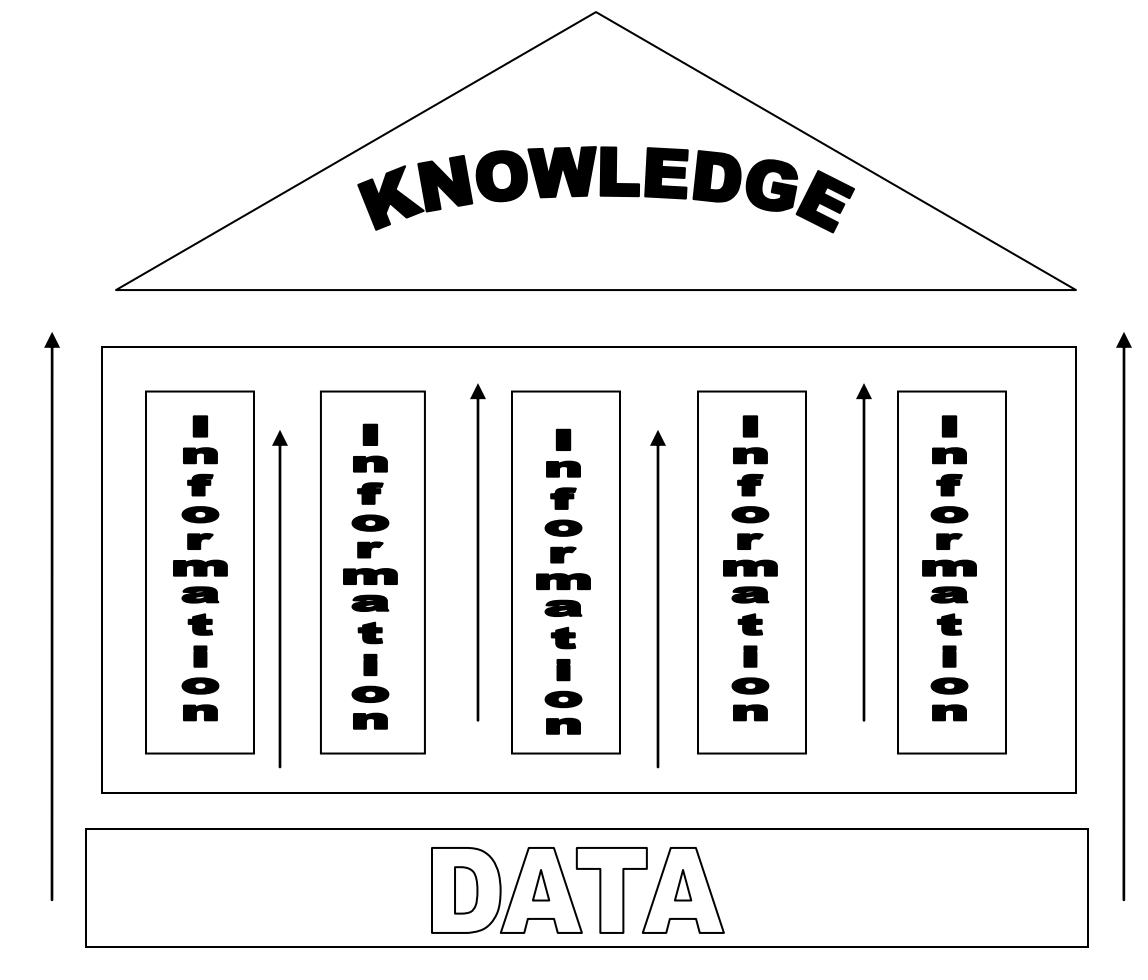
Figure 2. Building Blocks of Knowledge.

A case study design was chosen to investigate and describe a real-world phenomenon at a high school that has made significant improvements in student achievement as a result of implementing the PLC model. A case study design provides the researcher with authentic opportunities to gather first-hand or face-to-face data about a particular practice or experience. Moreover, it provides an opportunity to probe in order to gain a deeper understanding of the phenomenon through questioning, observing, and reviewing artifacts.

Yin (2009) stated that case studies contribute to our knowledge of individual, group, organizational, social, and political phenomena because they allow researchers to have direct

contact with the people involved in the events. He affirms, "A case study's unique strength is its ability to deal with a full variety of evidence to include documents, artifacts, interviews, and observations—beyond what might be available in a conventional historical study" (p. 11). Merriam (1998) distinguishes the case study method as particularistic, descriptive, and heuristic which encourages discovery, using inquiry to solve problems, and getting to solutions through trial and error.

This case study explored the implementation of professional learning communities and the relationship it has made on instructional practices at a high school that was once identified as a turnaround school by the state of North Carolina. Specifically, this case study examined authentic characteristics and practices of professional learning communities and the impact the model has had on teaching and learning at Ocean Breeze High School. The data collected were organized according to one overarching question and the three research questions; then, themes were extracted using four data collection methods: interviews, observing PLC meetings, conducting classroom walk-through observation, and a document review. The data were triangulated and used to share my findings, make implications, and discuss future research needed on PLCs.

Research Questions

Overarching question: How has the implementation of professional learning communities impacted instructional practices at OBHS?

1. How do teachers at OBHS address the instructional needs of all students?

2. How do teachers at OBHS collaborate, develop, and/or share lesson pedagogy, common assessments, and instructional best practices?

3. How do teachers and staff at OBHS use data to plan instruction and make decisions?

Site Selection/Sample

I discovered the case school after reading an article that highlighted the progress of Ocean Breeze High School and how they evolved from being a turnaround high school (achievement proficiency below 55 percent) to a school of progress (achievement proficiency between 70-79 percent) after two years. The article also stated that the school had grown from 48.6% to 87.5 % in two and a half years. The staff included the following initiatives that they felt attributed to their improvement: instructional leadership, formative assessment, bridge courses, focused interventions, professional learning communities, and on-going self-assessment. The school emphasized that PLCs had been a big part in helping them build a collaborative culture for continuous learning (Source Withheld, 2010).

Using the Dufour Framework, OBHS stated that they constantly reflected on four guiding questions of PLCs: "What do we want each student to learn? How do we know when each student has learned it? How will we respond when a student experiences difficulty in learning? How will we respond if students have learned?" (Source Withheld, 2010, p. 12). Teachers stated that they ask these questions in their content-alike weekly meetings. In addition, teachers mentioned that they receive a weekly e-newsletter from the principal that included focused instructional topics for them to dialogue about in their PLC meetings. Additionally, teachers felt that these reminders and conversations helped them share in developing solutions for helping all students achieve, as well as provide a systematic, timely, and direct intervention plan. The school reform coach concluded, "PLCs have broadened their scope to include discussions of

individual student performance, provided a forum for lesson studies, and a way to share best practices" (Source Withheld, 2010, p. 13).

After receiving approval from the Virginia Tech Institution Review Board (IRB) (see Appendix B), I contacted the school and spoke with the reform coach, who had written the article (see Appendix C). She was excited about the possibility of the school participating in the study and referred me to the school principal. Then, I contacted the school principal by telephone and by e-mail to discuss the possibility of conducting a case study at the school (see Appendix D). Soon after making the request, the principal provided a written response that the school would participate in the study.

Consequently, during the summer of 2010, the principal was promoted to Assistant Superintendent, and the reform coach received a position as assistant principal in a neighboring district. Therefore, at the beginning of the year, I contacted the new principal, who also granted me permission to conduct the study at the school. She put me in direct contact with the other reform coach.

Participant Selection

Participants were purposefully identified to participate in the case study. The criteria for identifying participants included administrators and teachers that had been at the school during the PLC implementation period from 2007 until the time that the study was conducted. Because of the three-year achievement growth from 2007-2010, I was mainly interested in gathering data from the three-year time period. For the interviews, I wanted participants to include two teachers from each core content-area, and any administrators that had been involved in the PLC process from the implementation period to the present. Therefore, the newly hired principal put me in

direct contact with the reform coach at the school; she was instrumental in assisting me with identifying participants that met the study requirements.

Informed Consent

I reviewed the guidelines related to ethics, consent, and permission procedures. Rossman and Rallis (2003) stated, "Gathering the informed consent of participants is crucial for the ethical conduct of research" (p.74). This was particularly important to protect the identities of the participants before conducting the interviews and observing PLC meetings. I completed all requirements outlined by the Virginia Tech IRB, including Human Subjects Training and received an approval letter from the IRB office granting me permission to conduct my study (see Appendix E).

After receiving written and oral written permission from the assistant superintendent (former principal), and verbal permission from the current school principal, dates were set for my initial visits to the school. Next, the reform coach assisted me with the logistics to conduct the data collection process. In an effort to identify participants and get informed consent, I e-mailed a recruitment letter, which included an overview of the study, assurance of confidentiality, and the methodology to the teachers and administrators. The reform coach assisted me with identifying teachers and assistant principals that had been at the school for the entire three-year study period, as well as, getting teacher representation from each core content area.

Before arriving to the school, the reform coach provided me with general information about the school: a map, a daily schedule, planning periods, and PLC meeting times. She also assisted me in organizing a pre-meeting with the participants, so I could explain the purpose and

provide an overview of my investigation and data collection. At that time, participants were given the informed consent forms to review.

Assurance of Confidentiality

Since a case study requires that the researcher be directly involved with the participants; I wanted the participants to feel that their names and comments would be held in confidence. During the meeting with the staff, I discussed that the methodology and data collection process to include interviews, classroom observations, PLC meeting observations, and document review. I explained that all participants would be assigned pseudonyms to protect their identity. A key was developed to identify each participant along with their pseudonym. All data were kept in a secure locked file caddy while I conducted the study at the school; the key was located in another locked file drawer. The interviews were audio recorded and the PLC observations were video recorded; both recorders were kept in a locked secure caddy at the school while I was conducting the study. Next, transcriptions from the interviews and PLC meetings were generated using pseudonyms. After the transcriptions were completed, a member check was conducted by e-mailing interviews and PLC meetings to each participant for their review.

Data Collection Procedures

The data collection process involved interviews, observation of PLC meetings, classroom observations, and a document review. All data collection methods are described in this section.

Interviews

Interviews were the main method of data collection. Seidman (2006) describes that at the root of interviewing is an in-depth understanding of a person's lived experience and how they

make meaning of that experience. Seidman (2006) also discusses how interviews provide an avenue of inquiry, one that is particularly suitable for educational organizations because they are best understood through the real-life experiences of the stakeholders such as teachers, students, administrators, parents, bus drivers, and librarians, who collectively work and live the condition that is being investigated (Seidman, 2006).

I developed interview protocol that outlined the process and procedures for the interview process. Prior to conducting the study, I validated the interview questions and interview protocol with members from the 2008 Virginia Tech Doctoral Cohort. The validation results indicated that there was a need to conduct a second validation for five questions. Therefore, I conducted a second interview question validation with members of the 2008 Virginia Tech Doctoral Cohort that enabled me to proceed with conducting a field study. The field study consisted of two math teachers and a principal at a school in Hampton, Virginia that had implemented PLCs in their school. Most importantly, the field study enabled me to further validate the interview protocol and interview questions (Appendix F).

After receiving notification from at least two teacher participants from each content-area that had been at the school during the three-year study period, individual interviews were scheduled with eleven teachers, two assistant principals, and the former principal (assistant superintendent). Interviews were conducted in a conference room near the front office during teacher's planning periods. I interviewed the former principal after school and the two assistant principals were scheduled between teacher interviews during the school day. Interview times ranged from 25 minutes to one hour and a half. However, the average interview time was thirty-five minutes. Interview data were transcribed and used to describe the findings. Actual quotes are indicated by numbered lines from the transcriptions.

Document Review

I conducted the document review of school artifacts in the same conference room as the interviews. According to factors for facilitating PLC meetings and effective implementation, Dufour (2010) shares that artifacts may include, but are not limited to: meeting minutes, job-embedded professional learning agendas, study group resources, reflection sheets, group norms, common assessments, common assessment data analysis, vision and mission statements, and SMART Goals. Based on the Dufour (2010) artifact examples, I created a table (Table 2) that included these components as well as the three PLC principles: learning, collaboration, and results. During the document review, I recorded the artifacts observed; and categorized them accordingly. Additionally, I made notes about the details, frequency, authenticity of meeting agendas, minutes from meetings, professional development agendas, lesson plans, and curriculum guides.

Table 2

Document Review Form

Artifacts	Principle #1 Learning	Principle #2 Collaboration	Principle #3 Results
	(Description/Consistency)	(Description/Consistency)	(Description/Consistency)
Meeting Agendas			
Meeting Minutes			
Norms			
Professional Dev. Activities (on site, workshops/ conf.)			
Common Assessments			
Data Analysis Forms			
SMART Goals			
References to Vision-Mission-Values			
Lesson Plans and Curriculum Guides			
Interventions			
Other:			

Observation of PLC Meetings

I observed one PLC meeting in English I and one math PLC meeting. I video recorded the PLC meetings in order to document procedures, collaboration among teachers, and group dynamics and norms. Pseudonyms were given to any new participants that were not interviewed. After the PLC meetings were transcribed, I e-mailed the participants a copy, and they had an opportunity to review the meeting dialogue that was captured. Quotes used from the PLC meetings are indicated by numbered lines from the transcriptions.

Classroom Observations

Classroom observations were conducted as a fourth data collection method to assist in triangulating the data. Before the observations, I invited two trained educational professionals to join me during the observations to aid with objectivity. By traveling to the classrooms as a group, it improved inter-rater reliability of practices observed. We conducted ten to fifteen minute classroom walkthroughs using the TeachScape (2009) Walk-through Form to observe trends in instructional practices. These classroom observations enabled me to compare and reflect on practices discussed during the interviews and PLC meetings to further discuss findings, summarize, and make implications.

The two trained educators and I had used the TeachScape (2009) form on previous walk-through observations at other schools prior to using it for this study. As shown in Figure 3, the TeachScape (2009) form outlines five major domains in effective classroom observations: focus on curriculum; focus on instruction; focus on the learner; focus on classroom environment; and responding to different learning needs. Downey (2008) also provides similar domains for walkthrough observations. For this study, I added three components to the form to reflect PLC

principles: ensuring that all students learn, collaborative culture, and a focus on results to help

me with triangulating the data. The results were recorded on the forms and were all compiled by

the observers to identify a snapshot of school trends and instructional practices; therefore,

individual teacher's names were not used as a part of these walkthrough observations.

TEACHSCAPE CWT STANDARD LOOK FORS

Date:	Course/Content:
Time:	Subject:
Grade:	Focus:

1. Focus on Curriculum

1a. What is the learning objective(s) for the lesson?

Objective(s)?

1b. Learning objective(s) is evident to the students (select one)

☐ Evident   ☐ Not evident   ☐ Unable to determine

1c. Learning objective(s) on target for grade-level standards (select one)

☐ Yes   ☐ No   ☐ Unable to determine

2. Focus on Instruction

2a. Identify instructional practices

☐ Coaching
☐ Informal assessment
☐ Modeling
☐ Providing opportunities for practice
☐ Discussion
☐ Lecture
☐ Presentation
☐ Teacher-directed Q & A
☐ None
☐ Hands-on experiences
☐ Learning centers
☐ Providing directions/instructions
☐ Testing

2b. Identify grouping format

☐ Whole group   ☐ Small group   ☐ Paired   ☐ Individual

2c-2d. Identify research-based instructional strategies (2c. Teacher, 2d. Student)

T	S	
		Identifying similarities and differences
		Summarizing/note-taking
		Reinforcing effort/recognition
		Homework/practice
		Nonlinguistic representations

T	S	
		Cooperative learning
		Setting objectives/providing feedback
		Generating/testing hypotheses
		Cues/questions/advance organizers

3. Focus on the Learner

3a. Identify student actions

☐ Listening
☐ Working with hands-on materials
☐ Reading
☐ Writing
☐ Speaking

3b. Identify instructional materials

☐ Computer software
☐ Lab/activity sheet
☐ Real-world objects
☐ Video
☐ None
☐ Content-specific manipulatives
☐ Overhead/board/flip chart
☐ Student-created materials
☐ Web sites
☐ Handheld technology
☐ Published print materials
☐ Textbook
☐ Worksheets

3c. Determine level(s) of student work

☐ Recalling information (Knowledge)
☐ Using information in a new way (Application)
☐ Putting information together in new ways (Synthesis)
☐ Understanding information (Comprehension)
☐ Breaking down information into parts (Analysis)
☐ Making judgments and justifying positions (Evaluation)

3d. Determine levels of class engagement (select one)

☐ Highly engaged—Most students are authentically engaged
☐ Well managed—Students are willingly compliant, ritually engaged
☐ Dysfunctional—Many students actively reject the assigned task or substitute another activity

4. Focus on Classroom Environment

☐ Materials are available in the classroom
☐ Routines and procedures are evident
☐ Students interact with classroom environment
☐ None
☐ Models/exemplars of quality student work posted
☐ Scoring rubrics are displayed/provided
☐ Student work displayed

5. Focus on the Needs of All Learners

The teacher is responding to specific learning needs through differentiation of:

☐ Content
☐ Learning environment
☐ Process
☐ Unable to determine
☐ Product

Figure 3. TeachScape Walk-through Form.

Data Quality Procedures

Validity

Silverman (2008) states, "Validity is the extent to which an account accurately represents the social phenomena to which it refers" (p. 289). Several instruments were used to gather data for the case study design. Interview questions were tested and validated by experienced educational professionals in the 2008 Doctoral Cohort at Virginia Tech. In addition, the questions were field tested by two teachers and an administrator. The PLC meeting observations were video recorded, which enabled me to go back and review the dialogue frequently and to transcribe the meeting accurately. I created the document review form based on the Dufour et al. (2010) recommendations of authentic artifacts of PLCs. Finally, the classroom walkthrough observations were recorded on the TeachScape (2009) form by each observer and the data were compiled to identify instructional trends at the school. All data were triangulated to identify findings discussed in Chapter four of this dissertation.

Finally, the PLC Continuums in the *Learning by Doing Handbook*, Dufour, et al. (2010, p. 42), were used as a tool to help me analyze the findings to effectively summarize the results, provide implications, and make recommendations for future research. The continuums are described separately with indicators using a five-point scale: pre-initiating, initiating, implementing, developing, and sustaining (Table 3). However, each PLC principle has specific indicators based on the principle and located in (Appendices G-H).

Table 3

PLC Continuum Overview

PLC Stage	*Level of Implementation*
Pre-initiating Stage	The school has not yet begun to address this principle or practice of a PLC.
Initiation Stage	The school has made an effort to address this principle or practice, but the effort has not yet begun to impact a critical mass of staff members.
Implementation Stage	A critical mass of staff members is participating in implementing the principle or practice, but many approach the task with a sense of compliance rather than commitment. There is some uncertainty what need to be done and why it should be done.
Developing Stage	Structures are being altered to support the changes, and resources are being devoted to moving them forward. Members are becoming more receptive to the principle, practice, or process because they have experienced some of the benefits. The focus has shifted from "Why are we doing this?" to "How can we do this more effectively?"
Sustaining Stage	The principle or practice is deeply embedded in the culture of the school. It is a driving force in the daily work of staff. It is deeply internalized, and staff would resist attempts to abandon the principle or practice

Internal Validity

Yin (2009) maintains that pattern matching can be used to strengthen internal validity. I triangulated the data collected in the case study and identified patterns and themes using the constant-comparative method to explain the findings and summarize the data. For the interviews, I identified key words from the participants' responses to generate themes. I color-coded key words such as team members, sharing ideas, formative assessment, planning time, pyramid of interventions, pacing guides, and principal support. During PLC meetings, the four Dufour, et al. (2010) questions were apparent as a part of the agendas, and both teams responded with appropriate subject-area answers to these questions.

Two trained observers and I conducted classroom observations to observe the PLC principles in action. The two observers held instructional leadership positions and were very familiar with using the TeachScape form. The classroom observations helped validate the statements and key words stated by staff in interviews and PLC meetings. When triangulating the data, I used the walk-through forms to compare and contrast instructional practices from class-to-class; then, referred back to the themes identified during the interviews and PLC meetings. Finally, the document review contained specific artifacts that helped me further triangulate the patterns from the interviews, PLC meetings, and classroom walkthroughs.

External Validity

The data collected in this study can be applied to other schools interested in improving teaching and learning through the implementation of the professional learning communities' model. The findings from this study were stated to reflect theory, previous studies and literature on the topic, and the data collection methods used in working directly with teachers and

administrators at the school. A linear-analytic structure was used to organize the literature as well as the methodology. Yin (2009) described this structure as a standard approach for case studies. Yin explained,

> The sequence of subparts starts with the issue or problem being studied and a review of prior relevant literature. The subtopics then proceed to cover the methods used, the findings from the data collected analyzed, and the conclusions and the implications from the findings. (p.176)

The methodology in this case study, enabled me to use the linear analytic approach described by Yin (2009) to compare and contrast theory on PLCs with the actual findings at OBHS. By using this method, I was able to determine whether my findings were consistent with the research and theories on PLCs, identify additional findings, make implications, and recommendations for future research.

Data Management and Analysis Procedures

All of the data collected from this study were stored under secure locked conditions at my home office. The legend to the names of participants was stored in a separate locked file cabinet from the data collected. The keys to the cabinets were stored in a secure drawer. During the data collection process at the school, the data were stored in two locked file carriers to separate the names of the participants from the data collected.

The data were organized and managed using Microsoft Office tools to assist me in organizing the data collected from the interviews, PLC meetings, classroom observations, and document review. By using four methods of data collection, I was able to effectively identify patterns and themes from the data and relate it to the research in the literature review. The

themes were identified based on repetition of responses during interviews; consistency of

dialogue and practices during PLC meetings; trends in classroom observations; and artifacts that

supported the implementation of practices at the school.

Summary

The methodology used in this study provided personal stories and experiences of teachers

and administrators at Ocean Breeze High School. Each interview provided a wealth of

information and knowledge of individual point-of-views of the implementation of PLCs as well

as the impact it has made on individual and team instructional practices. The PLC meetings

enabled me to observe two teacher teams collaborate about their practices and make instructional

decisions about students learning. The document review provided evidence of artifacts and

resources discussed in the interviews and PLC meetings. Finally, the classroom walk-through

observations triangulated comments from the interviews, conversations in PLC meetings, and the

artifacts in the document review to help explain the findings, summarize the data, make

implications, and recommendations for future research regarding the relationship between PLCs

and instructional practices.

Chapter IV

Findings

This case study examined how the implementation of PLCs has impacted instructional practices at Ocean Breeze High School (OBHS) after it was designated by the state as a turnaround high school at the conclusion of the 2006-2007 school year. The data collected describe the PLC implementation efforts and changes in instructional practices from 2007 to 2010.

School Background

Ocean Breeze High School (OBHS) is located in the southeastern coastal region of North Carolina. There are three traditional high schools, one of which is OBHS, one non-traditional early college high school, and an alternative learning academy in the district. In 2010, there were 800 students with 65 teachers employed at the school. One hundred percent of the classes are taught by highly qualified teachers; however 95 percent were fully licensed (a teacher can be considered highly qualified with a provisional license if they are working on completing requirements to become fully licensed). Twenty-three percent of the teachers had advanced degrees, plus there were four National Board Certified Teachers on staff at the time of the study. The experience of the teachers was as follows: 20% had 0-3 years; 31% had 4-10 years; 49% had more than ten years experience. The teacher turnover rate was 6%.

The school building appears to be in good condition; the entrance is aesthetically welcoming. A front wing addition has been added since the original construction, which includes administrative and counseling offices, as well as a hall for science classrooms with lab areas. The building and grounds are clean; the school has received the Clean School Award several times as well as been recognized as a Super Safe School. OBHS has a strong athletic

reputation and eminence for sports, and has won several track and football state championships. For many years, the school has operated and been structured on a 4X4 block semester system. Student achievement at the school had not progressed over the past decade, which resulted in the school being identified as a turnaround high school. Additionally, a new principal, Randy Griffin, was hired in 2007 with the charge to lead the school out of turnaround status and improve student achievement. The academic profiles of the school, district, and state during the 2007-2010 academic years are highlighted in Table 4.

As a result of having to design a Turnaround Plan for improvement, the School Improvement Team re-addressed their core beliefs of the school. The following quote was taken from the plan:

> We, the faculty at OBHS understand that students learn in different ways. We believe that if students are given quality, engaging work and instruction that meet the school's curriculum, learning will greatly increase. Each student succeeds every day. OBHS will do whatever it takes to provide a rigorous education that empowers each learner to become a responsible, productive citizen in a diverse and changing world (SIP, 2010, p. 2).

Table 4

School Profile 2007-2010

OBHS School Profile	2007-2008			2008-2009			2009-2010		
	OBHS-District-State			**OBHS**-District-State			**OBHS**-District-State		
Average High School Enrollment	817	842	854	794	833	826	800	851	792
Average Class Size in EOC Courses	17.2	15.9	17.6	16.9	16.0	17.4	14.2	13.6	15.0
SAT Participation	32%	42%	63%	27%	32%	63%	33%	37%	63%
SAT Average Score	944	1,003	1,007	915	986	1,006	905	1,001	1,008
Four-Year Cohort Graduation Rate	77.1%	72.5%	70.3%	82.3%	74.8%	71.7%	84.4%	76.2%	74.2%
Specialized Enrollments: (AP, IB, C. College, University Courses)	2%	2%	4%	1%	3%	5%	1%	3%	5%
Specialized Enrollments: (Career and Technical Courses)	15%	16%	15%	14%	15%	15%	15%	15%	15%
AYP Results	13/17 Targets Met			17/17 Targets Met			17/17 Targets Met		
Designation/Growth	Expected Growth <u>Not</u> Achieved			School of Progress Expected Growth			School of Distinction High Growth		
EOC Composite Data	65.8%	70.0%	68.4%	73.1%	76.6%	71.4%	89.0%	87.0%	80.1%

Participants

I interviewed fourteen participants for the study. Three participants were administrators while eleven participants were teachers. I also observed two PLC meetings, and conducted classroom walk-through observations. The participants are listed below: all of the names have been changed to pseudonyms.

Administrators

Principal Randy Griffin - He has been in education for 40 years, and had previously taught for 22 years at OBHS. He has spent 18 years in administrative roles, and was principal of OBHS from 2007-2010. He currently serves as the assistant superintendent in the district, and continues to communicate with the teachers and staff at OBHS.

Assistant Principal Jane Kelly - She was employed as a restaurant manager prior to becoming a teacher, and has been in education for thirteen years. She taught for eight years and has been an assistant principal at OBHS for five years.

Assistant Principal Keith Conway - He has been an educator for 42 years a teacher as an assistant principal, principal, human resources director, and special assistant to the superintendent. He has worked at OBHS for four years as an assistant principal.

Teachers

Amy Askew - She is a cultural arts teacher with eighteen years of teaching experience; four years have been at OBHS.

Betty Barnes - She is a social studies teacher with five years of experience; all five years have been at OBHS.

Christy Castelloe - She is an English teacher with twelve years of experience; eight years have been at OBHS.

Don Davidson - She is a vocational teacher who has worked in industry for twenty years prior to becoming a teacher. He has been at OBHS for 10 years.

Emma Everett - She is an English teacher with nine years of teaching experience; all nine years have been at OBHS.

Frank Freeman - He is a social studies teacher with nineteen years of teacher experience; five years have been at OBHS.

Ginger Goldman - She is a science teacher with five years of teaching experience; all five years have been at OBHS

Heath Harrell - He is a science teacher with twelve years of teaching experience; ten have been years at OBHS

Jessie James - He is a cultural arts teacher with eleven years of experience; six years have been at OBHS.

Laura Lee - She is a math teacher with six years of experience; five years have been at OBHS

Michael Melton - He is a math teacher with five years of experience; all five years have been at OBHS.

PLC Meeting Participants

I observed two PLC meetings. One PLC meeting was in English I and the other in mathematics. Both meetings had four participants in attendance. The English participants are

referred to as Christy Castelloe, Emma Everett, Danielle Duncan and Rita Raeford; Martha Moore was absent from the English meeting. The math participants are referred to as Laura Lee, Michael Melton, Nancy Norman, and Stephen Smith; Thomas Turner, Victor Vann, and William Walden were absent from the math meeting. Background information was not collected on the participants for the PLC meetings or classroom observations; only those who were interviewed.

Classroom Observation Participants

There were 14 classroom walk-through observations conducted by the researcher and two trained observers. The purpose of the walk-through observations was to identify school-wide trends in instructional practices, and to triangulate data from the interviews, PLC meetings, and document review; therefore, teachers' names were not recorded on the Walk-through Forms. Prior to the interviews, PLC meetings, classroom walk-through observations, and document review all participants signed an informed consent form before becoming involved in the study.

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Research Questions

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Data collection included interviews, observing PLC meetings, conducting classroom observations, and analyzing artifacts through a document review. The research questions investigated in this study were:

Overarching Question: How has the implementation of professional learning communities impacted instructional practices at OBHS?

1. How do teachers at OBHS address the instructional needs of all students?

2. How do teachers at OBHS collaborate, develop, and/or share lesson pedagogy, instructional best practices?

3. How do teachers and staff at OBHS use data to plan instruction and make decisions?

I organized the data collection according to the research questions. Then, I derived common themes using the constant-comparative method as described by Yin (2009). There were eight themes that emerged from the research questions based on multiple participant responses. I categorized themes based on comparable responses from teachers and/or administrators from interviews and PLC meetings; and/or conversations from classroom observations and artifacts from the document review.

Research Question 1: How do teachers at OBHS address the instructional needs of all students?

In order to make the vision, mission, beliefs, and goals a part of ensuring that all students learn, staff shared that PLCs have to become embedded as a school-wide initiative. Further, these characteristics cannot be achieved through isolated pockets, random meetings, and implemented in a few departments. This cultural shift is achieved through collective collaboration among administrators, teachers, counselors, and support staff. The themes that emerged from this research question were the development of common instructional guides and the implementation of a school-wide pyramid of interventions.

Common Instructional Guides

One of the main ways that teachers ensure that all students learn is to participate in the development of common pacing guides using the North Carolina Standard Course of Study as a guide. Common instructional guides provide the what, when, and suggested methods to deliver instruction, so that all students are provided with an equal opportunity to learn using the state

adopted curriculum. Common instructional guides emerged as a theme during interviews, PLC meetings, classroom observations, and the document review.

 During the interviews, teachers shared that the district provides a time for them to get together during the summer to create district pacing guides. Teachers from the other schools are involved in this process and teachers' collaborate on what it is that they want students to learn, how they will approach instruction, what resources they will use, and how long it should take to teach a particular goal or objective. In addition, teachers added that during PLC meetings, they discuss their pacing and what they want students to learn according to state goals and priority objectives that are tested on the North Carolina End-of-Course Test. For example, during one interview, Laura Lee states,

> We make sure we are following the pacing guide because you do not want to be a teacher that is teaching a unit that is actually not in the curriculum or not tested. We make sure that all teachers in our department are aware of what they are required to teach, and we try to help each other. (Lee, 29-33)

Similarly, Betty Barnes adds,

> The summer that my colleague and I sat down and did the curriculum support document together that made a huge difference in my students' learning. I mean my test scores went up probably 20-30% that year. It was tremendous, and I think it was just because we weren't doing it alone, we sat down together, we were reflecting together. If I wasn't sure maybe about how to do something, maybe she had an idea and vice versa. If I had something I was strong at, then I would work on that and she would work on something else. The collaborating together just made such a huge difference. I just feel like we

were able to create something that was so much better than we could have created on our

own. (Barnes, 327-328).

Throughout the interviews, teachers acknowledged the importance of planning together.

They especially took ownership of the process of creating common instructional guides because

they had an opportunity to develop them, provide input, and share their instructional strengths.

During Principal Griffin's interview he shared that because teachers are discussing to pacing

regularly in PLC meetings, the instructional guides have become a living document instead of a

notebook that sits on the shelf.

The use of common instructional guides was also a common thread of discussion during

PLC meetings. The English department PLCs meets separately. The English I PLC meeting

participants included two ninth grade teachers Christy Castelloe and Emma Everett, the reading

teacher Danielle Duncan, and the instructional coach, Rita Raeford. Martha Moore, another

English teacher, who also served as the softball coach, had a make-up game and was absent from

the meeting. Christy Castelloe facilitated the meeting and followed an agenda, which included

the four Dufour et al. (2010) questions: "What do we want our students to learn? How will we

know if they have learned it? How will we respond if students experience difficulty in learning?

How will we respond if students already know it?" (p. 2). She asked the teachers to provide an

update of what they were teaching by sharing what they wanted students to learn. Each teacher

responded by indicating what they were currently teaching. In Martha's absence, Christy shared

that the two of them had been communicating, and that their instructional pacing was closely

aligned. The teachers concurred that they were on the same objectives from the North Carolina

Standard Course of Study (NCSCS) and also identified how soon they would finish that

particular section in order to prepare for the upcoming nine weeks benchmark assessment.

Christy checked with teachers to clarify if they had already provided students with an opportunity to log-in and take a quiz using ClassScape, the on-line program in which the benchmarks are created and administered. Based on teacher responses, they were within two days of when they were going to administer the benchmark test. They also discussed the process in which they would administer the test, which included accommodations for students with special needs, and assignments for students who finished early.

Throughout the English I PLC meeting, teachers referred to relevant goals and objectives that were pertinent to students' success on formative assessments, benchmark tests, and the End-of-Course Test. Teachers also discussed strengths and weaknesses of their students based on reviewing results from a recent common assessment. They also discussed specific teaching strategies that coincided with what they were currently teaching, as well as how they would go about re-teaching the objective. The following quotes are examples of the type of conversations that occurred during the English I PLC meeting that relates to using common instructional guides and plans to ensure that all students learn.

> I agree with Christy that focusing on a T-Chart would be better to get students to focus on two characters with Mrs. Jones and Roger and have them list examples of direct and indirect characterization. (Everett, 108-110)

> I wonder if we did this characterization lesson, the reassessment, and then looked at where we were, I think that would be a good place to start looking at descriptive writing. Describe incidents, describe people, and places. I have a writing activity lesson that is a description of place and it's based on an essay about New York. It's in their textbook. (Castelloe, 202-205)

I was thinking about that question of characterization and author's purpose, and really

getting them to think about what if the story was written from a different perspective.

Like what couple of texts could we put together maybe as an additional enhancement for

kids that have learned it? What two texts could we use together to get them to think a

little bit more deeply about author's purpose (Raeford, 237-241).

During the English I PLC meeting, teachers shared ideas back and forth that supported

the state curriculum. Teachers discussed best-practices to use when students do not learn such as

re-teaching and reassessment strategies, as well as extension activities to incorporate when

students have already learned. All four participants at the PLC meeting provided input, asked

questions, and shared ideas about teaching and learning.

The math department does not separate by specific subject areas; instead, all of the

different math subject-area teachers meet together. This enables them to have vertical

conversations about math concepts and related content. On the day of the math PLC meeting,

four teachers were present Laura Lee, Michael Melton, Nancy Norman, and Stephen Smith.

Thomas Turner was absent from school that day, and William Walden who served as the

baseball coach, had a make-up game. The department chair Laura Lee facilitated the meeting

and had an agenda that addressed the four Dufour (2010) questions.

Similar to the English I PLC meeting, the math teachers answered the question, what they

wanted their students to learn by providing an update of what they are currently teaching

according to the pacing guide. Michael Melton responds,

In Algebra II, we are finishing up polynomials. We did applications today with the

volume of a box, so I am looking at testing on Wednesday. I think William should be

about there too. After polynomials, we get into quadratics and higher degree. For this week, it will be just finishing up polynomials. Since we have a half-day on Thursday, we have planned a mini-lesson on properties of quadratics (Melton, 18-22).

All teachers shared in a round robin method and provided an update of what they want students to learn based on goals and objectives that have been identified according to state goals outlined in their pacing guides. After several teachers have shared, Laura Lee adds, "O.K., I think it's one of the good reasons why we all meet together, it's nice to know where everyone is at; especially so we will know how to help each others' students in tutoring" (Lee, 78-79).

During the math meeting as teachers shared what they want students to learn, teachers discuss how different objectives align vertically, and the objectives that students need to know for formative and summative tests as well as skills needed at the next levels in math. For example, Laura Lee shared,

> I can show my students a problem that looks like a matrix, but it's actually a linear regression problem…or look like a matrix, but it's a solving for "x" problem. So they don't really understand that sometimes. So, I want my students to understand matrixes are important, but there are other problems that are represented to look like a matrix. (Lee, 29-34)

Stephen Smith added, "They do the same thing when they come to geometry, they say that they love matrices, and they want to know where it is in geometry" (35-36). Michael Melton stated, "When they get to me in Algebra II, they hate matrices because then they have to memorize all of them in geometry…so they have a bad taste when it comes to matrices" (37-38).

The math PLC meeting enabled teachers to discuss content relevant to what students needed to learn. Also, teachers discussed strategies on how to assist teaching students in solving problems. The agenda was organized and provided all teachers an opportunity to share teaching experiences as it relates to student learning, and ask other teachers for assistance with unfamiliar content, or strategies in which they needed to re-teach or reassess student learning. The math meeting and the English meetings were organized, and the environments were conducive for collaboration and problem-solving.

The theme of common instructional guides presented several artifacts and documents that support student learning throughout the school. These artifacts and documents were discussed during the interviews, PLC meetings, or were visible during the classroom walk-through observations. For example, during the document review, I had the opportunity to review several content-area pacing guides. These guides included goals and objectives from the North Carolina Standard Course of Study (NCSCOS), activities, resources, and number of days to teach. In PLC meetings, teachers discussed what they wanted students to learn based on where they were on the pacing guides in order to develop common assessments and prepare for district developed nine-week benchmark assessments. During classroom observations, content-alike teachers had the same objectives posted, which delineated that they were following the same pacing guide.

I discovered that the use of instructional guides was apparent during all data collection methods. Teachers mentioned the use of pacing guides during the interviews, and teachers discussed and compared lesson pacing during PLC meetings. Common pacing and planning was evident from classroom to classroom during classroom observations based on objectives posted, which also correlated with the teacher's lesson presentations. Additionally, during the document

review, instructional pacing guides were available for my viewing and included course goals, objectives, activities, resources, and a timeline for teaching.

During classroom observations, the two observers and I noted that all teachers used the North Carolina Standard Course of Study to plan and set objectives for learning. Secondly, all of the classrooms had an appropriate grade-level objective posted on the board so that it that was visible for students. Likewise, the objectives posted were evident in the teachers' instructional delivery, and when asked, the students were able to articulate the objective or what they were learning for the day. Moreover, most students were able to explain the purpose of the lesson and their rationale for learning it.

The classroom observations yielded evidence that teachers know what they are suppose to teach, they teach content to support the learning objectives, and students are aware of the objectives that they are to learn. Similarly, the learning objectives were consistent from class to class in most content-alike areas. The observers and I noted this because the objectives were posted in classrooms and that the objectives correlated with the content being taught.

Also during classroom observations, the two observers and I noted that the instructional approach used most common by teachers was providing students with opportunities for practice. Summarizing and note-taking was observed most frequently as a research-based strategy, along with teacher directed question and answer, class discussions, and lecture, which were the most observed mode of instructional delivery. Next, modeling and informal assessments were observed at a moderate level, and hands-on instruction was observed at a nominal level. Correspondingly, whole group instruction was observed at a high level, and worksheets were noted as the highest used instructional material or resource utilized.

Pyramid of Interventions

The second major theme that was identified from the data collection related to research question 1 was the development of a pyramid of interventions (Figure 4). The staff developed a pyramid of interventions to better assist and personalize support for all students. General supports include bi-weekly progress reports, tutoring, math hub, and ZAP (Zeros Aren't Permitted), CAPS (Counseling and Progress), and credit recovery. As the pyramid moves upward, the interventions become more focused and individualized to meet students' needs.
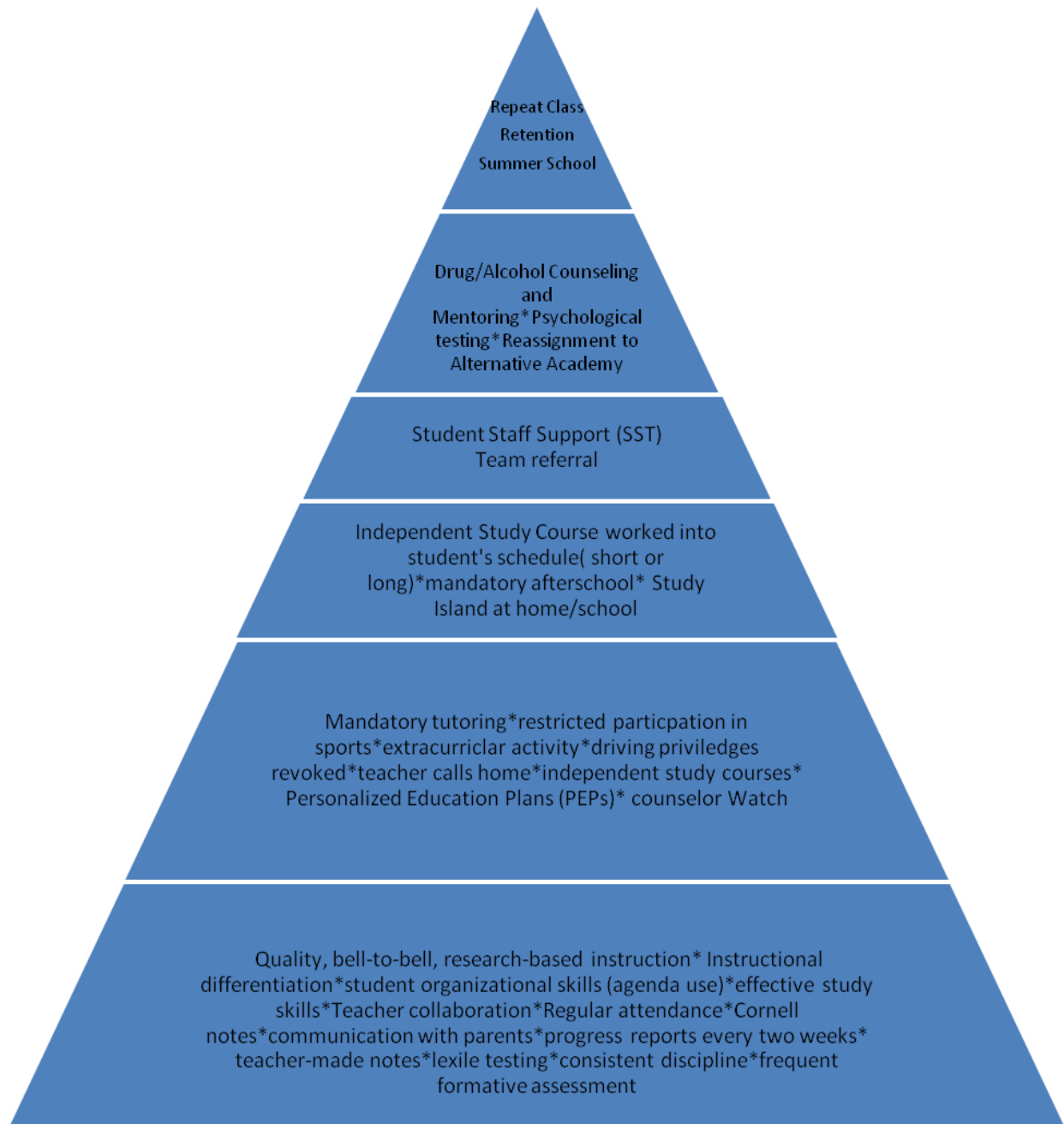
Figure 4. OBHS Pyramid of Interventions.

One of the most effective intervention strategies mentioned by teachers at OBHS was administering bi-weekly progress reports. Teachers issue these on-going progress reports every two weeks. Students that have below a 77 on their progress report or have missing grades are assigned mandatory after tutoring or SMART Lunch in which they must work during lunch to get their assignments completed. If students play a sport, then they must attend SMART Lunch or stay after school to complete work or receive tutoring before going to practice. Assistant Principal Jane Kelly shared that the coaches play a vital role by using the 77 List to check all the tutoring hubs after school to make sure that their players were where they need to be. In addition, the staff has tried all kinds of interventions to get students to focus on academics. For instance, Assistant Principal Jane Kelly expressed,

> If you drive a car, well you're not going to drive anymore if you're below 77 and you're not coming to tutoring. So we just had so many things in place that were making sure that, you can decide to be lazy, and you can decide not to come to school and you can decide not to do your homework, but we're going to tag you and we're going to get you and we did. And we really had them going…and I think just the showing the child that they mattered so much that we were going to nag them to death really until they turned it around. (Kelly, 127-133)

Teachers also shared that the bi-weekly progress reports are used to keep students and parents notified of student performance. It assists staff in identifying students for on-going interventions such as the 77 and below list. This intervention helps target students that need additional support.

Another component of the pyramid is CAPS (Counseling and Progress), which was mentioned by several participants and includes the homeroom teacher meeting and advising with students and parents to review transcripts, grades, and student performance. Each homeroom teacher remains with the same group of students for four years. To assist teachers in preparing for advisory meetings, Assistant Principal Conway explained,

> We use all kinds of data here. I pull end-of course test scores, transcript data, grades, courses needed for graduation, and I put them on a excel spreadsheet. I keep the data sheets updated, so if a teacher wants to see what their kids have done previously, I can pull the data out of N.C. Wise, our school database, and do a "V" lookup. This allows me to give them a list of every score and grade that the student has made since 8th grade. We use this data to help us with scheduling and planning interventions. (Conway, 227-232)

Also, AVID (Advancement Via Individual Determination) is a national intervention that the school uses to promote student success and college readiness. Emma Everett, an AVID teacher shares, "Although we don't have the freshman seminar class anymore, I continue to partner with teachers of students in AVID to make sure that they are successful in their classes" (Everett, 39-41). Another intervention that teachers shared have made a difference is credit recovery through Nova Net, a computer-based curriculum in which students can earn credit for courses that they have failed in order to graduate with their cohort class. All administrators and teachers exclaimed that this has helped increase their graduation rate.

Teachers shared that the pyramid of interventions provided a structure for students and staff to implement resources and services that are available. There are several levels of the

pyramid depending on students' needs and areas for improvement. It provides a reference for staff of what and when to implement various interventions and programs to keep all students moving forward, preventing them from getting lost, or overlooked in the system. This system has been organized to alert counselors, administrators, and parents when students are not performing and includes procedures on how to help students.

Additional interventions for the pyramid include the development of Personalized Education Plans (PEPs), bridge or foundation courses, school and professional counseling, psychological testing, and school placement meetings. Christy Castelloe stated,

> The overarching idea is personalization and taking it one student at a time; using the motto of whatever it takes. We have three main ways that we personalize for our students: we do formative assessments which are common among content areas (Castelloe, 25-28). She added by saying, then we actually do student interventions and enrichments through our pyramid of interventions, and the last thing is having PLCs, where we do meet. (Castelloe, 32-34)

Similarly, Assistant Principal Jane Kelly shared that the school put in quite a few programs that they didn't have prior to PLCs, like the ZAP program (Zeroes Aren't Permitted), which forbids students to accept a zero for not turning in an assignment. She states,

> Teachers are not allowed to put a zero in a grade book because it's more punitive rather than assessing what they know. If you take a student with an "A" average with one zero and you've got five grades, it looks like you're a "C" student and you're not. (Kelly, 88-93)

Kelly further shared that parents were notified through an electronic calling system that their child had been zapped. ZAP helps students because they are required to do the work and learn the material during SMART Lunch or after school.

The interventions mentioned on the pyramid included classes in which students received additional support during the day such as math and reading seminars. Also, after school tutoring in content-areas and a Math Hub where several math teachers meet to assist students in one room, which is available two days after school. During interviews and PLC meetings, teachers stated that the purpose of these interventions were to provide opportunities for students to gain information and reinforce gaps in learning. Additionally, these structures gave students exposure to learn from various teachers, not limiting them to their regular classroom teachers.

For this research question, several artifacts supported the Pyramid of Interventions as a theme for this study. First, the pyramid of interventions has six levels and included several initiatives that are designed to assist students improve their learning. Several artifacts on the pyramid included the Zap List, which included a spreadsheet of the number of students who participated in the program, the number of students that had been reassigned, the number who completed assignments, percent completed, and percent that did not complete the requirements. Also, the Counseling and Progress (CAPS), document consisted of a spreadsheet that included a space for student's names, parents' names, contact information, and historical EOC data for each student. These documents were mentioned by teachers and administrators during interviews to assist in planning, counseling, scheduling, and providing instruction for students.

Other artifacts that supported the pyramid included a reading survey that teachers administered to students to better assist the school in making literacy a priority. As a result,

students received additional support during the day through a reading seminar class taught by a reading teacher. Additional artifacts included Math Hub sign-in sheets, general tutoring procedures, and SMART Lunch attendance were also included. PEPs (Personalized Education Plans), sample progress reports, and the number of discipline referrals were also included during the document review as evidence to support the Pyramid of Interventions.

Research Question 2: How do teachers at OBHS collaborate, develop, and/or share lesson pedagogy, and instructional best practices?

Effective PLCs build capacity for a collaborative culture. The themes that emerged from this research question were principal leadership, teacher leadership, and commitment to PLC meetings. These themes became evident through the data collection of conducting interviews, observing PLC meetings, conducting classroom observations, and a document review.

Principal Leadership

During interviews, Principal Griffin stated that he presented the concept of professional learning communities to teachers by sharing his personal leadership experiences as well as learning about the concept by reading books, articles, and research related to collaborative practices and PLCs that are specific to teaching and learning. Although teachers did not have common planning, they concurred that the principal helped transition the school into a collaborative culture by providing structure for PLC meetings, by sending out weekly e-newsletters and e-mails, and sharing materials and resources to help them grow as professionals. Often times, teachers were required to read research-based educational articles, watch a video, or participate in a webinar on instructional practices to discuss in PLC meetings.

Principal Griffin also gave teachers the autonomy to conduct their own PLC meetings, but required the focus was on teaching and learning. After PLC meetings, department chairs were responsible for e-mailing the administrators with meeting minutes and questions that may have raised some discussions. The teachers expressed that the principal and/or administrators would read these minutes and provide regular feedback. The teachers stated that they found this feedback to be helpful and supportive of their efforts to implement PLCs, which encouraged them to follow through with meetings even when it wasn't always convenient. Moreover, administrators and teachers alike stated that during the implementation period, administrators attended PLC meetings often.

During the interview with Principal Griffin, he shared that soon after accepting the position as principal at OBHS, the school was identified as a turnaround school. Then, he received a letter from the Department of Public Instruction explaining the importance of improving student achievement; hence, he had a better understanding of the urgency to move the staff in a new direction. At the time that he introduced PLCs to his staff, he stated that he had not received any formal training. However, he did share that he had been leading schools in collaborative practices for many years before the term PLCs became popular. Once he recognized that the term PLC was very similar to the method in which he had experienced previous success, he wanted to learn more about the concept and the research that corresponded with it. As a result, Principal Griffin went on a quest to read articles and books on PLCs until he felt like he had become saturated in the literature that supported the entire philosophy. During his self-initiating process of learning, he stated that he learned most about the incorporation of regular and consistent, formative and common assessments.

To address the requirements by the NCDPI and Judge Manning, he met with the School Improvement Team. Principal Griffin shared the idea of creating an original turnaround plan, instead of buying an existing program. He stated that the team was eager to create their own plan, which provided an opportunity for many teachers to take on leadership roles by developing this new plan, self-assessing their school needs, and conducting professional learning within departments and school-wide. Additionally, Principal Griffin expressed that many of the teachers were motivated and empowered to make their school better.

Assistant Principal Keith Conway shared,

> We could have hired a consulting firm or we could have created our own plan. Mr. Griffin got the teachers together, so that they would have some buy-in to the plan. We all thought it would be better to develop our own plan, rather than having someone impose one on us. This was the impetus that started the change. (Conway, 65-68)

Principal Randy Griffin also stated that the process of becoming learning teams took time. He discloses that at first teachers weren't believers because they had already gone through several initiatives, and that this was just one more thing that they had to endure. He also admits to having sleepless nights about requiring that teachers do this and then it not work. Consequently, he stated,

> Teachers were not believers of the process until they saw how many percentage points that students had grown. The first year, we went from 49%-68% proficiency. We had the largest increase of any turn-around school in the state. Then, they began to realize the impact of planning together, observing other teachers, and sharing lesson ideas in PLC meetings. (Griffin, 181-185)

Also, during the interview, Principal Griffin reflects back to a story that he shared with the staff:

> You know the real interventions have to be with you. What are you gonna do in the classroom? The power of the PLC is that you've got each other… you've got people that can help you. If you put your heads together; collectively, you're all gonna benefit and be able to come up with a lot better ideas than sometimes you can individually. That's the power of PLCs, and I operated under the philosophy that we have stars in our school, our teaching stars. We have those people we call the backbones that are here every day, and they work hard, and they may not be very creative but they do a real solid job. Then we got some down here that, for lack of a better term, are the mediocres, and what we want to do is to have the stars help bring everybody up to that level. And I always used the example of Michael Jordan who played with the Chicago Bulls for six years, and they had never won a NBA World Championship, but he had won all kinds of individual awards. Phil Jackson, a coach, came in and said Michael, in order for us to win a World Championship you're gonna have to make those players around you better. You know, guys like Scottie Pippen and Dennis Rodman and those, you're gonna have to raise the level of their play. Will you do that even if it may mean sacrificing some personal glory? He said, I will. Well, he did and he still continued to be a scoring champion, you know, MVP and all that kind of stuff, and he did that by focusing on making those players around him better. As a result, they won six World Championships. I tell teachers, that's what happens as a team, you know, you raise the level of all of you because of your collective wisdom. I would say to them, we spend thousands and thousands of dollars on professional development; and we've sent you all over the place for professional development. Very little of it gets transferred to what actually happens in the classroom.

Now's the time in your PLCs to share what you've learned over the years in professional

development. And that's when it truly is beneficial because, yeah, let me tell you about

this idea I picked up last year at the math conference. You know, let's try that. So, those

were the types of conversations that we were hoping that came out of, you know, looking

at that data and seeing which kids hadn't made it. (Griffin, 546-575)

The principal also shared that he gave the teachers the autonomy to choose their meeting

day and time, he did provide them with a basic outline for conducting PLC meetings that

included the four Dufour, et al. (2010) questions as well as other topics that he felt warranted

discussion. Consequently, he acknowledged that teachers didn't always like this structure and

they expressed boredom with responding to the four questions; however, he held steadfast to

monitoring that PLCs focus on teaching and learning. He shared,

Things started to happen when teachers started sharing lessons and observing each other.

We had a math teacher that went out with an emergency appendectomy, and the math

people came to me and said we know you want -- you're gonna get a sub for the class,

but we don't want a sub teaching the class. We're gonna go in there and teach it during

our planning time, and they did. For four weeks, they taught all of his classes, three

Algebra I classes; they rotated in and out of there during their planning. I didn't tell them

to do it, but they were making that commitment. They said, we're committed to every

Algebra I student. Not just my kids or your kids, we're committed to all of them.

(Griffin, 188-195)

During the interview, the principal often conveyed high expectations for the staff in ensuring that teaching and learning be maintained as the focus for the school. Jesse James reflects back on a principal directed professional learning activity.

> The principal had us interviewing our classes with one another and then we had a faculty meeting. We sat at different tables and we had to collaborate and put together a unit and talk about how my art class would work with the math class, with the science class, and work in physical education. We would plan a unit together and assess student data at the end. (James, 299-303)

> Also, there have been times when my team members and I would go to the office and ask to cover a certain teacher's class when they were out instead of getting a substitute. We interacted with the students and found out what they were working on. We then took some of that information and implemented it in our lessons or units to teach in our classrooms. (James, 309-313)

Principal and administrator leadership was identified as a theme by teachers and administrators. Teachers shared that when administrators came to meetings, their presence was non-threatening, and they appreciated having them involved in the process to provide input as needed. Similarly, administrators shared that when they attended PLC meetings that they were non-obtrusive; therefore, allowing the teachers to lead and direct their discussions.

Teacher Leadership

Teachers at OBHS lead their own PLC meetings and make decisions about instructional practices and interventions. By taking ownership of teaching and learning, they were able to assess their own needs, create, and lead job-embedded professional learning. For example,

teachers conducted a school-wide survey of professional development needs, then, these needs were categorized and prioritized according to the survey responses. Teachers were then polled to find out who had expertise in these particular areas. They also conducted research and provided resources when they conducted professional development sessions at staff meetings. These sessions were about 30 minutes each and provided teachers with information, materials, and resources to improve instructional practices. Christy Castelloe shared comments about this type of teacher leadership.

> One that really stands was one of the math teachers who had never really taken any leadership and had never done that much outside of the classroom. He was in his first three years of teaching and we did some pullouts and small groups around. He did such a fantastic job of showing us some real good strategies that he had experienced in working with students with special needs in the math classroom and it totally impacted all the teachers…and we thought that is cool, and I can totally do that. He got to feel like a leader, and we got to see him as a leader. That happened for every teacher on staff with the exception of me and another teacher because they had heard our voices enough. It gave the whole staff a chance to share and learn from each other. People take it so much better like that, than when we pay lots of money for outsiders to come and talk to us. (Castelloe, 299-308)

Another example that teachers shared was when a group of teachers went to the North Carolina Teacher Academy, a non-profit, teacher professional development agency, to receive PLC training. This team of teachers received the training and then came back to train other teachers on staff. Teachers stated that this type of train-the-trainer model was accepting by staff because they knew that the teacher trainers were able to take the information and apply it directly

to their school needs, as well as eliminate the information that was not pertinent to their situation. For example, Don Davidson asserted,

> If one of our teachers says that this would be good for high school teachers and our school, it means more because they are thinking about our population. The teachers here already know what we're doing and they are able to filter down information because they know where we need to go. This is the way to go especially when money is tight. Of course it would be nice to send ten or twelve teachers, to workshops, but we just don't have that kind of money anymore. (Davidson, 120-124)

Teachers also expressed how implementing PLCs has helped them grow individually as professionals. Emma Everett shared,

> I do a lot of reflection. I ask a lot of questions of my students, and of myself. We do a lot of debriefing, so that I know where they are and what I need to do next to help them become successful. I try to do my best to build relationships with my students, and get to know them one-on-one, as well as make parent contacts to ensure that they are successful. (Everett, 55-59)

Michael Melton shared a similar quote,

> If students are not doing so great, then I say well, how can I teach it better the next time? Then I will go back to my students and say okay guys let's re-address this and let's look at this question and you know what is going on with it, you know what you are not getting, what do I need to improve? I want to personally as a teacher get better at teaching each year. I'm not happy with just ok I got a 100% last year, and just say I'm

just going to teach the same thing. I would like to improve some of my lessons each

year. (Melton, 242-247)

Overall, teachers expressed that the shift to PLCs has enabled them to think differently

about teaching and learning. Additionally, teachers shared that having opportunities to conduct

their own professional development provided opportunities for them to exert leadership in the

school. Moreover, it ignited efficacy and ownership in their practices that propelled effective

discussions in PLC meetings.

Commitment to PLC Meetings

The weekly PLC meetings were mentioned by all staff members in helping to provide a

structure in which teachers could discuss teaching and learning. Although teachers recognized

the value of having regular PLC meetings and see the benefit, they also shared the difficulty in

finding time to meet because they do not have common planning time with content-alike teachers

during the school day. Consequently, this means that teachers have to meet before or after

school.

Therefore, time emerged as a barrier when asked about how teachers collaborate and

share ideas. Teachers stated that finding time to meet was quite difficult and often challenging

because they don't have common planning in content-alike subjects. In addition, several

teachers are involved in extracurricular activities and coaching sports after school, which makes

meeting time cumbersome to coordinate. Thus, teachers claimed that they had to first establish

time and commitment as a norm in order to begin having successful PLC meetings. Amy Askew

shared that her department was against the idea of meeting at first. "We were like, why do we

have to meet? We were horrible about it, but then we realized it was really helpful. It's one of

the best things ever" (Askew, 54-56). She also added, "We tried and tried, and it's so important that everybody's there. I mean it's so important that we finally came up with the best time for us was before school" (Askew, 60-62).

Principal Griffin shared that the commitment level began to grow school-wide when a group of teachers at the school attended a conference on PLCs and they came back to conduct professional development with staff members. Based on their training, they came back and asked the staff to created school-wide PLC norms, one of which was that there would no longer be excuses for not attending PLC meetings. This norm became a powerful force within the school community because now PLCs were a school commitment, not just for a few departments, but for everyone.

Despite these meeting challenges, teachers reflected positively about their collaboration in PLC meetings:

Amy Askew, an elective teacher shared,

> The main thing we do is share ideas. We try to share positive things that we're doing that work. It's especially relevant if we have the same kids—that's the teaming and the PLC effect. We share our successes and our frustrations. (Askew, 17-19)

Henry Harrell added,

> In our PLCs, we have agendas that focus on the four Dufour questions, but those can get old, so you need more, you need to dig deeper. So we share some data analysis and create formative assessments in our meetings. (Harrell, 19-21)

Michael Melton shared,

> The principal felt it was important to establish team names and norms--our expectations
> were how long we would meet, the things we would discuss, and what we would need to
> bring to PLCs every time we met. After we set the norms, we began following the
> Dufour model questions. (Melton, 28-32)

Don Davidson stated,

> We have department meetings once a month; these are more general. When we get into
> our PLCs, we get on a more direct level. We answer the four questions: What do we
> want our students to learn? How will we know if the students have not learned it? What
> do we do if they haven't learned it? What will we do if they have learned it? (Davidson,
> 25-30)

During administrator interviews, all three expressed that they do recognize that common
planning would be beneficial for teachers to collaborate in PLCs; however, they admitted that
with such a small staff, they have not been able to work it out so that they accommodate teacher
planning and student schedules and needs at the same time. Also, administrators declared that
they would continue to work on scheduling and make attempts to give teachers the same lunch
time as an option to increase collaborative time. Although teachers affirmed that common
planning would enhance collaboration during the school day, Michael Melton expressed an
optimistic, alternative point of view,

> It would be nice, of course, to have common planning, but it's also nice to stagger it
> sometimes too, so that if another teacher is not going to be present for a day then maybe

I could go to their class during my planning period and take over an Algebra II class if

need be. (Melton, 86-88)

Teachers and administrators affirmed that making time for PLC meetings is not always

convenient; however, they have made it a non-negotiable. Moreover, teachers shared that they

are committed to having PLC meetings because they know that the collaborative efforts have

made a difference in their instructional practices and have benefitted their students.

Because the themes of principal leadership, teacher leadership and commitment to PLCs

are comparable, I have combined the triangulation of these artifacts from the document review.

These items included team norms, agendas, and meeting minutes. For example, the history team

norms read: Be open to constructive criticism; treat each other with dignity and respect; and

strive to continuously improve and achieve the team's strategic goals. The science PLC norms

consisted of: Be on time; be present; be prepared; be respectful; no excessive complaining; and

no departmental meeting discussions. Also, several team names were visible on agendas and

minutes as Team STD, Mathletes, and Artsy Fartsy, which added personalization and ownership

of the team commitment. In addition, the date, goals, members present and absent were also

included in the minutes.

Secondly, PLC agendas were utilized during both the English I and math PLC meetings.

Both meetings focused on teaching and learning by answering the four Dufour, et al. (2010)

questions. Additionally, other teams also shared agendas that included other items that support a

collaborative culture of sharing ideas, as well as exploring new instructional opportunities. For

example, the biology PLC agenda placed an emphasis on formative assessment by having team

members bring and share formative assessment strategies at each meeting. Other agenda items included re-teaching/retesting procedures and the development of common assessments.

In addition to sharing best practices in PLC meetings, teachers shared with me during interviews that they have conducted their own professional development school-wide. The artifacts denote that teachers created a matrix of professional development needs based on a needs-assessment survey. Then teachers who had expertise in these areas of need developed mini-professional learning sessions. The teachers presented in teams of four or five over the course of seven months. The sessions listed on the matrix included: rules and procedures for effective classroom management, using data at the classroom level and formative assessment, building student and teacher relationships, vocabulary, working with special needs' students, student motivation, and reading in the content-area. During interviews, teachers shared that this type of collaboration and learning ignited teacher ownership and enabled them to build capacity among the staff.

Other artifacts presented in the document review included protocols for reviewing student work, units of study, and copies of power point presentations that were shared by team members on various topics such as PLCs, test-taking strategies, and content-related information to strengthen the knowledge of the team. Also, *The Sting,* a weekly e-newsletter, sent out by the principal, was mentioned by several staff as a valued tool for collaboration. This e-newsletter included academic and behavioral reminders for the week, kudos to individual teachers for accomplishments, student presentations, spirit Fridays, articles in which teachers have had published, and/or grants received. If a team did something outstanding or made a discovery to improve the school, the principal would recognize and highlight those teams in *The Sting*.

The themes discussed in this section were used to triangulate data gathered during interviews, PLC meeting, classroom observations, and the document review to support collaborative practices. The next section includes themes that supports research question 3, how do teachers use data to plan and enhance instruction.

Research question 3: How do teachers and staff at OBHS use data to plan and make decisions?

Teachers at OBHS have a results-orientation and make data-driven decisions. Teachers shared that they recognize the importance of on-going formative, common, and summative assessments as a means of evaluating teaching and learning. Also, all teachers expressed that if students have not learned the concept or material that they must re-adjust instructional strategies, so that they do learn.

Formative Assessments

The theme of formative assessments emerged from the data collection as a method for teachers to check for understanding and learning. During interviews, teachers stated that they provided informal methods to assess student learning daily. Examples such as questioning, exit tickets, and thinking map activities were stated. Betty Barnes stated, "There is always work to be done. You've got to assess learning every single day, so we try to stay on top to make sure our students are learning" (Barnes, 30-32). Barnes added, "We are constantly assessing students during the class period to determine if they got it or did not get it. Did they get this part or that part? Do we need to go back over it or re-teach it" (Barnes, 36-37)?

Further, Frank Freeman expressed,

> Students don't always understand the purpose of formative assessment. They have this perceived notion that if you're not taking it up for a grade, they don't have to do it. You have to build relationships with students and a climate for learning. We want to make sure that they understand the parts all along. Then we find where they are short and where they are doing well or where they are not doing well. (Freeman, 23-27)

Likewise, Henry Harrell stated,

> In our department we do a bunch of formative assessments. We are constantly assessing our kids to see where they are strong and where they are weak. Then, we revise our lesson plan based off of what we see on the formatives. (Harrell, 32-35)

During the math PLC meeting, teachers openly discussed the content, shared formative strategies, and asked questions about strategies to better assist and assess students with learning. For example, the teachers get into a discussion about the importance of student note-taking. Here are some of the comments from that discussion:

> "The students here take some of the best notes that I've seen in any place I've been" (Smith, 111).
> "Oh, they love taking notes" (Melton, 112).
> "But they don't use them, and don't know what to do afterwards" (Smith, 113).
> My AFM students took notes today; I'm going to see how good they use their notes tomorrow. I gave them a small note card and we went through the four units and they took notes in symbols and stuff…Tomorrow, they get to use that one little note card to help them on the mid-term. (Norman, 114-117)

Sometimes, I let mine use their notes for quizzes, so if they took good notes, it will be nice and easy…they are done in fifteen minutes. If they don't have good notes, they still aren't done when the bell rings…I've never checked notebooks; this is the first year that I have checked notebooks. I pretty much pick it up, flip through the pages; sometimes I pick it up to make sure it's neat and papers are not flying out everywhere…sometimes I will say open it up and show me the warm-up we did three days ago. If they can find it in a reasonable amount of time, it's a 100! I've only done it twice this year because it takes up so much time. I am trying to prepare them when they do get to some of the higher classes. (Lee, 118-125)

One of my teachers in high school would do a notebook check, actually it was my dad, (laughter) and you would have to label every assignment, so we kept a running tab for the nine weeks. He would pick random numbers using the random generator on his calculator and check for work…I do something like that in pre-calculus. (Melton, 126-129)

Also, teachers shared their thoughts about how they analyze formative assessment data. Ginger Goldman states, "Most of our ideas are shared through looking at formative assessments, and this is mainly how we see where the weaknesses are" (Goldman, 73-74). Likewise, Jesse James shares a particular formative that he shared at a PLC meeting.

I presented a formative where you have a piece of paper and divide it into nine blocks and the student in the first block would write what he learned in the beginning of class, then, in the second block they write something they learned in the middle of class, and finally, in the third block, they write something they learned at the end of class. Next,

they go around to six other classmates and write down six things that other students

learned from the beginning, middle, and end of class. Afterwards, students have nine bits

of information that I can use as a formative. (James, 90-96)

In response to using data to plan for instruction, Frank Freeman responded,

One of the most common ways is looking at questions that everybody missed or the

majority of students missed. At the same token you can also look at the questions that

most of them got right. I know that teachers often focus on what they missed, but if I

have a test with ten questions on it, and one hundred percent get nine of them right and

one hundred percent get one of them wrong, then I feel, you know, aha, almost one

hundred percent of my kids are at ninety percent proficient, or it might be a bad question,

that's one of the things we look at to evaluate questions that they got correct or incorrect.

We also evaluate, in class answers, you know, using formative assessments, and we do

things like thumbs up, thumbs down to get a quick check for understanding. (Freeman,

162-169)

During interviews, teachers shared that formative assessment was one of their school-

wide goals to increase student achievement. This goal was documented in the School

Improvement Plan and viewed by the researcher during the document review. Additionally,

teachers explained that they participated in an on-line professional development module, NC

FALCON (North Carolina Formative Assessment Learning Community's On-line Network)

developed by the Department of Public Instruction, which provided them with more awareness

and knowledge of how to incorporate formative assessment as an instructional tool in the

classroom.

Common Assessments

During interviews, teachers shared that common formative assessments are administered by content-alike teachers about every two to three weeks. Teachers use the state released test item bank, ClassScape, an on-line testing bank, as well as teacher-developed questions to develop common assessments. These assessments are collectively created by the teachers according to goals and objectives in which they are currently teaching. Administering on-going common assessments enable teachers to get an understanding if the students have learned the information and to collectively analyze gaps in learning and instructional practices. Thus, teachers are able to work together to ensure that all students are learning all along, rather than waiting to administer benchmarks at the end of the grading period, or a summative assessment at the end of the year.

Betty Barnes shared,

One of the good things about common assessments is that once they are created, then we can now tweak and make changes. The year that we did them, we worked for two weeks during the summer. It was at least two or three days a week for hours at a time, and it took a lot to get it in place. So now, we go back to these assessments that we already created and say, do we want to change it or is it good the way it is because the curriculum hasn't really changed. (Barnes, 81-87)

In discussing common assessments during interviews, another teacher shared that her team is moving away from simply administering multiple choice tests, but have incorporated more open-ended tests because it reveals what students know and don't know, which provides a deeper understanding of how teachers can help them. Additionally, Henry Harrell stated,

We have common formative assessments that we use every two weeks, and then we come

together in PLCs to look at the data. Well, I'm struggling here, and your kids are her.

What are you doing? You know, we are trying to bounce ideas and things like that off

each other. (Harrell, 35-38)

Other teachers comment on frequent common assessments as an effective practice.

Melton shared,

We do a good job in our PLCs on looking at assessments. Whether it is a unit test or

benchmark, we always meet and discuss the data. Not only in Algebra II, but collectively

as a group we see how the scores look, what we might need to do or change, or if we

need to go back and re-teach it again. (Melton, 181-185)

Lee added,

Basically, I look at the ratio of students getting certain problems right and certain

problems wrong. If everybody is getting all the problems wrong or if everyone is getting

all the problems right then I did a really good job or maybe the question is not the

best...and if every student is getting it wrong then same thing--Did I do something bad?

Do I need to re-teach? Was the question poorly written? So that is the base information.

We also analyze ClassScape and Study Island data little bit. We get our first real

benchmark data for the semester this week, and it compares Ocean Breeze to all the other

schools. So it gives me an idea to see where we are in comparison to the other schools

so....you know it gives us a base line. (Lee, 227-236)

During the English I PLC meeting, the researcher observed teachers reviewing and

analyzing data from a recent common formative assessment. Christy Castelloe shared how she

collected data by recording responses from an open-ended assessment and how analyzing these authentic responses helped her to gauge what the students actually knew. She stated,

> I had my intern do a table with the student's name with two responses from each question, and shockingly, most of my students got the negative (suspense, fear…); however, they did have trouble with positive and neutral tones, so I think that we need to address this again. (Castelloe, 49-51)

The other English teachers' at the PLC meeting nodded and concurred that there was more work to be done with tone, direct, and indirect characterization.

During the English I PLC meeting, teachers identified students' strengths and areas for improvement based on a recent common assessment. They also prioritized which curriculum objectives required the most sense of urgency as well as how these objectives would be assessed. Based on questions on the common assessments, teachers analyzed that students were not thinking critically on particular questions related to characterization; therefore, teachers brainstormed how to incorporate more critical thinking with high-interest stories that would engage them and prepare them for next steps in the curriculum. Emma Everett pondered,

> I wonder if we did this characterization lesson, the reassessment, and then looked at where we were. I think that would be a good place to start looking at descriptive writing—describe incidents, people, and places. I have a writing lesson that is descriptive of place that is based on an essay about New York. (Everett, 202-205)

Other teachers made similar comments throughout the meeting that reflected student performance data and how teachers would address their needs based on results from common and formative assessments.

The teachers also discussed that the English I benchmark was scheduled for the following week. They have a window of time in which they should administer the test. The teachers discussed how they would use the same format to analyze the data as they used during the previous benchmark, which was in a chart format to compare how students perform individually, by class, by school, and across the district. In addition, they also stated that they would analyze questions as needed for validity and reliability.

I observed the math PLC meeting at a later date than when I observed the English I PLC meeting; therefore, the math teachers had already administered the benchmark test; some teachers had received their results and some had not. Consequently, data from these assessments could not be released until all students have tested or the testing window had been closed; therefore, some teachers had not received their data prior to this meeting.

Laura Lee who had already retrieved her data commented,

> So I went through and highlighted: blue means I did better than the rest of the school and district; yellow means that I did worse. I was happy with students' performance in some areas. (Lee, 171-172) She later added, I pulled up the data and 10% of my students got one right and 15% got the other problem right, so something is wrong with problems like that in my opinion. Then, I looked at the district and 23% and 27% got it right. So those were the first two that we went over. What I realized is that the kids had to draw a picture…they had to draw a triangle, a right triangle and they didn't draw it…they had to realize that a right triangle is perpendicular and have a negative reciprocal,…that's all they had to do and didn't do it. I'm really concerned about the EOCs being on the computer. (Lee, 179-185)

Additionally, Melton shared that he had just received his data prior to coming to the meeting and he had not yet analyzed the results; therefore, he could only speak generally about his students' performance. The other two teachers were completing make-ups and had not printed their data, so they all agreed that they would analyze and share their data at the next PLC meeting.

Moreover, all participants shared that in addition to administering bi-weekly assessments, teachers throughout the district administer quarterly benchmark assessments. This allows teachers to analyze how their students performed against other students in the school and across the district. This enables teachers to focus on instructional practices, which spark them to ask questions with colleagues and collaborate about practices that were effective versus those that were not.

During interviews, the cultural arts and vocational teachers stated that they do not have content-alike teachers in which they can collaborate and plan specific lessons and assessments. However, some ways in which the cultural arts assess learning is through portfolios, one-on-one conferences, the use of videos, critiques, and through group activities. In the vocational department, they give weekly pre-assessments and incorporate activities to support learning deficiencies throughout the week. Then they give a post-assessment at the end of the week to see what students have learned.

Throughout interviews and PLC meetings, teachers expressed and demonstrated that they understand the need for frequent formative and common formative assessments. They use the data from these assessments to analyze students learning as well as their instructional practices. In PLCs, teachers speak openly about their data, discuss strategies, and share ideas. They also

identify strengths, weaknesses, and opportunities for professional growth. Moreover, they use it as a means to plan future lessons in their regular classrooms and for tutoring students after school.

Summative and Historical Data

In addition to using frequent formative and common assessments, the staff at OBHS also used summative, historical, and other data to help the school make decisions about teaching and learning. End-of-Grade/Course Data were used to demonstrate how students performed at or above grade level on any of the North Carolina End-of-Grade/Course Tests. The Goal Summary Reports showed how students' performed on specific learning goals as a class and school, which is also compared with the state average. Teachers are able to utilize these data to reflect on instructional methods, pacing, and collaborate about their level of competencies with specific goals. Administrators, counselors, and teachers use these data to schedule students according to their individual needs. Assistant Principal Jane Kelly noted,

> I was hired as a 12 month employee for four years. I spend most of the summer looking at data. I look at EVAAS data to find out where these kids have been by their test scores. Are they going to need a bridge class, and how we will build that into the master schedule? For example, if your EVAAS and EOG/C scores show that you have statistically struggled in school, and your retest are also not up to par, perhaps, you would go into applied Biology in the fall with Biology in the spring. Therefore, students who need extra help would get a yearlong course, so that they will have a better understanding of the material because everything continues to build. We have tried it several different ways. In algebra, we buddied it up in the same semester. The students had an independent study along with algebra I, so basically, they were getting it for three hours

instead of 90 minutes a day. We did something very similar in English I where we hired

a reading specialists to come into the school, and the data shows that although some may

not have made proficiency, their growth was very strong. (Kelly, 135-149)

Similarly, Assistant Principal Keith Conway shared that staff at the school use historical

data tools to help make decisions. EVAAS data is a computer-based tool that shows how

students have historically performed on End-of-Grade/Course Testing. Administrators and

counselors use these data to help make decisions on how to best schedule students for classes.

However, individual teachers also use these data to plan effective lessons for their students

because it provides them with an understanding of how students have performed over time.

Moreover, it challenges teachers to add value and growth to student learning from where they are

currently performing to where they need to go.

Ginger Goldman stated, "For biology, we like to look at the English I End-of-Course Test

scores because they are a good predictor for biology scores because the biology test has a lot of

vocabulary" (Goldman, 127-129). In addition, Principal Griffin also shared the importance of

using data to make decisions.

We do our summer data digs. We use EVAAS and everything that's available to us when

we're looking at placing kids appropriately. Once we get in, and I tell you that I firmly

believe that a lot of school success is what you do in the summer in analyzing data. And

I had teachers volunteer and we would come in and I, well we would literally, look at 800

to 860 students here. We looked at the students' transcripts, test scores, EVAAS data,

everything to make a decision as to where we, how we were best going to meet the needs

of those students. So, that data was used during the summer in preparation for the school

year and in placing kids. (Griffin, 470-477)

The data collection reveals that administrators, teachers, and counselors utilize data to

enhance teaching and learning. A variety of data sources such as summative, historical,

formative, common, bi-weekly and quarterly reports are analyzed to make decisions for students.

These data sources are used simultaneously by individual teachers, by departments,

administrators, and school-wide to make decisions about instruction and learning.

For these related themes, several artifacts supported a results-orientation at this school.

The artifacts collected in the document review support the comments that interviewees made in

the interviews and in the PLC meetings. Teachers use data as a tool to redirect instruction, so

that they can support learning for all students. The artifacts for this research question included

samples of formative and summative assessment data and analysis.

Teachers presented assessments in various formats, which included short, open-ended

assessments, multiple choice, projects, and essays. Teachers varied the way in which they

analyzed data from assessments in the form of charts, scantron sheet analysis, lists of students

who mastered or didn't master the learning, goal summary reports, and narrative summaries. For

example, one department analyzed data by gender, race, and by interventions in which students

had participated.

Other data-driven artifacts included a historical matrix of student grades, courses

completed, courses required for graduation, EOC Test scores, and historical data from several

years of performance. This student matrix was discussed during interviews as a tool to assist

teachers and counselors during academic advisory sessions with students. Additionally, the

researcher reviewed a student literacy survey. The purpose of this survey was to find out about student reading habits, motivation to read, and kinds of books they like to read. Since improving literacy is one of school-wide goals, these data enabled staff to learn more about how to better assist students on these skills.

Other artifacts included Personalized Education Plans (PEPs), which included focus goals, strategies, resources, and a timeline to help monitor students' performance during the semester. These individualized reports are monitored by teachers and involve student and parent participation and signatures. Finally, the School Turnaround Plan (STP) included SMART (Strategic, Measureable, Attainable, Results-oriented, and Time-bound) goals, strategies, resources, and a monitoring timeline. One SMART goal states, "OBHS will develop and plan formative/common assessments that monitor students' mastery of the North Carolina Standard Course of Study" (STP, 2010).

During classroom observations, we noted several practices related to assessment, data, and instruction during the classroom observations. Classroom observations revealed that teachers formatively assess through questioning, class discussions, completing short assignments and worksheets. Most instruction was whole group; however, students often had the opportunity to collaborate with peers about their work.

In terms of determining the level of student work, recalling was noted most frequently, and was observed mostly through the use of worksheets or board work. Comprehension followed at moderate levels with class discussions and teacher question and answer. Application was observed through problem-solving and/or through completion of a product. Other levels of formative assessment such as evaluation and create were observed at low levels. There were few

instances where differentiation of instruction was observed and noted by the researcher and observers; however, students were provided opportunities to ask questions of the teacher or other students as needed.

Based on classroom observations, teachers have created classroom environments that are academically focused that enable students to learn. Whenever the observers or I asked students about what they were doing, they were able to articulate the learning objective and conveyed an understanding of what they were learning. In most classes, students responded positively to the teachers' lesson presentations, were engaged in the lesson, and compliant in completing work and assignments. Behavioral issues were noted at a minimal; classroom environments were positive as noted by teacher's reinforcement of learning through positive praise, and feedback provided to the students.

<div align="center">**Summary**</div>

This chapter was organized into three major parts according to the three research questions. Eight themes were identified through the data collection methods of interviews, PLC meetings, classroom observation, and conducting a document review. The themes were extracted from the data using the constant-comparative method. The themes were (a) common instructional guides, (b) pyramid of interventions. (c) principal leadership, (d) teacher leadership, (e) commitment to PLC meetings, (f) formative assessments, (g) common assessments, and (h) summative, historical data. The following chapter will summarize the findings from the data collected, provide research to support these data, assess implementation efforts, and suggest implications for future studies. Finally, the researcher will share reflections and thoughts regarding the methodology used during the study.

Chapter V

Summary of Findings

Chapter 5 compares and contrasts the findings at OBHS in Chapter 4 to the research

findings captured in the literature review in Chapter 2. The literature review focuses on three

key PLC principles: a focus on learning, a collaborative culture, and a focus on results. These

three principles correlate with the three research questions for this case study. Ten key PLC

characteristics were identified as subtopics in the literature review to support these key

principles. First, a focus on learning is supported by the characteristics of a viable curriculum,

becoming a learning organization, functioning as a learning organization, and monitoring

essential learning. Second, a collaborative culture is supported by the characteristics of cultural

challenges, structural challenges, and collaborative work teams. Finally, a focus on results is

supported by the characteristics of action-orientation, on-going formative assessments, and using

data to improve instruction.

Findings from the case study are compared and contrasted with PLC characteristics in the

literature review, then, additional and unique findings from the case study are provided. Next,

using the Dufour, et al. (2010) PLC Continuum, the level of implementation of the three key

PLC principles at OBHS is assessed. Based on this analysis, implications and recommendations

for future research are reported. The final section of this chapter shares personal reflections.

PLC Principle 1: A Focus on Learning

PLC Principle 1, a focus on learning includes Findings 1-4. The findings are compared

and contrasted with the PLC characteristics: a viable curriculum, becoming a learning

organization, functioning as a learning organization, and monitoring essential learning.

Finding 1: To ensure that all students learn, teachers at OBHS developed and implemented common instructional pacing guides that support the state curriculum. (A Viable Curriculum)

Marzano (2003) argues that if all teachers commit to teaching the curriculum, all students will have exposure to the essential content, no matter who teaches a particular class. He explains that a viable curriculum must have two major components: opportunity to learn and time. Providing all students with an opportunity to learn is a product of the intended, the implemented, and the attained curriculum. The intended curriculum refers to the content that is taught by the teacher; and the attained curriculum is what students have actually learned. When discrepancies exist between the intended and the implemented curriculum, it affects whether learning will be attained by all students. Therefore, it is imperative that all teachers know, understand, and collaborate about the curriculum, so that it becomes guaranteed for all children.

Ainsworth (2003) defines, "Unwrapping the standards is a means of identifying the essential concepts and skills found in both the standards (the general statements of learning outcomes-what students need to know and be able to do) and the indicators (the grade specific learning outcomes)" (p. 5). This process entails that teachers determine what students need to know, and be able to do, before they teach and assess these concepts and skills. In other words, teachers should begin with the end in mind.

Principal Griffin expressed his thoughts on common pacing guides. He shared,

Before PLCs, we had common pacing guides in the county, so it wasn't a matter of not having them, but everybody was still doing their own thing. You know, the pacing guide was just a piece of paper. So I encouraged them to talk more about what they were teaching and to develop guides that they could use. (154-157)

Principal Griffin later added,

> Even our math seminar classes had a common pacing guide, we had an applied biology class, which was a bridge class for biology, that had a common pacing guide, and all of core courses had a common pacing guide, common formative assessments, PLCs meetings, so every group was collaborating about teaching and learning. And they weren't all happy about it. You know, they weren't. They were pretty good, they were. Most of them understood that we had to make some changes here, but they -- this was a school that had gone through several other big initiatives you know, with other companies coming in and you know grants and stuff to help them be successful. They'd already seen it all and done it all, you know. If you ask them, "Oh we did all this before, and all that", well they hadn't really had those good, really truthful conversations and it was never really anything that came from them, you know, it was something that somebody else told them this is how you're supposed to do it. Anyway, that first year, we went from 49% proficient to 68% proficient. We had the largest increase of any turn-around school in the state. (165-180)

During interviews teachers share their views on using common pacing guides. Laura Lee states,

> We make sure we are following the pacing guide because you do not want to be a teacher that is teaching a unit that is actually not in the curriculum or not tested. We make sure that all teachers in our department are aware of what they are required to teach, and we try to help each other. (Lee, 29-33)

Frank Freeman also shared,

We also share a common pacing guide. So we're on it, so we're pretty much streamlining on the same track here. I'm pretty sure if anybody transferred from Mrs. Michelle's class or Mrs. Travis' class in here, in Civics or World, they'd be within one or two days of what we have done. (Freeman, 89-92)

During the document review, I observed several instructional pacing guides. These guides included the state goals and objectives, strategies, resources, and a timeline for teaching. Also, during PLC meetings, teachers shared what they wanted students to learn by focusing on where they were teaching on pacing guides. Michael Melton responds,

In Algebra II, we are finishing up polynomials. We did applications today with the volume of a box, so I am looking at testing on Wednesday. I think William should be about there too. After polynomials, we get into quadratics and higher degree. For this week, it will be just finishing up polynomials. Since we have a half-day on Thursday, we have planned a mini-lesson on properties of quadratics. (Melton, 18-22)

During classroom observations, it was evident that teachers used common instructional guides because the learning objectives were posted in all content-alike classes. In addition, the instruction that the teachers presented correlated with the posted objectives.

Finding 2: In a PLC meetings, teachers view themselves as learners. They are willing to share ideas, discuss strengths and weaknesses in pedagogical practices, learn from peers, and explore new practices. (Becoming a Learning Organization)

Many teachers resist the change that is required to build a strong organizational culture. Knight (2009) suggests eight ways in which teachers are likely to adopt and implement proven practices. These strategies prompt teachers to: "seek high-leverage teaching practices that are proven and practical, use data to select and monitor the impact of practices, provide quality

coaching, balance precise explanations with provisional comments, obtain commitment by offering teachers choices and valuing their voices, focus professional learning on a few critical teaching practices, align all activities related to professional learning, and increase relational trust" (p. 513).

Nelson and Slavit (2007) conducted a study involving five schools with sixth through eighth grade science and mathematics teachers who engaged in supportive collaborative inquiry. The researchers' purpose was to understand whether and how this professional development approach served as a resource for teacher growth and improvement of practice to facilitate learning. The findings of the study revealed that teachers valued the opportunity to have focused time and conversations with other teachers in the same building, in different departments, and with teachers of the same subject within the same grade level, as well as at other grade levels.

During an interview, Frank Freeman explained,

I really can't imagine teaching now and not even being expected to, or not having the initiative to ask, you know, what are you doing and what are you doing in the classes that you're teaching. I also can't imagine not being able to share what I do; I know I have given away a lot of stuff, but it's like the old saying, the more you give, the more you get. I've gotten a lot of stuff also, so it's really good to be able to share things; it's good to be able to work with people that I can give everything that I want to give them, and they are going to give me whatever I need. That is sort of what PLCs have done here. It's....I think it's particularly effective for especially younger teachers because a lot of times some teachers that have been around for a while and they are so unapproachable. They don't want to really give anything away, they don't want to be bothered with it, but PLCs

have put them in a position where they have to talk about what they are doing and I think

it's good for them to evaluate what they are doing; also, especially with the younger

students. I mean every year they're the same age and I get older, so I need to be in touch

with what exactly they like to do because it is not always about the teacher… it's not.

(Freeman, 394-404).

Heath Harrell also shared, "A lot of times it's informal sharing; during PLCs each week,

one of the teachers will present a formative assessment that we do and some type of lesson that

we do with the whole group" (Harrell, 80-82).

During the English I and math PLC meetings, teachers shared lesson ideas openly and

respectfully about the content in which they teach. Teachers asked questions and discussed

instructional strategies throughout the meetings. All teachers present during the meetings

participated in the discussions.

During interviews, teachers also exclaimed that they felt supported by the principal and

administrators when they attended PLC meetings, or responded to their meeting minutes when

they had questions. They also shared that they appreciated the recognition that the principal gave

to individual teachers and PLC teams in his weekly newsletter, *The Sting*.

Finding 3: At OBHS, teachers are committed to meeting in PLCs. They set team norms, prepare an agenda that focuses on teaching and learning, and take notes that reflect next steps and team actions. (Functioning As a Learning Organization)

When individual teachers come together to make student learning a priority, the school

can begin to function as learning organization (Senge, 2000). As schools function as learning

organizations, school leaders establish clear expectations for teacher practices and engage them

in collaborative decision-making about the curriculum. Hence, teachers feel accountable to their

team and student learning, and they recognize the need to share ideas by developing protocols and common language that will enable them to collaborate about instructional dilemmas, student work, and assessment data.

Dufour, et al. (2010) recommends that teams set norms and develop protocols for effective advocacy. School leaders can model the importance of norms by establishing them for regular school meetings, leadership, or parent meetings. These structures serve as tools to direct members on how they will collaborate, establish respect, build trust, and carry out certain responsibilities in effective and efficient manners.

In addition, to these norms, teams should consider when they will meet; how long the meetings will last; how members will make decisions; how they will listen to each other's problems or ideas; how to participate in the meeting discussions; whether participation is mandatory; and how they will carry out ideas or next steps. Moreover, when norms are developed thoughtfully and thoroughly, they help establish trust, openness, and commitment to accomplishing team goals (Dufour, et al., 2010).

At OBHS, the following norms were extracted from a team meeting form during the document review: Be open to constructive criticism; treat each other with dignity and respect; strive to continuously improve; and achieve the team's strategic goals. Another's team's norms included: Be on time; be present; be prepared; be respectful; no excessive complaining, and no departmental meeting discussions. These norms help guide collaboration in PLCs. Also, several team names were visible on agendas and minutes as Team STD, Mathletes, and Artsy Fartsy, which adds personalization and ownership of the team commitment. In addition, the date, goals, members present and absent were also included on the minutes.

During the document review, team minutes reflected the team agendas, which included general dialogue about the four PLC discussion questions, content-related conversations, formative assessment strategies, the development of common assessments, and next steps or actions to be taken. Also, during PLC meetings, team norms were not discussed; however, they were understood based on the open environments, positive groups interactions and intentional dialogue about teaching and learning among teachers.

Finding 4: Teachers use on-going formative assessments to monitor student learning and improve instructional practices. (Monitoring Essential Learning)

In order to analyze data effectively, Sagor (2010) suggests that teachers should formatively assess students' progress as an on-going process of the instructional program, rather than waiting to receive summative data at the end of a grading period or school year. Formative assessments provide the teacher with necessary data to guide instruction for learning. Stiggins (2004) asserts, "Studies have demonstrated assessment for learning rivals one-on-one tutoring in its effectiveness and that the use of assessment particularly benefits low-achieving students" (p. 27). Formative assessments may include, but are not limited to, paired activities, cooperative learning, class discussions, interviews, focus groups, quizzes, written assignments, summary exit cards, and presentations.

During interviews and PLC meetings, teachers shared that the incorporation of more formative assessments has made a difference in their instructional practices. Ginger Goldman comments, "Most of our ideas are shared through formative assessments. It is primarily to see where are weaknesses are. At each PLC meeting, we will bring a new formative assessment and a new teaching strategy" (Goldman, 73-75). Additionally, Betty Barnes adds,

> To make sure that all students are learning, we have a lot of informal assessments;
> whether it is questioning, an exit card, or a thinking map that we look at every day. We

are constantly assessing students during the class period to determine if they got it or did

not, or if we need to go back over it. (Barnes, 27-32)

Also, Christy Castelloe also commented,

Emma Everett, who is our department chair and I have worked well here together. She's

been here for nine years, I've been here for eight, and so we've always really meshed

well together. Her strength is literature and my strength is grammar. And so when we

get together and we look at our scores, and now Julie is our newest member of the

English I little PLC, she really has strengths in both, but she's far stronger than I am in

literature. When the three of us get together, I show everybody some grammar stuff; and

they have these amazing ideas in literature, so we kind of bounce things off of each other.

We're very aware of the goal summaries we get from our EOC's and what are lowest

areas are and our highest… we like to talk about oh well Liz, what did you do to get your

students to score so high, and so forth. (Castelloe, 85-94)

During PLC meetings teachers discussed lessons and shared formative ideas back and

forth on ways that they plan to assess students learning. For example, During the English I

meeting, teachers debated if a T-Chart or a three column chart would be most appropriate to

assess students' leaning on direct and indirect characterization. Similar conversations related to

teaching and learning were held in the math PLC meeting.

PLC Principle 1 Continuum Summary

To review OBHS' PLC implementation for Principle I, a focus on learning (which covers

findings 1-4), I used the Dufour, et al. (2010) PLC Continuum, which is divided into five stages:

pre-initiating, initiating, implementing, developing, and sustaining (Appendix H). The PLC

principle, a focus on learning received an overall rating of *developing,* which is summarized

according to the Dufour, et al. (2010) PLC Continuum below:

> Teachers have clarified the essential learning for each unit by building shared knowledge
>
> regarding the state, provincial, and or national standard by studying high-stakes
>
> assessments and by seeking input regarding the prerequisites for the success of students
>
> who enter the next grade level. They are beginning to adjust curriculum pacing and
>
> instruction based on evidence of student learning. Secondly, teachers working in
>
> collaborative teams are clear on the criteria they will use in assessing the quality of
>
> student work and can apply criteria consistently. Finally, teachers working in
>
> collaborative teams have created a series of common assessments and agreed on the
>
> specific standard students must achieve to be deemed proficient. Teachers are using
>
> evidence to improve their assessments and develop more effective instructional strategies
>
> (pp.1-2)

My observations and data collection indicate that OBHS is at the *developing stage* based

on the key PLC principle of focusing on learning with the key elements of a viable curriculum,

becoming a learning organization, functioning as a learning team, and monitoring essential

learning. The school has done well with incorporating a pyramid of interventions, adding

courses, and initiating remedial initiatives for students who haven't learned or struggle with

learning; however, the incorporation of more rigorous instructional units, more offerings of

honors, and advanced courses would further challenge and enhance essential learning for all

students. During the data collection period, I observed that End-of-Course data increased

astonishingly while SAT scores slightly declined. This may be due to the school focusing more

on remediation, and being labeled as a turnaround school with a history of poor academic

performance. However, with the school making positive growth each year, more attention on rigor and enrichment could advance this rating to the next level.

PLC Principle 2: A Collaborative Culture

PLC Principle 2, a collaborative culture includes Findings 5-7. The findings are compared and contrasted with the PLC characteristics: cultural challenges, structural challenges, collaborative work teams.

Finding 5: To grow as a professional learning community, the principal consistently facilitated expectations to staff, monitored team meeting minutes, provided feedback, and celebrated accomplishments. (Cultural Challenges)

Transforming or changing the culture of an organization is challenging for both the leader and his/her followers. Fullan (2001) identifies six leadership styles of which the following four impact change: authoritative (the leader moves members toward a vision); affiliate, (the leader builds bonds and creates harmony with the members); democratic (the leader seeks consensus in making decisions); and coaching, the leader builds capacity by developing its members. All four of these leadership styles or combinations of the four are appropriate for leading change. However, the leader as coach is most appropriate for implementing the change needed for PLCs because the leader builds capacity through a shared vision, creates harmony among colleagues, and empowers decision-making in the best interest of children.

Principal Griffin shared his thoughts on how he reacted to being identified as a turnaround school and how he recognized the sense of urgency to improve student achievement.

I thought, 'Boy, I'm coming back, finally to Ocean Breeze High School. And, so I took over in 2007. It was shortly, shortly after that I got a letter from the Governor and from Judge Manning that identified us as a Turn-around High School, Cohort II. And I said,

'Oh Boy', and then met with Judge Manning and he basically told me that there were 32

of us. Either turn it around or, you know, we'll find somebody else that will do it for

you, you know… for us. And so, the pressure was on. Well, I like pressure, so it didn't

bother me too much. So anyway, I spent three years here and we went from 49%

proficient to almost 88% proficient in three years. We were just selected as a National

Association of Secondary School Principals Breakthrough School, one of five in the

nation that, that achieved that. (Griffin, 49-58)

In relation to goals and expectations, Laura Lee responded,

Last year (2009) our school goal was 80-80-80 and this year it is to increase to 85-85-85.

In tested courses, we want to have 85 percent or higher composite proficient; 85 percent

or higher for the graduation rate and 85 percent or higher on Vocational tests. (Lee, 168-

171)

Additionally, Principal Griffin shared how he celebrated staff and acknowledged their hard work.

I would do and still do a weekly newsletter. I have always done a weekly newsletter.

And in that newsletter, there is a whole section of kudos, which I give to people. I did,

would always do, and still do a lot of postcards to teachers and you know those kinds of

things. I don't know how many teachers I had that would come up to me and say well

you know I got that post card in the mail and I got home and it was just what I needed.

During faculty meetings, you know, I always try to really celebrate the successes of

anything that we had. Tell stories about people and make stories up if I have to you

know to build people up and to fire them up a little bit; do things differently. Call a

faculty meeting and then when you get them in there, you know, cancel it and tell them to

go out to the football field and have a barbecue. (Griffin, 251-260)

Michael Melton comments,

Mr. Griffin was really good about giving us questions and areas for focus each week. We

would go back and as a whole department look at the number of students who were

proficient. Mr. Griffin would go back and look at the 10 lowest problems and then check

the benchmark scores, grades, and questions. He was very adamant about where the

students were, and if they aren't getting it, to go back and fix it. (Melton, 445-449)

The principal also shared expectations and provided guidance in *The Sting* newsletter that

he sent out weekly. During the document review, I noted that he focused on school-wide goals

that related to teaching and learning and the work in PLCs. He also praised teachers for

accomplishments and gave kudos to staff and teams weekly.

Finding 6: Teachers at OBHS perceive that structural changes such as organizing common time during the school day would enhance collaborative practices. (Structural Challenges)

The transition towards becoming a collaborative culture requires both structural and

humanistic changes. Fullan (2001) states, "Significant educational change consists of changes in

beliefs, teaching styles, and materials, which can come only through a process of personal

development in a social context" (p.124). Jackson and Davis (2000) emphasized the need for

administrators to provide structures that allow for common planning and time for teachers to

collaborate about their practice.

Likewise, Dufour (2010) emphasizes the need for teams to work collaboratively using a

systematic process that is intentional, deliberate and precise to ensure that several steps are

followed. This type of collaboration requires that teachers focus on the right work in the appropriate manner. The first step is that every staff member should be assigned to a meaningful learning team.

Betty Barnes responded on how common planning time would enhance collaborative time for teachers.

> When it comes to planning time together, our department is kind of a hot mess. This would be the one thing that needs to be improved on the most. Within our department, we have teachers that teach U S History and Civics, so they're expected to meet with U S History and Civics PLCs (Barnes, 53-58). She added, if we cannot have the same planning period, then we need to at least have the same lunch period. But if we had time built into the school day, I think it would be much easier for everybody because a lot of teachers coach, have tutoring, or other meetings; we're overextended in the afternoons. I think that time for PLCs should be protected. (Barnes, 69-72)

Emma Everett shares that with multiple course preparations and no common planning time, it can be difficult, but they find time to make it work.

> It's a little different for me because I teach English I, English II, and AVID, so I'm pulled in a lot of different directions. But all of the teachers that I work with, we work well together. In English I, I'm right across from Christy, so we are always having conversations about what we are teaching and how our students are doing. I may go to her and say I need help, my kids aren't getting this, and what do I need to do? In English II, I am the only one in my building, so we have to make time to meet. For example, yesterday, I took my lunch time to go and talk to an English II teacher during her

planning who had some concerns about students in her class. We try to communicate often either face-to-face, by e-mail, or we send instant messages very often. (Everett, 66-105)

Principal Griffin commented and shared his frustration with trying to coordinate common planning time.

We tried like crazy to try to develop a common planning time, and maybe you can do it in some schools, but we just never were able to pull that off. If I'd sat here and waited until I could have created a schedule for common planning time, PLCs would have never happened. So, I told teachers that I had tried everything I could do, and if I could do it, I would, but I said I can't. Then, I said that if we're gonna take our school to the next level, this is how we're gonna get there, so I'm gonna leave it up to you when you meet. It can be before school, after school, during your lunchtime; I don't care. But the requirement is a minimum of thirty minutes every week, and when you do that is up to you. So they did. They met with a lot of them met during their lunch. You know, they would have a common lunch, so they would meet during lunch time. I would see them meeting at 7:00 in the morning, and some met you know after school. So you know time, it is an issue, and in a perfect world, we could build it into our schedule, you know. (Griffin, 205-219)

Although teachers feel that common planning would enhance collaborative practices, during interviews, they continued to express that they see the benefit and value of making time to meet in PLCs. They stated that they have embraced collaboration as a tool to help them grow as teachers to strengthen learning for their students.

Finding 7: Teachers at OBHS felt empowered when they organized and engaged in school-wide and content-area job-embedded professional learning sessions. (Collaborative Work Teams)

Easton (2008) created several designs for collaborative job-embedded learning, which may be used in professional learning teams. These designs may be used individually or combined to assist with maximizing teacher time and accomplishing learning goals. Powerful professional learning requires educators to realize how to help children learn; relies on data collection and analysis; engages teachers in the application of best practices in the classroom; emphasizes collaboration, and honors the expertise of all teachers. Some of the powerful design activities included: accessing student voices, action research, assessment as professional learning, case discussions, reflective inquiry, book study, lesson study, and using video to change practice. These designs provide activities to make professional learning more than simply a structure, but establish a culture of quality to improve the work of teachers (Easton, 2008; Senge, 2000 & Schlechty, 2002).

Similarly, Jay McTighe (2008) describes three roles for members in a PLC: critical friend, analyst of student work, and continuous learner. The critical friend's role enables teachers to get other opinions of their work by reviewing unit plans, lessons, and assessments to provide constructive feedback to each other in a democratic manner. Additionally, Easton (2008) created several designs for collaborative job-embedded learning, which may be used in professional learning teams. These designs may be used individually or combined to assist with maximizing teacher time and accomplishing learning goals. Powerful professional learning requires educators to realize how to help children learn; relies on data collection and analysis; engages teachers in application of best practices in the classroom; emphasizes collaboration, and honors the expertise of all teachers.

Michael Melton shared,

> Last year we created our own staff development. We took a survey across the school to
> see what we felt we needed more instruction on, or help in professional development.
> We took the five big ideas from the survey, and then pulled someone from each
> department who they felt like they were good at or had knowledge on the topic. I thought
> it was great because you know its cross curricular, you know, and we got ideas of how
> we could implement strategies in all of our classes across the entire school, so that
> everybody was involved (Melton, 139-148).

Ginger Goldman added, "We bring in observations to discuss. We did observations of each other this past week and then we are discussing those, just to do and share best practices that are based on the formative practices" (Goldman, 74-78).

During the document review, I had an opportunity to review the matrix of sessions in which teachers presented in their professional development sessions. In PLC meetings, teachers shared dialogue back and forth that reflected what students should learn, how they would respond with instructional strategies if they didn't learn, as well as strategies when they did learn.

PLC Principle 2 Continuum Summary

The PLC principle, building a collaborative culture includes adaptation to cultural changes, structural changes, and willingness to build a collaborative work team (findings 5-7). I also rated the implementation of this principle as *developing* according to the Dufour, et al. (2010) PLC Continuum which is described as follows:

Teachers have been assigned to collaborative teams and have been provided time for

collaboration on a weekly basis during the regular contractual day. Guidelines, protocols,

and processes have been established in an effort to help teams use collaborative time to

focus on topics that will have a positive impact on student achievement. Team leaders

are helping lead the collaborative process, and the work of teams is monitored closely so

assistance can be provided when a team struggles. Teams are working interdependently

to achieve goals specifically related to higher levels of student achievement and are

focusing their efforts on discovering better ways to achieve those goals. Additionally,

teams have established the collective commitments that will guide their work, and

members have agreed to honor the commitments. The commitments are stated in terms

of specific behaviors that members will demonstrate. The team begins and ends each

meeting with a review of the commitments to remind each other of the agreements they

have made about how they will work together. They assess the effectiveness of the

commitments periodically and make revisions when they feel that will help the team

become more effective.

Based on my observations and data collection in this case study, this PLC principle is

rated as *developing* for several reasons. First, the teacher teams at OBHS have committed to

meet in PLCs regularly. Although they received a new principal at the beginning of the 2011

school year, the staff has made adjustments to the new leadership, and continues to implement

PLCs across the content-areas. Secondly, the former and current principals have supported the

teachers by creating an environment that enables them to share ideas about teaching and

learning, identify strengths and weaknesses in practices, and take leadership roles in PLCs.

Finally, teachers lead professional learning in PLC team meetings and with the entire school

during staff meetings. However, having common instructional planning time would enable them

to engage in more action research and job-embedded professional learning to advance their

practices.

<div align="center">**Principle 3: A Focus on Results**</div>

PLC Principle 3, a focus on results includes Findings 8-10. The findings are compared

and contrasted with the PLC characteristics: action-orientation, using formative assessment, and

using data to improve instruction.

**Finding 8: At OBHS, interventions are multi-layered and structured to address students'
who are experiencing difficulties in learning. (Action-orientation)**

Response to Intervention (RTI) operates similarly to PLCs in some respects, so lessons

learned from the studies of RTI have application to PLCs. Buffum, Mattos, and Weber (2009)

define a RTI as a movement that requires the staff to work collectively to provide extra support

for students. "Response to intervention is the practice of providing high-quality instruction and

interventions that match students' needs, and using students' learning rate over time and level of

performance to make important educational decisions" (p.14). RTI combines engaging

instruction, assessment, and school-classroom-parent communication to enhance student

learning.

Action-orientation in a PLC aligns closely with the RTI model because both require that

educators implement research-based strategies to ensure that all students learn, as well as,

measure the success of the intervention. The core program of RTI is the Pyramid Response to

Intervention (PRTI), which offers a directive, timely, and systematic process that provides a

structure to ensure learning for all students (Buffum, 2009).

Principal Griffin shared some of his views as an administrator and a parent of former students about some of the school-wide interventions.

I put myself in the position of other parents. They feel the same way. They want to know, you know, much more frequently than every four and a half weeks. Four and a half weeks may be too late. So I said to teachers we will do progress reports every two weeks. And some didn't like that because they had to put their grades in, you know, much more often. But, so every two weeks they would do a progress report. Not only did that benefit the parent and the child, because they would know more often how that child was doing, it also forced the teacher into really taking an honest look at what that student was doing more frequently. So, it all built together with what we were trying to do with professional learning communities, which was to have timely interventions. You know, I'd rather intervene than remediate. So many times we spend remediating them after they've already failed. (Griffin, 403-514)

During interviews, teachers and administrators discussed the pyramid of interventions, which is designed to support students at various levels of academic performance. Some of the interventions included after school tutoring, the math hub, the 77 List, and advisory teams. These interventions are specifically tailored to make academics a priority and ensure student success. Also, a reading teacher was hired to support teachers in improving literacy school wide. Additional consequences included not being able to practice or play in a game if you participate in a sport and loss of school driving privileges, if you drove to school. More intense interventions also include referrals to the counselor, school leadership team meetings, and psychological evaluations. Also, during the document review, I reviewed the pyramid chart and the six levels of interventions that are implemented school-wide.

Finding 9: At OBHS, teachers administer on-going common formative assessments; then, analyze data from these assessments to enhance student learning and instructional practices. (Using Formative Assessment)

In order to analyze data effectively, Sagor (2010) suggests that teachers should formatively assess students' progress as an on-going process of the instructional program, rather than waiting to receive summative data at the end of a grading period or school year. Formative assessments provide the teacher with necessary data to guide instruction for learning. Also, Reeves (2004) and Marzano (2006) share that schools that use common formative assessments consistently have the highest gains in student achievement because it's one of the most powerful tools that teachers can employ.

Stiggins (2005) and Fullan (2005) state that through the use of common assessments, educators become more skilled and focused at using student data to guide instruction, especially for low-achieving students. Common formative assessments help educators diagnose students' needs and provide modifications in instruction in a timely manner (Ainsworth, 2007). Schmoker (2004) describes common formative assessments as powerful proven structures. "It starts when a group of teachers meet regularly as a team to identify essential and valued student learning, develop common formative assessments, analyze current levels of achievement, set achievement goals, and then share and create lessons and strategies to improve upon those levels" (p. 48).

Assessments should be used as a means rather than an end. In other words, teachers should work collectively to develop common assessments regularly in order to identify which students need additional help in mastering learning throughout the entire year. Hence, teachers should not wait until the end-of-the-year state assessment to measure what students have learned. Other researchers that support similar strategies for supporting and monitoring essential learning include (Reeves, 2002, 2005; Killion & Davin, 2009; Ainsworth & Viegut, 2006).

In response to common formative assessments, Christy Castelloe explained,

We gave a common formative assessment about two weeks ago and students did very well on two sections, but not so well on the characterization section. Today, during our PLC, we will plan to develop the next common formative assessment to see if the re-teaching did what it was intended to do. (Castelloe, 65-69)

When I asked how often teachers give common assessments, She added,

The goal is everyday; realistically, every other week is something that we would say is absolutely common; but, every day we try to do something to assess learning. It probably aligns itself between all three teachers and their classes about every other week. We can honestly say that if you walked into all three classes, you would see the same assessment. (Castelloe, 215-219)

Principal Griffin discussed how the school transitioned to developing common assessments. He shared,

During the first year, I said to teachers that you will do common formative assessments every four weeks. So we had a teacher-developed formative assessment every four weeks, a county-developed benchmark assessment every nine weeks, and again the teacher-developed common assessment on the thirteenth week in a semester course. Second year, we went every two weeks, approximately. Common developed formative assessment, they could use ClassScape, they could do paper and pencil, or however they wanted to do it. Then I encouraged them to do them even more often, something like an exit card as students are walking out of the room; you all (teachers) could collect them and talk about them. (157-166)

A focus on results requires that schools work collectively and collaboratively to implement school-wide interventions. During interviews and PLC meetings, teachers expressed that PLCs are a school-wide initiative, which involves a cyclical process and interconnectedness of all PLC elements. Staff shared that they are committed to implementing interventions consistently, monitoring students' growth, and using a variety of data sources to plan and make decisions.

Finding 10: A variety of relevant data sources are utilized at OBHS to promote continuous learning for all students. (Using Data to Improve Instruction)

Killion (2009) describes four types of data, defined by Bernhardt (2004), to help school teams plan for student achievement: perception data help the school understand how students, parents, and teachers feel about the school's learning program; demographic data provide an understanding of the school's attendance, race, gender, ethnicity, and enrollment; learning data describe students' performance on standardized tests, grades and grade point averages; and school process data define the results that teachers receive based upon instruction and assessments. Further, Killion (2009) describes 11 steps in the data analysis process:

Gather the data; analyze the data; summarize the analysis; brainstorm possible causes; collect additional data; analyze and interpret the additional data; identify a goal for school improvement; determine a course of action; take action; collect data; and repeat the process. (Killion, 2009, pp.111-112)

Bernhardt (2004) and Love (2009) also support the theory that data analysis is a multi-faceted and continuous process that should be embedded in the school culture.

In a study conducted at Elizabeth Vaughan Elementary School in Woodbridge, Virginia, Lillie Jessie, a 17-year tenured principal, shared her innovative approach on getting her staff

involved in PLCs and data analysis. Jessie (2008) asserted that the implementation of PLCs was not an overnight success. She reflects on the early days of her school's implementation efforts, "Not only are we teaching in the dark, but we are blaming the poor results on students" (p.137). Jessie believes that in order to move from hoping to knowing, teachers have to be comfortable enough to expose their strengths, weaknesses, and shortcomings to others on their team. Teachers learn to accept failure as a temporary state and that the power of collaboration is a necessity to succeed. Michael Melton commented,

> We go back and look at where students are currently placed mathematically, then we go back and look at their previous scores and pre-requisite courses and grades. For example, for Algebra II, I'm going to be very concerned about what their geometry and algebra I EOC scores to see how to place them in the right classes. We also go back and look at NCDPI goals and objectives to see how the goal summaries are broken down, for example, if quadratics counts 27%, I also look at the number of questions, and try to focus more on the areas that are tested the most versus spending a lot of time teaching a goal that only counts 6% (Melton, 211-218).

In addition, Principal Griffin also shared the importance of using data to make decisions.

> We do our summer data digs. We use EVAAS and everything that's available to us when we're looking at placing kids appropriately. Once we get in, and I tell you that I firmly believe that a lot of school success is what you do in the summer in analyzing data. And I had teachers volunteer and we would come in and I, well we would literally, look at 800 or 860 students here. We looked at 860 students' transcripts, test scores, EVAAS data, everything to make a decision as to where we, how we were best going to meet the needs

of those students. So, that data were used during the summer in preparation for the

school year and in placing kids. (Griffin, 470-477)

PLC Principle 3 Continuum Summary

There were two separate PLC Continuums that focused on results (corresponding to

findings 8-10). After reviewing them both, I rated this item as *sustaining*. It is described below:

The first continuum emphasized that the school has developed a school-wide plan to

provide students who experience difficulty with additional time and support for learning

in a way that is timely, directive, and systematic. It has made structural changes such as

modifications in the daily schedule to support this system of interventions. Staff

members have been assigned new roles and responsibilities to assist with the

interventions. The faculty is looking for ways to make the system of interventions more

effective.

The second continuum implied that teachers are hungry for information on student

learning. All throughout the year, each member of a collaborative team receives

information that illustrates the success of his or her students in achieving an agreed-upon

essential standard on team-developed common assessments he or she helped create, in

comparison to all the students attempting to achieve that same standard. Teachers use the

results to identify the strengths and weaknesses in their individual practice, to learn from

one another, to identify areas of curriculum proving problematic for students, to improve

their collective capacity to help all students learn, and to identify students in need of

intervention or enrichment. They also analyze results from district, state or provincial

and national assessments and use them to validate their team assessments.

Based on my data collection through interviews, PLC meetings, classroom observations, and the document review, I feel that the school has done a thorough job of implementing a results-oriented culture. The document review provided several examples of assessments, data charts, transcripts, and goal summary report analysis that teachers use to better assist students with learning. During interviews, teachers shared their use of formative assessment, common formative assessments and how they analyze these data to plan on-going instruction. In addition, teachers shared how they incorporate summative and historical data to plan scheduling and courses for their students. Mostly, during interviews, I was most impressed by all teachers' level of accountability for student learning. If students were not learning, teachers reflected on their instructional practices, and discussed strategies in PLC meetings.

During PLC meetings, teachers were willing to discuss their data and rely on the strengths of colleagues to gain perspectives on teaching. Teachers shared ideas and explored new ideas to enhance their practices. Although teachers expressed the need for common planning, they all shared that they recognized that these collaborative experiences have been powerfully rewarding for them as professional, and most importantly, beneficial for their students.

Additional Findings

The ten findings above were generated based on the data collected at Ocean Breeze High School, then, compared and contrasted with the literature review and research related to PLC principles and characteristics. However, unique findings were discovered that were based on the implementation efforts at this school.

Finding 11: Although the principal had not received formal PLC training at the time of implementation, he was a leader of learners and encouraged teachers to make instructional decisions and take risks that were non-traditional and exploratory.

In mathematics, the PLC team was organized vertically and horizontally. Additionally, the team created a math hub that afforded more opportunities for student learning after school wherein all math teachers met to assist students. It also extended the math PLC learning opportunities because teachers could sharing ideas, and gain broader perspectives while working simultaneously with students. Hence, this type of collaboration empowered teachers to write and publish an article about their practices.

Finding 12: Non-tested, non-core content-area PLC teams (the arts and vocational) have regular PLC meetings and assume responsibility for student achievement by incorporating school-wide goals of literacy and writing.

Most of the PLC research studies in the literature review focused on core content-area PLCs in reading and in mathematics. However, during interviews, non-core content-area teachers at OBHS expressed their commitment to PLCs and involvement in the overall school goals. Amy Askew stated,

> I feel like I really co align with the English teachers. Last week before the writing test I was trying to do writing persuasive speeches, trying to get the students to use bigger vocabulary words. I was trying to grab their attention through speech because it's really the same thing. (73-76)

> Jesse James added, "I would love to continue working with other teachers...with their curriculum and mine, integrating them together, so it makes sense and is more uniform for students" (319-320).

Finding 13: The principal organized a PLC Leadership Team to develop teacher leaders and cultivate PLCs school-wide.

During the interview, Principal Griffin shared that he made academic achievement a priority by focusing on learning. During leadership team meetings, teacher leaders from each department met, and adhered to an agenda that focused on teaching and learning. However, as a leader, Principal Griffin realized that he still had to make time for handling managerial issues, so he formed a Teacher Advisory Team that he referred to as *the toilet paper and tissue committee* in which he allowed teachers to voice general concerns and trouble-shoot ideas to solve problems. Principal Griffin shared,

> At this meeting, the norm there was you couldn't talk about curriculum and instruction or student learning. You could talk about anything or everything else. So they would come to me with my printer doesn't work or people in the math department they say they don't get enough copies or not enough toilet paper in the men's bathroom. One lady came to me and said she rode her bike to school and wanted a bike rack. Mr. Grimes I ride my bike to school and don't have a place to park my bike so I went online and got her a bike rack. But I would come out of that meeting with about ten or fifteen things. I would go into my office, call the janitor or I'd call the head of technology, or whoever to solve those problems. In about an hour I could solve every one of those problems. I would send an email out to them, to the whole staff, that said here are the toilet paper and tissue issues that you brought to me and here's what I've done to solve every one of these problems. By doing this, we never got bogged down with discussing things that didn't pertain to teaching and learning during our leadership team meetings. (419-430)

Finding 14: The implementation of PLCs have restructured the culture and impacted instructional practices at OBHS.

Teachers at OBHS attribute their success to many interventions; however, all staff stated that the implementation of PLCs have made the most impact in teaching and learning. Under the leadership of a new principal in 2007, teachers expressed how the implementation of PLCs challenged them to work in collaborative teams more effectively and consistently. All teachers expressed that working collectively in PLC teams has enabled them to grow professionally beyond what they could have accomplished alone. Moreover, teachers accept responsibility when students don't learn, and are willing to adjust instructional practices to meet their needs. The four additional findings were not highly visible in the research studies and literature review on PLCs. Although these findings are related to PLC principles and characteristics, they are unique because they were created and implemented with good-faith commitment to meet the needs of students at OBHS.

Implications

Implication 1: Principals should consider organizing time for teachers to develop a common instructional guide that supports the state curriculum. This guide should include goals, objectives, strategies, resources, and a timeline for teaching.

At OBHS, instructional guides were visible during the document review and teachers referenced the development, usage, and importance of instructional guides during interviews. During classroom observations, it was apparent that teachers used common instructional guides. Marzano (2003) and Ainsworth (2003) concurred that in order to have a viable curriculum teachers first must understand the curriculum and collectively develop instructional guides that support learning for all students.

Implication 2: In a PLC, the principal should create opportunities for teachers to develop relationships that enable them to share strengths and weaknesses in their instructional practices. These relationships should be supported by a culture that enables teachers to make instructional decisions, select professional development, and develop individual and team growth plans.

At OBHS, the teachers are supported by the principal who gives them the autonomy to meet in subject-area PLCs to share ideas and make instructional decisions that will benefit students. Each team has an agreed upon meeting time, team developed norms, and an agenda. Minutes from the meeting are sent to the principal. Teachers also organized and developed professional development sessions that were presented school-wide. During interviews, teachers stated that they liked the idea of being able to share ideas and ask questions of other teachers.

Implication 3: PLC meetings should be structured with a team developed agenda based on teaching and learning practices that reflect the state core curriculum. Team norms should be

developed to facilitate protocols, team behavior, and expectations from members. After the

meeting, minutes and next steps should be shared with members and administrators.

Although the Principal Griffin did not attend all PLC meetings, he shared that he and the

assistant principals read the meeting minutes, made comments, and provided feedback as needed.

Often questions or comments from PLC meetings were followed up and discussed later in

Leadership Team meetings, which also focused on teaching and learning practices.

Implication 4: Teachers should incorporate formative assessment strategies daily to monitor

students' learning and adjust instructional practices to meet the needs of all students.

During interviews, teacher shared that formative assessment was a school-wide initiative

to monitor student learning. Teachers emphasized how beneficial it was to share formative

strategies in PLC meetings. In the biology PLC, teachers alternate bringing in formative

assessment activities to share with team members.

Implication 5: The principal should set high expectations for PLCs, provide guidance, and

monitor the progress of implementation and growth as a learning school.

Principal Griffin required that teachers meet in PLCs weekly, have an agenda, ask

questions about what students were to learn, actions steps that they would take if students were

not learning as well as if they were learning. These questions were answered in meeting

minutes, e-mailed to the principal, and he provided feedback to each PLC team. During

interviews, all teachers shared that they asked these questions in PLC meetings and that they

ultimately take responsibility for students learning.

Implication 6: To enhance collaborative practice among teachers, the principal should consider providing common instructional planning time during the school day. If necessary, principals should seek assistance from other educational leaders and experts for assistance with scheduling options.

The principal and administrative staff stated that were not able to organize the schedule so that teachers had common planning. However, they would attempt to provide teachers with the same lunch periods, so that this would provide another opportunity for content-alike teachers to collaborate. Because teachers perceive time for collaborating in PLCs as a barrier, the principal should seek help from experts and other professional outside the school to assist with this issue.

Implication 7: To grow and sustain PLC practices, principals should build the capacity of teachers as leaders by allowing them opportunities to lead job-embedded professional learning, and take on other leadership roles within the department, school, and district.

Teachers at OBHS shared that since the implementation of PLCs that they have grown individually and as a team professionally. They recognize the importance of teaming and value the collective expertise of their co-workers. This has empowered them to take ownership of their learning by reading articles, books, discussing problems, and finding solutions in student learning as well as their own practices.

Implication 8: A school-wide intervention plan should be multi-tiered and designed to enhance learning for all students.

The staff at OBHS developed a pyramid of interventions that focused on individual, school, and cultural data. The pyramid included support for students as well as consequences

when students were not achieving. Some of the consequences included not being able to drive to school, participate in practice or a game if a student played sport, and mandatory SMART lunch and after school tutoring.

Implication 9: Teachers should develop common formative assessments and collectively analyze strengths and gaps in students' learning, then adjust individual and team instructional practices and interventions.

At OBHS, teachers administer common assessments every two or three weeks. Some of the assessments are generated using ClassScapes, a computer generated item-bank, and some are team-developed assessments. During interviews, teachers also shared that common assessment results are analyzed by individual teachers and then by teams in PLC meetings. Then, teachers develop lesson plans for students who learned and for students who did not learn. In addition, they administer district-developed common benchmark assessments at the end of each nine weeks.

Implication 10: To meet the needs of students, schools should make data-driven decisions. These data may include, but are not limited to prediction data; formative, summative, and historical achievement data; attendance data; transcript data, student background data, and teacher experience.

During interviews, both Assistant Principals Jane Kelly and Keith Conner discussed how implementing PLCs has helped teachers to look more closely at data. Kelly responded,

Now, we collectively take more time to evaluate student data and do more hand keying of schedules based on students' needs. Getting the teachers and the PLCs involved, we look at these schedules and ask questions like what child are we missing? Who is it that

needs the support? Who are we giving extra support, but then realizing that this child

doesn't really need it? Who are the kids that we need to be able to watch and put our

finger on? We did things like that, and I think that doing everything together, and

looking at data is what got the success. You can't just put it just on one thing, but the

PLCs was the common area in which we could then distribute information, discuss data,

and get the whole department going in the same area.

<div align="center">**Implications for Additional Findings**</div>

Implication 11: Principals should provide guidance for PLC teams, yet give teachers the

autonomy to explore new ideas based upon the content-area, experience of the teachers, and

needs of the students.

At OBHS, each PLC team focuses on the four Dufour, et al. (2010) questions: "What do

we want our students to learn? How will we know if they have learned it? What will we do if

they have not learned it? What will we do if they have learned it?" However, teams functions

uniquely and implement research-based practices to meet the needs of their students. In English,

Christy Castelloe comments,

Well we're doing a lot more small group and formative assessments. In the past we've

done a lot of multiple choice, you know 10-20 questions, read a selection and answer.

Instead, now we're doing some open ended ones so that we can really look at where are

our kids misunderstanding that information? So it's taking a lot of time, and one thing

that we do need to address is that we don't want to spend so much on assessing and not as

much on instructing. But we're kind of developing the process as we go. It's very new

to us to do things in such an open-ended manner, so it's taking some time. It's very

experimental right now.

Implication 12: In order to grow and sustain PLCs school-wide with fidelity, the principal

should consider involving non-core content area teachers in professional development related to

PLCs and involve them in the accountability for reaching school-wide instructional goals.

Jesse James, an elective teacher, stated,

In our area when we meet every Tuesday morning and it's a celebration. Every Tuesday

we pretty much collaborate on what worked with in the past and how we can make some

kind of connection or have a discussion. PLCs allows us not only to discuss our agenda

that we are having for the day but possibly after the meeting, at lunch or after school, we

will discuss other things that have come up, so PLCs are a great, great thing to have (467-

478).

Implication 13: In order to transform school culture, the principal should facilitate and model

collaborative practices and conversations that focus on teaching and learning.

At OBHS, Principal Griffin attends some PLC meetings, monitors PLC meeting minutes,

and facilitates PLC leadership team meetings with department chairs to sustain and grow PLCs

school-wide. During leadership team meetings, the focus is on curriculum and instruction and

meeting the needs of students.

Implication 14: In a PLC school, principals, teachers, and all staff should be committed to

making student learning a priority because PLC practices have the potential to positively impact

instructional practices.

During interviews, teachers expressed that they feel that they are ultimately responsible for student learning, and that if students aren't learning that they need to reflect on their instructional practices. Teachers use PLC meeting time to ask other teachers about practices that work and search for ways to adjust their instructional practice. The teachers expressed that the principal provided guidance and support for collaborative teamwork, as well as on-going feedback.

Recommendations for Future Research

1. This case study provided research on a turnaround high school in North Carolina that implemented PLCs as a reform initiative to enhance student achievement. Another case study could be done involving PLC implementation at a middle school or high school that is not in turnaround status, but may be seeking strategies to improve instructional practices.

2. A study could be done on how schools that have PLCs create common instructional planning time during the day for teachers to collaborate about teaching and learning.

3. A comparative study could be done to compare teacher working conditions of PLC schools that have common planning during the day versus PLC schools that do not have common planning during the day.

4. A comparative study could be done to compare teacher working conditions of schools that have PLCs versus schools that do not PLCs.

5. A study could be done that addresses the characteristics and leadership styles of principals in PLC schools.

6. A study could be done in PLC schools that compares whether high-performing students' course needs are being met (AP, IB, Honors, SAT Prep) versus an emphasis being on placed on practices and interventions for low-performing students.

7. A study could be done to review attrition rate of teachers who work in schools that have implemented PLCs.

Summary

The purpose of this study was to investigate the relationship between professional learning communities and instructional practices. This case study revealed that the Constructivist theory of learning by doing correlates well with the purpose of PLCs. The PLC principles of ensuring that all students learn, building a collaborative culture among teachers and staff, and focusing on results require that teachers work collectively to direct their attention to solutions rather than intentions.

During this study, I conducted fourteen interviews, observed two PLC meetings, conducted thirteen classroom observations with two trained observers, and conducted a document review. The data collected during this case study confirmed that the implementation of PLCs directly impacted instructional practices. As teachers make the transition to working in collaborative teams that focus on teaching, learning, and action-orientation, they become reflective practitioners, and become empowered by their own autonomy to make instructional decisions. Moreover, it encourages administrators to develop teacher leadership by building the capacity within the school, and raises expectations for teaching and learning.

In conclusion, although PLCs were the most significant initiative mentioned by the school staff that impacted teaching and learning between 2007-2010, there were other initiatives

that also influenced changes in instructional practices. The hiring of a new principal, the sense

of urgency mandated by the state to improve student achievement, and the focus on other

initiatives such as literacy, formative assessment, and interventions- during and after school also

contributed to the school's success. However, PLCs provided the structure and served as the

forum for transforming instructional practices within classrooms, departments and throughout

the school. PLC meetings enabled teachers to collaborate about the effectiveness of instructional

practices as well as share ideas and strategies to enhance teaching and learning. Additionally,

the PLC Leadership Team meetings facilitated by the principal enabled the school to reflect on

all of these instructional efforts and initiatives holistically.

Reflections

This study utilized qualitative data that provided me with a wealth of knowledge about

individual teaching styles, team practices, and personal stories that teachers and administrators

experienced during the implementation of PLCs, which necessitated a cultural shift from being a

traditional, low-performing high school to becoming a collaborative, high-performing high

school. I am pleased with my decision to use a case study design and hope that this data will be

helpful to other schools that may be beginning the process of implementing professional learning

communities, or schools seeking ways in which to improve their existing learning communities.

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APPENDIX A

Turnaround High Schools and Models

LEA	High School	Local	AC	HSTW	TD	CGC	ST	WOW	STEM	McC/FLS *
Alamance-Burlington	Al-Bir Middle College	X								
Alamance-Burlington	Cummings	X								
Anson	Anson		X							
Anson	New Tech.								X	
Bertie	Bertie	X								
Bertie	Bertie STEM								X	
Bladen	East Bladen			X						
Bladen	West Bladen			X						
Brunswick	N. Brunswick	X								
Caswell-Bartlett	Yancy	X								
Char-Mecklenburg	EE Waddell	X								
Char-Mecklenburg	Harding University	X								
Char-Mecklenburg	Phillip O Berry	X								
Char-Mecklenburg	West Charlotte	X								
Char-Mecklenburg	West Mecklenburg	X								
Columbus	E. Columbus	X								
Columbus	W. Columbus	X								
Cumberland	Douglas Byrd				X					
Cumberland	EE Smith		X							
Cumberland	Gray's Creek					X				
Cumberland	Forest					X				
Cumberland	Westover				X					
Duplin	James Kennan						X			
Duplin	JK Engineering				X					
Durham	Hillside						X			
Durham	Hillside Tech								X	
Durham	Northern						X			
Durham	Southern						X			

LEA	High School	Local	AC	HSTW	TD	CGC	ST	WOW	STEM	McC/FLS *
Forsyth	Carver	X								
Forsyth	Parkland	X								
Franklin	Bunn	X								
Franklin	Franklinton	X								
Franklin	North Gaston	X								
Gaston	Bessemer	X								
Gaston	Hunter Huss	X								
Gaston	North Gaston	X								
Guilford	Ben L. Smith				X					
Guilford	Dudley				X					
Guilford	HP Central Academy									X
Guilford	Guilford MC-Benn								X	
Guilford	Guilford MC-A&T								X	
Guilford	NE Guilford									X
Guilford	T. Wingate				X					
Halifax	NW Halifax		X							
Halifax	SE Halifax		X							
Harnett	Overhills		X							
Hertford	Hertford Co				X					
Hoke	Hoke Co	X								
Jones	Jones Sr.	X								
Lenoir	Kinston	X								
Lexington	Lexington Sr.		X							
Martin	Roanoke Rap	X								
Northampton	NCHS East				X					
Northampton	NCHS West				X					
Pasquotank	Pasquotank HS							X		
Perquimans	Perquimans HS									
Richmond	Rich Sr. HS		X							
Robeson	Purnell			X						
Robeson	Pod Springs			X						
Robeson	S. Robeson			X						

LEA	High School	Local	AC	HSTW	TD	CGC	ST	WOW	STEM	McC/FLS *
Rockingham	Reidsville									
Row-Salisbury	N Rowan	X								
Vance	N Vance									*
Vance	S Vance									*
Warren	Warren Co		X							
Warren	Warren New Tech								X	
Washington	Plymouth		X							
Wayne	Goldsboro		X							
Wayne	Wayne Engineering								X	
Weldon	Weldon									
Weldon	Weld Science-Tech								X	
Wilson	Beddingfield	X								

The models include America's Choice (AC), Talent Development (TD), High Schools that Work (HSTW), and Focused Leadership Solutions (FLS). However, other models were also endorsed by the Department of Public Instruction (DPI): Working on the Work (WOW); Science, Technology, Engineering and Mathematics (STEM); New Schools Project (NSP); Solution Tree (ST); MCCrel-Success in Sight (McC); and Local Design. Some schools opted for the local design, which meant that schools could combine less expensive models, create a new school theme, or decide on other models such as AVID (Advancement Via Individual Determination), Smaller Learning Communities, and Professional Learning Communities.

APPENDIX B

IRB Approval Letter

VirginiaTech

Office of Research Compliance
Institutional Review Board
2000 Kraft Drive, Suite 2000 (0497)
Blacksburg, Virginia 24060
540/231-4606 Fax 540/231-0959
e-mail irb@vt.edu
Website: www.irb.vt.edu

MEMORANDUM

DATE: March 15, 2011

TO: William Glenn, Joanne Jones

FROM: Virginia Tech Institutional Review Board (FWA00000572, expires October 26, 2013)

PROTOCOL TITLE: The Relationship Between Professional Learning Communities and Instructional Practices

IRB NUMBER: 11-187

Effective March 15, 2011, the Virginia Tech IRB Administrator, Carmen T. Green, approved the new protocol for the above-mentioned research protocol.

This approval provides permission to begin the human subject activities outlined in the IRB-approved protocol and supporting documents.

Plans to deviate from the approved protocol and/or supporting documents must be submitted to the IRB as an amendment request and approved by the IRB prior to the implementation of any changes, regardless of how minor, except where necessary to eliminate apparent immediate hazards to the subjects. Report promptly to the IRB any injuries or other unanticipated or adverse events involving risks or harms to human research subjects or others.

All investigators (listed above) are required to comply with the researcher requirements outlined at http://www.irb.vt.edu/pages/responsibilities.htm (please review before the commencement of your research).

PROTOCOL INFORMATION:
Approved as: **Expedited, under 45 CFR 46.110 category(ies) 5, 6, 7**
Protocol Approval Date: 3/15/2011
Protocol Expiration Date: 3/14/2012
Continuing Review Due Date*: 2/29/2012
*Date a Continuing Review application is due to the IRB office if human subject activities covered under this protocol, including data analysis, are to continue beyond the Protocol Expiration Date.

FEDERALLY FUNDED RESEARCH REQUIREMENTS:
Per federally regulations, 45 CFR 46.103(f), the IRB is required to compare all federally funded grant proposals / work statements to the IRB protocol(s) which cover the human research activities included in the proposal / work statement before funds are released. Note that this requirement does not apply to Exempt and Interim IRB protocols, or grants for which VT is not the primary awardee.

The table on the following page indicates whether grant proposals are related to this IRB protocol, and which of the listed proposals, if any, have been compared to this IRB protocol, if required.

Invent the Future

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY
An equal opportunity, affirmative action institution

APPENDIX C

School Recruitment Script

Hello_____:

My name is Joanne H. Jones and I am a doctoral student at Virginia Tech University. I am conducting research on the *Relationship between Professional Learning Communities and Instructional Practices.* For my study, I have identified high schools in North Carolina that were identified as Turnaround Schools during the 2006/2007 school year.   As you are aware, the North Carolina Department of Public Instruction required that all Turnaround Schools adopt a reform model for improvement. The model for improvement that I am investigating is Professional Learning Communities. Therefore, I am in the process of identifying a Turnaround High School for a case study that has implemented Professional Learning Communities and made significant improvement from 2006/7-2009/10 in student achievement (80% or higher).

Based on the phenomenal improvements that your high school has made, I would like to conduct my study at your school. This case study would enable your school to share their stories and accomplishments with other schools that may be interested in PLCs. The data collection process includes interviews with the teachers and administrators, PLC meeting observations, classroom observations, and a document review. All data collected will not involve the use of names of individuals or the school. At any time during the study, individuals can withdraw their participation.

I hope that your school can help me complete my study on Professional Learning Communities. Can we schedule a day that I can come to your district to meet with you?

Thank you for all of your help; I am eager to begin this process. Please contact me if you have additional questions or concerns.

Sincerely,

Joanne H. Jones

Joanne H. Jones

7-12 Curriculum Director, Hertford County Schools

Interim Principal, Early College High School

(252) 332-7788 or (252) 642-3131

Joanne3@vt.edu

jhjones@hertford.k12.nc.us

APPENDIX D

School Recruitment Letter

Dear Educator:

My name is Joanne Jones and I will be conducting a case study at your school on the Relationship between Professional Learning Communities and Instructional Practices. A case study design investigates a phenomenon in a real-life context. Your school has shown significant growth in student achievement since it was labeled a Turnaround High School in 2007. Therefore, your voluntary participation in this study will provide an opportunity for you to share your story and celebrate your achievements with others in the educational field.

The purpose of my study is to investigate your implementation efforts and experiences with implementing Professional Learning Communities (PLCs), and to observe PLC characteristics that are present in your school. The data collection for this study will involve interviews with teachers and administrators, PLC meeting observations, a document review, and classroom observations.

All data collection methods will maintain the confidentiality of participants. Since your participation is voluntary, you may withdraw from the study at any time. Names of participants will not be used during any part of this data collection process. Pseudonym names will be given for all transcriptions and reports written. All data collected will be secured and locked properly. Only the researcher and advisor will have access to this information.

I am eager to begin this process and need volunteers for interviews, PLC meeting observations, classroom observations, and individuals/teams to share artifacts (meeting notes, data analysis forms, interventions, etc.) for the document review.

Interviews: The target population is teachers and administrators that were involved in the initial PLC process and have been involved in the model for three years. The interviews will be audio recorded and will take 35-45 minutes. The information from the recordings will be kept in a secure file at the researcher's home office. All interviews will be transcribed and sent back to participants for their review.

PLC meeting observations: This collection will include any team who agrees to participate, with at least one member who has been involved in the PLC model from its conception. The meetings will be video recorded in order to capture collaborative dialogue from team members. The data from the recordings will be kept in a secure file at the researcher's home office. All meetings will be transcribed and sent back to participants for their review.

The document review: The researcher will review artifacts such as meeting minutes, common assessments, data analysis sheets, professional development activities, action research projects, and intervention plans. The items shared will be recorded on a checklist based on research-based

PLC characteristics and principles. Information recorded on the checklist will be available for teachers to review; the researcher may ask participants to clarify or explain some artifacts.

Classroom observations: This process will involve any volunteers in the school. The researcher and two educational professionals will conduct snapshot observations of classroom/instructional practices. Information will be recorded on a form that addresses best-practices in classroom instruction.   All observations will use pseudonym names to identify practices observed that will be related to PLC practices. Teachers will have an opportunity to review information from the observations.

Thank you for your consideration in volunteering to participate in this study. If you volunteer to participate in any part of this study, a voluntary consent form will be available for you to review and sign. If you have any questions, please contact me.

Sincerely,

Joanne

 Joanne H. Jones
Interim Principal Early College High School
Phone: (252) 332-7788 or (wk) (252) 642-3131 (cell)
E-mail: jhjones@hertford.k12.nc.us or joanne3@vt.edu

APPENDIX E

Human Subject Training Certificate

Certificate of Completion

This certifies that

Joanne Jones

Has completed

Training in Human Subjects Protection

On the following topics:
Historical Basis for Regulating Human Subjects Research
The Belmont Report
Federal and Virginia Tech Regulatory Entities, Policies and Procedures
on

June 23, 2009

David Moore, IRB Chair

APPENDIX F

Interview Protocol and Field Test Interview Questions

Interview Protocol:

- My name is _____ and I am a Doctoral student at Virginia Tech. I am conducting a case study that involves the relationship between Professional Learning Community characteristics and instructional practices at your school.

- Thank you for agreeing to participate in this interview as it relates to Professional Learning Communities at this school. This interview will provide an opportunity for you to share your story about your school's experiences and implementation of PLC principles as it relates to instructional practices.

- I would like your permission to tape record this interview. Recording your responses will assist me in transcribing your responses. All information that you share will be confidential. You will be assigned a pseudonym name (ie. T1, T2, or A1, A2…) during the interview as well as when I transcribe your responses. My committee chair and I will be only individuals to know the names of the participants. This key will assist me if I need to come back and ask for clarifying responses as well as to allow you to review your own responses after the transcription has been completed. The key will be stored and locked in a secure location during the case study process; it will be destroyed after the dissertation has been completed.

- I will ask you a series of questions that relate to the most salient PLC principles that I gathered from my research. I will also ask you specific questions that relate to how your school or team has implemented PLC principles and to provide some examples of these characteristics as it relates to your instructional practices.

- Throughout the interview, I may ask you to elaborate or clarify some of your responses.

- At any time if you wish to elaborate on a previously asked question, please feel free to do so; however, at the end of the interview, you will be given an opportunity to add to or delete any information that you shared. You also have the choice to withdraw from this interview at any time during this process.

- The interview should last about 45 minutes to one hour. I will transcribe your interview responses using your pseudonym name. When I return on another visit, I will provide you with an opportunity to review your responses for accuracy. At that time, I may ask you to clarify or elaborate on a response, so that I may capture the true understanding of

your experience. You may also choose to delete any information that you feel is inaccurate or simply does not represent your opinion or experience.

- Do you have any questions before we begin?

Teacher Interview Questions

❖ Introduction: Tell me about yourself-your teaching experience, how many years you have been at this school, and involved in the PLC process?

1. Describe the processes and procedures that teachers use to ensure that all students learn?

2. What organizational structures (scheduling, room locations, etc) are in place to encourage content-area planning and collaboration?

3. Describe the manner in which teachers collaborate by sharing lessons and practices that have worked in their classrooms?

4. How are team goals developed, monitored, and celebrated?

5. What types of data are used to enhance teaching and learning at this school?

6. How are data analyzed to plan instruction?

7. Describe the manner in which teachers develop common formative assessments as a means to determine if all students are learning?

8. What types of interventions are planned for students who experience difficulties in learning?

9. Other than content-area teams, what other teams have been formed to ensure that all students experience success at school?

10. Describe some of the research-based instructional practices that your collaborative team has discussed and implemented.

11. Describe the process in which teachers engage in job-embedded learning (organized and conducted by teachers)?

12. Overall, how would you describe the administrative support and resources provided for teachers to implement PLCs effectively?

13. Which PLC practices do you feel have made the greatest impact in your instructional practices? Explain.

Administrator Interview Questions

1. Why did this school choose to implement Professional Learning Communities as a reform model?

2. How has the implementation of Professional Learning Communities helped shape the culture of this school?

3. How do administrators provide organizational structures (time, space, scheduling) to support successful implementation of PLCs?

4. According to your observations, describe how teacher/instructional practices have evolved since the implementation of PLCs?

5. What is the manner and frequency in which content-area teachers work collaboratively to discuss instructional practices?

6. Describe the types of data that teachers use to ensure that all students learn.

7. Describe the manner in which administrators engage in dialogue with teachers about instructional practices and data analysis.

8. Describe the frequency of professional development offered to teachers that focused on PLC principles.

9. How do you support and encourage the need for teachers to engage in job-embedded professional learning (learning organized and conducted by teachers)?

10. Based on your classroom observations and interactions with teachers in PLC meetings, which PLC characteristics do you feel have been implemented with the most fidelity?

APPENDIX G

PLC Continuum on Learning I

The Professional Learning Communities at Work™ Continuum: Learning as Our Fundamental Purpose (Part I)

DIRECTIONS: Individually, silently, and *honestly* assess the current reality of your school's implementation of each indicator listed in the left column. Consider what evidence or anecdotes support your assessment. This form may also be used to assess district or team implementation.

We acknowledge that the fundamental purpose of our school is to help all students achieve high levels of learning, and therefore, we work collaboratively to clarify what students must learn and how we will monitor each student's learning.

Indicator	Pre-Initiating	Initiating	Implementing	Developing	Sustaining
We work with colleagues on our team to build shared knowledge regarding state, provincial, and/or national standards; district curriculum guides; trends in student achievement; and expectations for the next course or grade level. This collective inquiry has enabled each member of our team to clarify what all students must know and be able to do as a result of every unit of instruction.	Teachers have been provided with a copy of state, provincial, and/or national standards and a district curriculum guide. There is no process for them to discuss curriculum with colleagues and no expectation they will do so.	Teacher representatives have helped to create a district curriculum guide. Those involved in the development feel it is a useful resource for teachers. Those not involved in the development may or may not use the guide.	Teachers are working in collaborative teams to clarify the essential learning for each unit and to establish a common pacing guide. Some staff members question the benefit of the work. They argue that developing curriculum is the responsibility of the central office or textbook publishers rather than teachers. Some are reluctant to give up favorite units that seem to have no bearing on essential standards.	Teachers have clarified the essential learning for each unit by building shared knowledge regarding state, provincial, and/or national standards; by studying high-stakes assessments; and by seeking input regarding the prerequisites for success as students enter the next grade level. They are beginning to adjust curriculum, pacing, and instruction based on evidence of student learning.	Teachers on every collaborative team are confident they have established a guaranteed and viable curriculum for their students. Their clarity regarding the knowledge and skills students must acquire as a result of each unit of instruction, and their commitment to providing students with the instruction and support to achieve the intended outcomes, give every student access to essential learning.

Indicator	Pre-Initiating	Initiating	Implementing	Developing	Sustaining
We work with colleagues on our team to clarify the criteria by which we will judge the quality of student work, and we practice applying those criteria until we can do so consistently.	Each teacher establishes his or her own criteria for assessing the quality of student work.	Teachers have been provided with sample rubrics for assessing the quality of student work.	Teachers working in collaborative teams are attempting to assess student work according to common criteria. They are practicing applying the criteria to examples of student work, but they are not yet consistent. The discrepancy is causing some tension on the team.	Teachers working in collaborative teams are clear on the criteria they will use in assessing the quality of student work and can apply the criteria consistently.	Collaborative teams of teachers frequently use performance-based assessments to gather evidence of student learning. Members have established strong inter-rater reliability and use the results from these assessments to inform and improve their individual and collective practice. The team's clarity also helps members teach the criteria to students, who can then assess the quality of their own work and become more actively engaged in their learning.
We monitor the learning of each student's attainment of all essential outcomes on a timely basis through a series of frequent, team-developed common formative assessments that are aligned with high-stakes assessments students will be required to take.	Each teacher creates his or her own assessments to monitor student learning. Assessments are typically summative rather than formative. A teacher can teach an entire career and not know if he or she teaches a particular skill or concept better or worse than the colleague in the next room.	The district has established benchmark assessments that are administered several times throughout the year. Teachers pay little attention to the results and would have a difficult time explaining the purpose of the benchmark assessments.	Teachers working in collaborative teams have begun to create common assessments. Some attempt to circumvent the collaborative process by proposing the team merely use the quizzes and tests that are available in the textbook as their common assessments. Some administrators question the ability of teachers to create good assessments and argue that the district should purchase commercially developed tests.	Teachers working in collaborative teams have created a series of common assessments and agreed on the specific standard students must achieve to be deemed proficient. The user-friendly results of common assessments are providing each member of the team with timely evidence of student learning. Members are using that evidence to improve their assessments and to develop more effective instructional strategies.	Collaborative teams of teachers gather evidence of student learning on a regular basis through frequent common formative assessments. The team analysis of results drives the continuous improvement process of the school. Members determine the effectiveness of instructional strategies based on evidence of student learning rather than teacher preference or precedent. Members who struggle to teach a skill are learning from those who are getting the best results. The frequent common formative assessments provide the vital information that fuels the school's system of intervention and enrichment. The assessments are formative because (1) they are used to identify students who need additional time and support for learning, (2) the students receive the additional time and support for learning, and (3) students are given another opportunity to demonstrate that they have learned.

APPENDIX H

PLC Continuum Learning II

The Professional Learning Communities at Work™ Continuum: Learning as Our Fundamental Purpose (Part II)

DIRECTIONS: Individually, silently, and *honestly* assess the current reality of your school's implementation of each indicator listed in the left column. Consider what evidence or anecdotes support your assessment. This form may also be used to assess district or team implementation.

We acknowledge that the fundamental purpose of our school is to help all students achieve high levels of learning, and therefore, we provide students with systematic interventions when they struggle and enrichment when they are proficient.

Indicator	Pre-Initiating	Initiating	Implementing	Developing	Sustaining
We provide a system of interventions that guarantees each student will receive additional time and support for learning if he or she experiences initial difficulty. Students who are proficient have access to enriched and extended learning opportunities.	What happens when a student does not learn will depend almost exclusively on the teacher to whom the student is assigned. There is no coordinated school response to students who experience difficulty. Some teachers allow students to turn in late work; some do not. Some teachers allow students to retake a test; some do not. The tension that occurs at the conclusion of each unit when some students are proficient and ready to move forward and others are failing to demonstrate proficiency is left to each teacher to resolve.	The school has attempted to establish specific policies and procedures regarding homework, grading, parent notification of student progress, and referral of students to child study teams to assess their eligibility for special education services. If the school provides any additional support for students, it is either a "pull-out" program that removes students from new direct instruction or an optional after-school program. Policies are established for identifying students who are eligible for more advanced learning.	The school has taken steps to provide students with additional time and support when they experience difficulty. The staff is grappling with structural issues such as how to provide time for intervention during the school day in ways that do not remove the student from new direct instruction. The school schedule is regarded as a major impediment to intervention and enrichment, and staff members are unwilling to change it. Some are concerned that providing students with additional time and support is not holding them responsible for their own learning.	The school has developed a schoolwide plan to provide students who experience difficulty with additional time and support for learning in a way that is timely, directive, and systematic. It has made structural changes such as modifications in the daily schedule to support this system of interventions. Staff members have been assigned new roles and responsibilities to assist with the interventions. The faculty is looking for ways to make the system of interventions more effective.	The school has a highly coordinated system of intervention and enrichment in place. The system is very proactive. Coordination with sender schools enables the staff to identify students who will benefit from additional time and support for learning even before they arrive at the school. The system is very fluid. Students move into intervention and enrichment easily and remain only as long as they benefit from it. The achievement of each student is monitored on a timely basis. Students who experience difficulty are required, rather than invited, to utilize the system of support. The plan is multilayered. If the current level of time and support is not sufficient to help a student become proficient, he or she is moved to the next level and receives increased time and support. All students are guaranteed access to this system of intervention regardless of the teacher to whom they are assigned. The *school* responds to students and views those who are failing to learn as "undersupported" rather than "at risk."

APPENDIX I

PLC Continuum Collaborative Culture

The Professional Learning Communities at Work™ Continuum: Building a Collaborative Culture Through High-Performing Teams

DIRECTIONS: Individually, silently, and *honestly* assess the current reality of your school's implementation of each indicator listed in the left column. Consider what evidence or anecdotes support your assessment. This form may also be used to assess district or team implementation.

We are committed to working together to achieve our collective purpose of learning for all students. We cultivate a collaborative culture through the development of high-performing teams.

Indicator	Pre-Initiating	Initiating	Implementing	Developing	Sustaining
We are organized into collaborative teams in which members work interdependently to achieve common goals that directly impact student achievement. Structures have been put in place to ensure: 1. Collaboration is embedded in our routine work practice. 2. We are provided with time to collaborate. 3. We are clear on the critical questions that should drive our collaboration. 4. Our collaborative work is monitored and supported.	Teachers work in isolation with little awareness of the strategies, methods, or materials that colleagues use in teaching the same course or grade level. There is no plan in place to assign staff members into teams or to provide them with time to collaborate.	Teachers are encouraged but not required to work together collaboratively. Some staff may elect to work with colleagues on topics of mutual interest. Staff members are congenial but are not co-laboring in an effort to improve student achievement.	Teachers have been assigned to collaborative teams and have been provided time for collaboration during the regular contractual day. Teams may be unclear regarding how they should use the collaborative times. Topics often focus on matters unrelated to teaching and learning. Some teachers believe the team meeting is not a productive use of their time.	Teachers have been assigned to collaborative teams and have been provided time for collaboration on a weekly basis during the regular contractual day. Guidelines, protocols, and processes have been established in an effort to help teams use collaborative time to focus on topics that will have a positive impact on student achievement. Team leaders are helping lead the collaborative process, and the work of teams is monitored closely so assistance can be provided when a team struggles. Teams are working interdependently to achieve goals specifically related to higher levels of student achievement and are focusing their efforts on discovering better ways to achieve those goals.	The collaborative team process is deeply engrained in the school culture. Staff members view it as the engine that drives school improvement. Teams are self-directed and very skillful in advocacy and inquiry. They consistently focus on issues that are most significant in improving student achievement and set specific, measurable goals to monitor improvement. The collaborative team process serves as a powerful form of job-embedded professional development because members are willing and eager to learn from one another, identify common problems, engage in action research, make evidence of student learning transparent among members of the team, and make judgments about the effectiveness of different practices on the basis of that evidence. The team process directly impacts teacher practice in the classroom, helping each teacher clarify what to teach, how to assess, and how to improve instruction.

Indicator	Pre-Initiating	Initiating	Implementing	Developing	Sustaining
We have identified and honor the commitments we have made to the members of our collaborative teams in order to enhance the effectiveness of our team. These articulated collective commitments or norms have clarified expectations of how our team will operate, and we use them to address problems that may occur on the team.	No attention has been paid to establishing clearly articulated commitments that clarify the expectations of how the team will function and how each member will contribute to its success. Norms do emerge from each group based on the habits that come to characterize the group, but they are neither explicit nor the result of a thoughtful process. Several of the norms have an adverse effect on the effectiveness of the team.	Teams have been encouraged by school or district leadership to create norms that clarify expectations and commitments. Recommended norms for teams may have been created and distributed. Norms are often stated as beliefs rather than commitments to act in certain ways.	Each team has been required to develop written norms that clarify expectations and commitments. Many teams have viewed this as a task to be accomplished. They have written the norms and submitted them, but do not use them as part of the collaborative team process.	Teams have established the collective commitments that will guide their work, and members have agreed to honor the commitments. The commitments are stated in terms of specific behaviors that members will demonstrate. The team begins and ends each meeting with a review of the commitments to remind each other of the agreements they have made about how they will work together. They assess the effectiveness of the commitments periodically and make revisions when they feel that will help the team become more effective.	Team members honor the collective commitments they have made to one another regarding how the team will operate and the responsibility of each member to the team. The commitments have been instrumental in creating an atmosphere of trust and mutual respect. They have helped members work interdependently to achieve common goals because members believe they can rely upon one another. The commitments facilitate the team's collective inquiry and help people explore their assumptions and practices. Members recognize that their collective commitments have not only helped the team become more effective, but have also made the collaborative experience more personally rewarding. Violations of the commitments are addressed. Members use them as the basis for crucial conversations and honest dialogue when there is concern that one or more members are not fulfilling commitments.

APPENDIX J

PLC Continuum Focus on Results I

The Professional Learning Communities at Work™ Continuum: Focusing on Results (Part I)

DIRECTIONS: Individually, silently, and *honestly* assess the current reality of your school's implementation of each indicator listed in the left column. Consider what evidence or anecdotes support your assessment. This form may also be used to assess district or team implementation.

We assess our effectiveness on the basis of results rather than intentions.

Indicator	Pre-Initiating	Initiating	Implementing	Developing	Sustaining
The members of each of our collaborative teams are working interdependently to achieve one or more SMART goals that align with our school goals. Each team has identified specific action steps members will take to achieve the goal and a process for monitoring progress toward the goal. The identification and pursuit of SMART goals by each collaborative team are critical elements of the school's continuous improvement process.	Goals have not been established at the district or school level. Teams are not expected to establish goals.	Teams establish goals that focus on adult activities and projects rather than student learning.	Teams have been asked to create SMART goals, but many teachers are wary of establishing goals based on improved student learning. Some attempt to articulate very narrow goals that can be accomplished despite students learning less. Others present goals that are impossible to monitor. Still others continue to offer goals based on teacher projects. There is still confusion regarding the nature of and reasons for SMART goals.	All teams have established annual SMART goals as an essential element of their collaborative team process. Teams have established processes to monitor their progress, and members work together in an effort to identify strategies for becoming more effective at achieving the team's SMART goal.	Each collaborative team of teachers has established both an annual SMART goal and a series of short-term goals to monitor their progress. They create specific action plans to achieve the goals, clarify the evidence that they will gather to assess their progress, and work together interdependently to achieve the goal. This focus on tangible evidence of results guides the work of teams and is critical to the continuous improvement process of the school. The recognition and celebration of efforts to achieve goals helps sustain the improvement process.

APPENDIX K

PLC Continuum Focus on Results II

The Professional Learning Communities at Work™ Continuum: Focusing on Results (Part II)

DIRECTIONS: Individually, silently, and *honestly* assess the current reality of your school's implementation of each indicator listed in the left column. Consider what evidence or anecdotes support your assessment. This form may also be used to assess district or team implementation.

Individuals, teams, and schools seek relevant data and information and use it to promote continuous improvement.

Indicator	Pre-Initiating	Initiating	Implementing	Developing	Sustaining
Collaborative teams of teachers regard ongoing analysis of evidence of student learning as a critical element in the teaching and learning process. Teachers are provided with frequent and timely information regarding the achievement of their students. They use that information to: ■ Respond to students who are experiencing difficulty ■ Enrich and extend the learning of students who are proficient ■ Inform and improve the individual and collective practice of members ■ Identify team professional development needs ■ Measure progress toward team goals	The only process for monitoring student learning is the individual classroom teacher and annual state, provincial, or national assessments. Assessment results are used primarily to report on student progress rather than to improve professional practice. Teachers fall into a predictable pattern: they teach, they test, they hope for the best, and then they move on to the next unit.	The district has created benchmark assessments that are administered several times throughout the year. There is often considerable lag time before teachers receive the results. Most teachers pay little attention to the results. They regard the assessment as perhaps beneficial to the district but of little use to them. Principals are encouraged to review the results of state assessments with staff, but the fact that the results aren't available until months after the assessment and the lack of specificity mean they are of little use in helping teachers improve their practice.	Teams have been asked to create and administer common formative assessments and to analyze the results together. Many teachers are reluctant to share individual teacher results and want the analysis to focus on the aggregate performance of the group. Some use the results to identify questions that caused students difficulty so they can eliminate the questions. Many teams are not yet using the analysis of results to inform or improve professional practice.	The school has created a specific process to bring teachers together multiple times throughout the year to analyze results from team-developed common assessments, district assessments, and state or provincial and national assessments. Teams use the results to identify areas of concern and to discuss strategies for improving the results.	Teachers are hungry for information on student learning. All throughout the year, each member of a collaborative team receives information that illustrates the success of his or her students in achieving an agreed-upon essential standard on team-developed common assessments he or she helped create, in comparison to all the students attempting to achieve that same standard. Teachers use the results to identify the strengths and weaknesses in their individual practice, to learn from one another, to identify areas of curriculum proving problematic for students, to improve their collective capacity to help all students learn, and to identify students in need of intervention or enrichment. They also analyze results from district, state or provincial, and national assessments and use them to validate their team assessments.