PROFESSIONAL LEARNING COMMUNITY IMPACT ON STUDENT ACHIEVEMENT

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Abstract

Teachers in today’s public schools are subjected to a high-stakes environment, where they must perform at an exceptional level in order to make a positive impact on student academic achievement outcomes. Historically, teachers have worked in isolation, whereby they would spend the majority of their day behind the closed classroom door interacting predominately with their students with little to no collegial interaction with their peers. In the past, teachers may have felt as if they were on their own, with little to no support from school administrators, further underlying the isolationism perception. As Social Cognitive Theory suggests, teachers may acquire a wealth of knowledge applicable to their own teaching styles and methods from observing other teachers. Professional interaction among educators increases the likelihood of information and idea sharing which should further the likelihood of student success in the classroom. Further expounding on the Social Cognitive Theory is Senge’s concept of a professional organization that outlines a framework for teachers to utilize as a foundation for continual improvement in their teaching practices. In turn, this concept has led to the development and implementation of Professional Learning Communities within public schools across the United States.

Professional Learning Communities in the school setting have led to an increase in teacher collaboration. This collaborative effort has had measurable impact on student performance. The purpose of this study was to examine the correlation between teacher participation in Professional Learning Communities and student academic achievement in the public school setting. This study utilized a quantitative research design involving 87 teachers who are employed in a large, rural high school in the Southeast. Educators completed the Professional Learning Community Survey, consisting of Likert-type items. After teacher surveys were analyzed, school administrators were surveyed in order to determine administrator satisfaction levels with teacher participation in Professional Learning Communities. Statistical analysis indicated that there was a correlation between positive teacher perceptions of
Professional Learning Communities and the impact those teachers have on the ultimate success of their students academically. The findings also indicated that school administrators were satisfied with teacher participation in Professional Learning Communities.

Keywords: Professional Learning Community, teacher collaboration, school administration, Social Cognitive Theory
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Dedication

This dissertation is dedicated to the memory of my grandfather, Clifford Cummings. When I was three years old, I became choked on a piece of candy. I recall not being able to breathe and I was scared. My grandfather picked me up, did the Heimlich maneuver, and dislodged the candy blocking my airway. He was my hero. Not only did he save my life, but he also spent time with me. Looking back, I don’t ever recall my grandfather speaking to me as if I were a child. He spent time discussing politics with me, the importance of saving money, and he taught me how to drive when I was 8 years old in the hay field, much to the dismay of my parents. My grandfather wanted more for me than what he had grown up with as a child. He worked hard to overcome and be a successful farmer. I look back at my relationship with him and I am grateful to have known such a steadfast and stubborn individual. I like to think my strong perseverance and sense of responsibility comes from him. I hope I made him proud.
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CHAPTER ONE

Introduction and Background

Currently, there are many hot topics in the world of education in the United States. Whether it be Common Core State Standards, school voucher programs, or a seemingly overabundance of testing in the classroom, educators today face many challenges as they attempt to help each student obtain a solid educational foundation. Educators have traditionally been assigned a group of students who were exclusive to them, and the educational outcomes of those students were weighed entirely on one individual teacher. In previous decades, teachers were isolated from their colleagues for the majority of the school day, with opportunities for professional interaction being kept to a minimum (Davis, 1986). Davis further suggested that teachers may have little administrative support, further underlining their feelings of being on their own in the classroom setting. In his 1975 book, *Schoolteacher*, Dan Lortie described teacher isolation as one of the main structural impediments to improved instruction and student learning in American public schools (Lortie, 1975). Lortie proffered the idea that since the 19th century, teachers have historically worked in isolation behind the closed door of the classroom and rarely, if ever, collaborated with other teachers or attempted to improve upon their teaching practice. Following this seemingly outdated ideal of isolationism, the 2012 Met Life Teacher Survey painted a grim picture on teacher collaboration with more than six in ten teachers saying that time to collaborate with other teachers has decreased or stayed the same in 2012 as compared to 2011 (Vislocky, 2013).
In other countries, such as Finland and Japan, where students outperform those in the U.S. in a variety of subject areas, collaboration among teachers is an essential aspect of instructional improvement (Mirel & Goldin, 2012). Oftentimes, changes in educational practices may lead teachers to feel as if a new initiative pertaining to teaching practices is something created to do “to” them and not necessarily “with” them as professionals, especially if a new initiative is being handed down from politicians who may know little about education and the best interest of students (OBrien, 2014). In *Waiting for Superman*, the 2010 documentary that describes the failure of American public education, several children and their families, along with educators like Geoffrey Canada and philanthropists like Bill Gates, drove home the argument that the key to school reform lies in improving the competence and skills of individual teachers (Guggenheim, 2011). Making a viable case for a clear and present need for educational reform in the United States is not an overwhelmingly difficult task considering that media sometimes does not present education in a strikingly effective light. Student competence in basic subjects like math and reading is alarmingly low and trails that of other nations. Three in 10 public school students fail to finish high school, while graduation rates for students in some minority groups are especially dismal, with just over half of Hispanics (55.5 percent) and African Americans (53.7 percent) graduating with their class (Leana, 2011). This disappointing performance has led educators, policymakers, and parents to search for ways to improve student achievement in schools. It is also suggested that value-added modeling is one example of a larger approach to improving public schools that is aimed at enhancing what economists label “human capital.” This so-called human capital refers to factors such as teacher experience, subject knowledge, and pedagogical
skills. Human capital may impact the success rate of a school largely in part by how vested teachers are in helping their fellow colleagues find ways to ensure student success. Leana (2011) stated that students show higher gains in math achievement when their teachers have frequent conversations with their colleagues that center on math, and when there is a feeling of trust or closeness among teachers. Simply put, teacher social capital is a significant predictor of student achievement above and beyond teacher experience or ability in the classroom.

Teacher Collaboration

Teacher collaboration, as defined by the U.S. Department of the State, indicated collaboration takes place when members of an inclusive learning community work together as equals to assist students to succeed in the classroom. This may be in the form of lesson planning, or co-teaching a group or a class (Powell, n.d.). At its best, collaborative teaching allows students and teachers to benefit from the healthy exchange of ideas in a setting defined by mutual respect and a shared interest in a topic. At its worst, collaborative teaching can create a fragmented or even hostile environment in which teachers undermine each other and compromise the academic ideal of a learning community and create civil discourse among their fellow teachers. Finding a good fit in personality, subject expertise, and pedagogical philosophy is important to functioning as an effective instructional connection. Strong mismatches in these areas could pose serious obstacles or, on the other hand, provide a variety of learning experiences and opportunities for students ("Team/Collaborative Teaching | Center for Teaching | Vanderbilt University," n.d.). The importance of having trusted colleagues, solid relationships, and positive working conditions all work together to promote teacher
improvement and student outcomes. Some researchers have investigated the specific conditions that are related to effective collaboration. In one recent study, Ronfeldt and colleagues (2015) examined the extent to which the topic of collaboration used in a Professional Learning Community was related to student achievement in the classroom. In addition to finding that high quality collaboration in general was associated with student learning, the study found that collaboration with a focus on assessments was more highly associated with student achievement compared to other topics of collaboration (Ronfeldt, Farmer, McQueen, & Grissom, 2015).

**Professional Learning Communities**

At the core of a Professional Learning Community is a focus on, and a commitment to, the learning of each student. When a school or district functions as a Professional Learning Community, teachers within the school should embrace high levels of learning for all students as both the reason the organization exists and the fundamental responsibility of those who work within it. In order to achieve this goal, the members of a Professional Learning Community develop, and are guided by a clear vision of what the organization must become in order to help all students learn. One Professional Learning Community model as described by DuFour (2006), suggested that if teachers are to help students achieve, they must be continually learning and developing their strengths as professionals. Members of Professional Learning Communities are action-oriented: they move quickly to turn aspirations into action and visions into reality (DuFour, 2006). They understand that the most powerful learning should occur in the context of taking action, and they value engagement and experience as the most effective teachers.
For the purposes of this study, specific emphasis is placed on the impact that participating in a Professional Learning Community has on teaching practices and subsequent student outcomes. According to Vescio (2008), the concept of a Professional Learning Community rests on the premise of improving student learning by improving teaching practice. The Professional Learning Community model according to DuFour gives schools a framework to build teacher capacity to work as members of high-performing, collaborative teams that focus on improving student learning (Rentfro, 2007). In order to be effective, the Professional Learning Community model demands a systematic approach to intervention. In order to ensure that all students are successful, teachers must operate under a specific set of conditions. Those conditions, according to DuFour (2009), include: Schools must demonstrate a high level of learning for all students, Teachers must be organized into teams and given time to collaborate, Teams must provide a guaranteed curriculum for every course and grade level, Teachers must develop common assessments, and use evidence of student learning to allow for continuous improvement of the Professional Learning Community team. The school must also create a system of intervention that provides students with additional time and remediation when they experience difficulty learning, while also offering enrichment activities to students who are excelling academically.

Fullan (2004) suggested that leadership and management often overlap; noting one difference between them is that leadership is needed for problems that do not have obvious answers. During the implementation phase of the Professional Learning Community process, it is important for school leaders to help teachers see the bigger picture, and remain focused on student success. It is important to remember the end
result is not about what may be best or most comfortable for teachers in their day-to-day business of managing their classrooms, but what is ultimately best for all students. Covey (1989) stated that the best way to implement any new initiative is to “begin with the end in mind” (p. 95). DuFour (2003) further explains that when educators remain dogged in their persistence to improve the achievement for all students, the likelihood of sustained and substantive success is increased.

Theoretical and Conceptual Framework

For a school system, student success is key to building a proficient curriculum and increasing the graduation rate. Graduation rates in schools are directly tied to teacher evaluation data and is therefore of great importance to educators. Schools must be able to offer viable intervention programs in order to offer students who struggle academically a greater chance for success. The theoretical framework for this study is based on the Social Cognitive Theory which is often used in education to highlight the idea that portions of an individual’s knowledge acquisition can be directly related to observing others within the context of social interactions, experiences, and outside media references (“Social Cognitive Theory (SCT)- IDEA,” 2006). Additionally, the premise of Senge’s concept of a learning organization that outlines a comprehensible framework for groups to utilize as they move toward the evolution of teaching practices through professional collaboration is applicable to this study considering the Professional Learning Community model stemmed from organizational change literature in the business world. This concept is explained by Senge in *The Fifth Discipline: The Art and Practice of the Learning Organization* (1990). Senge’s Five Disciplines of a learning organization include: Personal Mastery, Mental Models, Shared Vision, Team Learning, and Systems
Thinking. These specific areas of discipline are closely related to DuFour and Eaker’s (1998) basic characteristics of a Professional Learning Community which include: Shared mission, Vision and values; Collective Inquiry and Action Orientation; Collaborative Teams; Commitment to Continuous Improvement; and Results Orientation. Professional Learning Communities are built upon the premise that learning should be based on inquiry and should also be based on a constructivist theory of learning. Learning constructively requires an environment in which learners work collaboratively and includes common activities and contexts (Hord, 2009). Teachers who utilize formative assessments fit the Constructivist Theory of learning as the concept of the formative assessment is built around the central ideal that learning is not static, but it changes constantly. The Constructivist Theory also suggests that learning can be changed based upon data and feedback provided to the student from the teacher. By using formative assessments, a teacher can offer guidance to a student which will lead to further learning in the form of remediation or enrichment based on the specific needs of the student. The utilization of such student specific data should lead to teacher adaptations of educational practices.

**Significance of the Study**

There have been several studies conducted regarding the impact of Professional Learning Communities regarding teaching practices in the classroom. Some studies have focused on how administrators should support teachers in collaborating, not only within the confines of the school, but outside of the instructional day as well. This leads to teachers feeling less isolated in their profession. In *The Work of Restructuring Schools* (1995) Lieberman suggested that providing ways for teachers to talk publicly with each
other about their work on behalf of students reduces isolation of teachers and mobilizes them to commit themselves to making positive changes in how they participate within the school setting. Educators who target results must shift their attention to goals that are aligned to student learning outcomes. Teachers should constantly ask themselves if they have made adequate progress toward goals that are common to their school (DuFour, 2006). Another area of interest that has been studied to some extent is that of online Professional Learning Communities. Online Professional Learning Communities offer teachers the option to be collegially involved with each other on a virtual basis, thus allowing an educator to interact with teachers not only in their same building or school district, but with teachers around the globe (Blitz, 2013). The insights gained from this research will assist school administrators with effective ways to both manage and plan implementing a Professional Learning Community within a school. Furthermore, the information will also provide a foundation for professional development within a school. Finally, this study will glean information pertaining to how teachers embrace working collaboratively within a Professional Learning Community and how teaching practices impact student educational outcomes.

**Research Questions**

What is the relationship between educators' perceptions of participation in a Professional Learning Community and student academic achievement outcomes?

**Limitations/Delimitations**

The primary limitation to this study was that it was administered in one school. The institution is a small, rural school, with a predominately Caucasian faculty.
However, due to the large, multi-cultural student enrollment, the data collected in this study is generalizable to larger schools with larger demographic spreads.

Research regarding Professional Learning Communities is easily accessible. However, there is a lack of emphasis concerning teacher perceptions of Professional Learning Communities and how that relates to student achievement. Due to the fact that lack of student success impacts teachers across the curriculum in any school system as it relates directly to teacher evaluation data, this topic is both meaningful and relevant.

States use different statistical methods for attributing student learning to teacher performance. The most widely used models are value-added and student growth percentiles (SGP), both of which attempt to measure student gains so that the system doesn’t unfairly disadvantage teachers whose students were low-performers when they entered their classrooms (Hull, 2013).

**Definition of Terms**

**Teacher collaboration**- Within this study, the definition of teacher collaboration is simply motivating teachers and school administrators to work towards a mutual goal that is reflective of the school’s mission and vision statement (Royal, 2014).

**Professional Learning Communities** – For the purpose of this study, Professional Learning Communities are defined as ongoing processes in which educators work collaboratively in recurring cycles of collective inquiry and action research to achieve better results for the students they serve (DuFour, DuFour, Eaker, & Many, 2006).

**Organization of the Document**

This study is divided into five chapters. Chapter One serves as an introduction to the study. It includes contextual information as well as background information, outlines
the problem, and identifies the research question. Additionally, theoretical and conceptual frameworks for the study are addressed; limitations and delimitations of the study are discussed, and definition of terms are provided. Chapter One also includes a discussion pertaining to the significance of the study. Chapter Two provides a review of the literature. The literature review is an analysis and overview of professional literature relating to the topics of Professional Learning Communities and student achievement outcomes as related to teaching practices. Chapter Three provides the research methodology and includes descriptions of the population, instruments, and research procedures utilized to perform the study, and includes a description of the data analysis. Chapter Four provides the results of the data analysis. Chapter Five describes the conclusions that are drawn based on the results of the study, provides implications of study findings, and offers suggestions for further research.
CHAPTER TWO

Review of Literature

The purpose of this study is to determine the relationship between the implementation of a cohesive Professional Learning Community and how it impacts student achievement outcomes in the public school setting. This review of literature will discuss the development of teacher collaboration, important educational movements in the United States that have led to the need for a more collaborative teaching environment, and the changing role of teachers as the sole dispenser of knowledge in the classroom to that of an educational facilitator. Special emphasis will be placed on how the Professional Learning Community may identify at-risk learners early in their academic careers and better plan a means of intervention, thereby creating an atmosphere of academic success.

Prior to Professional Learning Communities, teachers typically found themselves working predominately in isolation behind the closed doors of their classrooms. Teachers interacted with fellow teachers and administrators on a consistent basis, but usually in terms of acquiring information or direction. There was seemingly little communication about students across grade levels or departments in the schools in which they taught. Initiatives in education such as the No Child Left Behind Act, Race to the Top, First to the Top, and Common Core changed the dynamic in the manner in which educators communicate and collaborate forever as each of the reform pieces worked to bring more effective directional planning in an attempt to lead students towards a higher
level of learning. The 1980s ushered in several movements in education including the excellence movement in response to “A Nation at Risk” (1983), a report by the National Commission on Excellence in Education, which challenged schools to be more rigorous and intensify existing practices (DuFour & Eaker, 1998). In 1989 President George H. W. Bush held a summit with the nation’s Governors and developed the Goals 2000 initiative. This initiative promoted higher standards that would bring about change and improvement to the achievement of American students. NCLB brought about a dynamic shift in educational reform in that it introduced requirements states to establish annual benchmarks for student achievement in reading and mathematics with the objective of 100% proficiency of all students in all subgroups by 2014 ("VDOE: Accreditation & Federal Reports," 2016). States, schools and divisions that meet or exceed all annual benchmarks were rated as having achieved Adequate Yearly Progress (AYP) toward having met the goals of the No Child Left behind Act of 2001 (NCLB).

No one individual will ever be able to develop the perfect vision, communicate it to large numbers of people, eliminate potential obstacles, and generate short-term success all while managing the personalities and conflicts within a large organization as school administrators are oftentimes expected to do on a daily basis (DuFour, 2006, p. 15). It is imperative that school administrators build consensus among staff members and aim for a common vision among teachers, staff, and students that will reflect the culture of the school while keeping the best interest of the students at the forefront of all decision-making practices. The demands of modern society are such that America’s public schools must now provide what they have never provided before: a first-rate education for nearly all students (Schlechty, 1997).
Historical Context

In fiction, poetry, and personal memoir, the image of the teacher as it emerges in the Early Republic is less than flattering (Cohen & Scheer, 1997, p. 9). Historical records indicate that throughout the 18th century, schoolteachers were almost always white, male, and young (Cohen & Scheer, 1997, p. 10). During this time period, teachers rarely held long-term commitments to their school or the community in which they taught. In many communities, teachers were often friendless and isolated, and were perceived as being public servants. Public portrayal of teachers was oftentimes less than appealing. In popular culture, colonial teachers were often mocked as pathetic, unmanly creatures that did not have the physicality for farming or the gumption for the legal profession (Glenn, Moss, & Schwab, 2005, p. 4). This example is highlighted in some of the passages found in “The Legend of Sleepy Hollow,” in which the schoolmaster, Ichabod Crane, attempts to endear himself to the local ladies (Cohen & Scheer, 1997, p. 10). Not only was teaching a lonely undertaking at the time, but teacher pay was oftentimes based on what the community could afford to pay. Rural teachers were sometimes paid in vegetables, firewood, and livestock (Glenn, Moss, & Schwab, 2005, p. 3). Teaching itself took place in a one-room schoolhouse, if the community had one, or was held in private homes. Because there were no common textbooks, teachers relied on materials that students brought with them from home, which included alphabet hornbooks or religious pamphlets (Glenn, Moss, & Schwab, 2005, p. 3). In the early nineteenth century, the potpourri of colonial schools and their teachers were subjected to years of unrelenting criticism by
reformers, statesmen, and working people across the land. The American Revolution, and the market revolution of the early to mid-1800s, demanded new approaches to education and teaching (Parkerson & Parkerson, 2001, p. 2). A new, universal educational experience for all Americans was underway where teachers promoted the values of a patriotic nationalism that helped unite the nation. Common-school teachers helped introduce their students to the concepts of competition, ambition, and achievement that would help them better prepare for the world outside the classroom.

Today’s teachers may feel as if they are in the wake of yet another significant educational reform. Change has been both cyclical and oftentimes frequent, changing with nearly each newly elected president. Periodic efforts to reform American state and local K-12 education the past have rarely lasted more than a decade or two (Vinovskis, 2009). However, in the 1980s, a well-publicized reform for elementary and secondary schools began that lasted through the duration of both a Republican and Democratic administration. In terms of education, both the Republican party platform and the Mandate for Leadership under the tenure of President Ronald Reagan during the 1980s, sounded an alarmist note by stating, “Next to religious training and home, education is the most important means by which families hand down to each generation their ideals and beliefs,” (Kossar, 2011, p. 2). As a candidate, Reagan made it clear that his educational policy put parents front and center as having the responsibility to see that their children had a proper education. Reagan believed that not only were parents charged with the accountability of their child’s moral and educational upbringing, but Reagan also felt that children needed strict discipline, and solid training in the “three R’s” – reading, writing, and arithmetic (Kossar, 2011, p. 2). Reagan and the Republican
Platform held firm to the belief that education was the highway to equal opportunity. In
general, President Reagan’s focus was to effectively restore control of education to local
and state government. With the publication of *A Nation at Risk*, it was evident that
education would be high on the national agenda (Johanningmeir, 2009, p. 9).

Since the National Commission on Education’s study that preempted *A Nation at
Risk* in 1983, the federal government has played a major role in developing and
implementing large-scale education reform packages such as America 2000, Goals 2000,
and the No Child Left Behind Legislation (Vinovskis, 2009). The fundamental purpose
of the Goals 2000 Act was to promote coherent, nationwide, systemic education reform
(Carleton, 2002, p. 206). The essential components of the Goals 2000 Act was to ensure
that all children start school ready to learn, schools will have a high school graduation
rate of at least ninety percent, all adults in the United States will be literate, schools will
be safe environments free of drugs, alcohol, or weapons, and that parents will be involved
in their child’s education. While Goals 2000 focused on school readiness, adult literacy,
and parental involvement, the No Child Left Behind Act was a more in-depth law with a
broader, more overarching reach into the specifics of who would achieve what
academically. On January 8, 2002, President George W. Bush signed the No Child Left
Behind Act into law (Hess & Petrilli, 2006, p. 3). President Bush’s signature to NCLB
eradicated the laws that were previously put into effect by the Elementary and Secondary
School Act, which in turn, placed the federal government at the forefront of American
education. Representative John Boehner, a Republican from Ohio and the chairman on
the House Committee on Education and Workforce, termed the law “his proudest
moment ever,” (Carleton, 2002). Republicans were not the only politicians who
supported the No Child Left Behind Act, as Representative Ted Kennedy proclaimed that NCLB was a defining moment in American education after the events of September 11, 2001. The No Child Left Behind Act may have had good intentions, but it was far from free of problems. High-stakes testing was a predominate piece of the NCLB legislation, and if schools did not perform up to expectations, they could be held accountable in a blistering manner in which a school will be reconstituted if students do not make adequate yearly progress in any one of five years (Peterson & West, 2003, p. 2).

On January 7, 2008 President George W. Bush announced that Chicago’s Horace Greeley Elementary School was named a federal Blue Ribbon School, one of twelve in Illinois and one of 239 nationwide (Zhao, 2009, p. 1). President Bush proclaimed that in order to meet the criteria to be named a Blue Ribbon School, a school must be meeting certain specific educational criteria and be excelling academically. One of the most recognized examples of the power the U.S. Department of Education to promote and honor specific practices at the classroom and school level is the “Blue Ribbon Schools Program.” Established in 1982, the Blue Ribbon Schools program has provided comprehensive criteria for schools to conduct a detailed self-analysis and embark on a step-by-step improvement program (Reeves, 2001, p. 88). The Blue Ribbon Schools program focused on data analysis as it impacted teaching practices and curriculum offerings in the classroom setting. With a keen focus on data collection based on student assessments in the form of what is now universally known as high-stakes testing, the Blue Ribbon Schools program became somewhat of an oxymoron in and of itself. Several schools that were named Blue Ribbon Schools were found to be failing at the state level. At least seven were simultaneously considered the nations ‘best” and “worst”
On February 17, 2009, President Barack Obama signed into effect the stimulus package for schools across the nation known as “Race to the Top.” Race to the Top exemplified the ever-increasing control of the federal government over local schools. The official Executive Summary of the stimulus package states that $4.3 billion in funds allocated for the Race to the Top program was designed to encourage and reward states that are creating the conditions for educational innovation and reform; achieving significant improvement in student outcomes, including making substantial gains in student achievement, closing achievement gaps, improving high school graduation rates, and ensuring student preparation for success in college and careers; and implementing ambitious plans in four core education reform areas (Spring, 2016, p. 248). Generally speaking, the goal of Race to the Top was to shape state education policies to meet the requirements of federal guidelines. Another facet of Race to the Top is the fact that data on students were collected not only to personalize learning for students, but also to evaluate teachers. The criteria for selection of state grants under Race to the Top included whether or not states were willing to participate in creating national standards, common assessments, and a data bank of student scores to be used to evaluate teachers and support school expansion (Spring, 2016, p. 249).

Born of the Race to the Top initiative was First to the Top, a stimulus package worth a total of $4 billion dollars from the U.S. Department of Education that was split between eleven states and the District of Columbia. Tennessee was one of those eleven
states receiving First to the Top funding. Secretary Arne Duncan stated, “I challenged Tennessee to become the fastest-improving state in the nation. It was an ambitious goal, but today Tennessee is the fastest improving state and it’s a model for the nation,” ("Tennessee on dogged path to Race to Top finish - Education Week," 2014). Eight months after the implementation of First to the Top in Tennessee, a new governor was elected who wanted to not only embrace the educational changes instituted by Race to the Top, but he embarked on a zealous attempt to eradicate ineffective teachers across the state by linking student achievement to teacher evaluations through the new Tennessee Educator Acceleration Model (TEAM). This seemingly new-fangled evaluation method aims to transform teacher effectiveness. Evaluations rely half on student achievement, as measured by test scores or other data, and half on annual classroom observations. The TEAM evaluation program produces four evaluations a year, based largely on observations of teachers at work with students. New teachers undergo six visits. Previously, tenured teachers were evaluated once every ten years. Early in his tenure, Governor Bill Haslam (R) hired Kevin Huffman, a former manager for Teach for America and attorney, as Commissioner of the Tennessee Department of Education. Together, the two focused on integrating curriculum changes across the state via the Common Core State Standards Initiative. Common Core is described as a set of high-quality academic standards in mathematics and English language arts/literacy (ELA). These learning goals outlined what a student should know and be able to do at the end of each grade. The standards were created to ensure that all students graduate from high school with the skills and knowledge necessary to succeed in college, career, and life, regardless of where they live ("About the standards | Common Core State Standards
Common Core was not met with open arms by teachers across the State of Tennessee, but was viewed as further governmental intrusion in the classroom and state micromanagement of curriculum and teaching practices. Specifically, the Common Core State Standards Initiative has been hailed as the “No Child Left Behind Act on steroids,” (Zarra, 2015, p. 2). Because schools have been unable to articulate the results they seek, they have become susceptible to following the educational fads *du jour* (DuFour & Eaker, 1998, p. 14). As teachers are oftentimes jaded by the numerous, failed attempts at new education innovations, teachers often respond to calls for reform with baited breath.

Education, like all other professions, has a considerable laundry list of what is known to be best practice when it comes to educating our youth. There is no specific recipe for infallibility in the classroom setting. Teachers are human, and make errors daily in the endless search for a sure-fire way to manage student achievement outcomes. Schools need stability, adequate resources, well-prepared and experienced educators, community support, and a clear vision of what good education really is (Ravitch, 2013, p. ii).

**Professional Learning Communities**

American public schools were originally organized according to the concepts and principles of the factory model, the prevalent organizational model of the late nineteenth and early twentieth centuries. The professional learning community is based entirely on a different model (DuFour & Eaker, 1998, p. 15). A significant body of circumstantial evidence points to a deep, systematic incapacity of U.S. schools, and the practitioners who work within them, to develop, incorporate, and extend new ideas about teaching and
learning in anything but a small fraction of schools and classrooms (Elmore, 2003). If schools are going to be significantly more effective, they must break from the industrial model upon which they were created and embrace a new model that enables them to function as learning organizations (DuFour & Eaker, 1998, p. 15). As DuFour (1996) states, while the term “organization” suggests a partnership enhanced by efficiency, expediency, and mutual interest, the term “community” places greater emphasis on relationships, shared ideas, and a strong culture; all of which are factors indicative of school improvement. A school community is a composite of people representing many ages, roles, backgrounds, and dreams. Members of the community are aligned around common goals, shared values, and an agreed-upon way of doing things. All of these facets come together to represent synergy within the school culture (Wald & Castleberry, 2000, p. 4). When thinking of changing how the school as a community has “always done things,” the professional learning community is one of several means for changing schools and affecting instruction. “There is growing evidence that the best hope for significant school improvement is transforming schools into professional learning communities” (DuFour & Eaker, 1998, p. 17). According to DuFour (2006), a Professional Learning Community’s primary purpose is the focus on and a commitment to the learning of each student. At the heart of any truly functional Professional Learning Community is a healthy culture of collaboration. Educational collaboration isn’t restricted to the confines of the school itself working with other local or state agencies, but rather refers to teachers collaborating together as professionals for the betterment of student achievement. Collaboration describes a relationship that is freely entered into by the participants. It involves the sharing of leadership and control over decisions about
what group members will do, how and to what extent they will participate in leadership and decision making while working on a project or towards a goal which everyone sees as important and worthwhile (Peter-Koop, 2003, p. 4). In order for collaboration to be a successful venture in the public school system, clear communication from not only school administrators, but also from teachers and support staff is vital. Effective communication skills, which are essential for those in leadership positions, are at the heart of the learning activities that take place in the educational setting. Teachers must communicate effectively to assume leadership roles and participate in learning activities with individuals and groups (Roberts & Pruitt, 2009, p. 54). Communication skills should be developed when a school decides to move toward the integration of the Professional Learning Community. When ideas and opinions are openly shared and supported with reliable facts, learning and trust among school leaders and teachers can deepen over time (Schumck & Runkel, 1994). This is the foundational basis of a Professional Learning Community characterized by a shared mission, vision and values; collective inquiry, collaborative teams; an orientation toward action and willingness to experiment; commitment to continuous improvement; and a focus on results (DuFour & Eaker, 1998, p. 45). A Professional Learning Community is composed of teams whose members work interdependently to achieve common goals. The linkage of those common goals is essential to providing a continuum of learning for all students across the curricula in any school setting. Collaboration by itself, however, does not ensure a clear-cut path to providing the highest level of academic offerings to students. Team members involved in the Professional Learning Community process must concentrate on the appropriate issues that will serve to address the most serious issues faced by students and
teachers. Maintaining clarity on a common goal is vital to the effectiveness within a Professional Learning Community. Most schools can no longer function under the factory model of get it right and keep going. The concept of continuous improvement with a get it right and make it better and better philosophy is needed in meeting the performance mandates of today’s schools (DuFour & Eaker, 1998). DuFour (1998) further proffered that Professional Learning Communities should be based on the following principles: strong school leadership, shared values, a clear mission and vision, collective inquiry, collaboration, a focus on continuous improvement, and results orientation.

With practice and attentiveness to the overall goals, mission, and vision of the school, collaborative learning communities that regard insightful, professionally-based research, study, and inquiry not only build teacher expertise and increase student learning, but also offer opportunities for communities of practice to form which in turn create safe places for colleagues to explore, learn, and bond both professionally and personally (Craig, 2010, p. 12).

**Professional Learning Communities and Student Outcomes**

Pfeffer and Sutton (2000) wrote: “Interdependence is what organizations are all about. Productivity, performance, and innovation result from joint action, not just individual efforts and behavior,” (p.97). This statement reiterates the importance for a team mindset when moving forward with a Professional Learning Community in the school and it highlights how important it is for a group to keep the same overall vision and mission of the school at the top of their priority list. At its core, the concept of a Professional Learning Community rests on the premise of improving student learning by
improving teaching practice. Although initial teaching practices were not specifically described, the authors of a study pertaining to educational practice outcomes based on participation in Professional Learning Communities discussed how early meetings of twelve participating teachers focused on the challenges of trying to teach low-achieving African American students successfully (Hollins, McIntyre, DeBose, Hollins, & Towner, 2004, p. 258). The study indicated that by the tenth meeting between the teachers, the teachers had shifted to a more strategic focus as they designed a new approach to language arts instruction (p. 258). Team members who effectively communicate and share ideas through professional collaboration create a certain type of synergy that will carry over into the student body and create a resounding impact on the climate and overall expectation setting paradigm of the school. When students are expected to achieve at a higher level, then they will more often than not, rise to that challenge (J. Walker, personal communication, July 6, 2016). The Professional Learning Community will only be a success once it fulfills its ultimate purpose: that of creating an intensive focus on learning by stating in exact, explicit terms what students are to learn and by monitoring each student’s learning within a specific time frame. In a Professional Learning Community school setting, teachers work together by writing common assessments, planning curriculum, identifying at-risk students, and problem solving to intervene for each student. During collaborative team meetings, teachers share their concerns, reflect on their teaching strategies, and make decisions based on data. There are three crucial questions that should be answered in order to drive the direction of the Professional Learning Community teams’ impact on student achievement. Educators must ask themselves what do they want their students to learn, how will they know when
learning has occurred, and what will be done if a student does not succeed? ("How PLCs impact student success," 2014.).

Clarifying what students must learn and being able to soundly address any inconsistencies in what they have failed to make adequate progress with is vital to ensuring student success. This must be done all the while keeping in the forefront the curriculum standards set forth by the state department of education. Teachers are not able to create their own set of curricula, but must be selective in what aspects of the state selected curriculum they want their students to be capable of learning and retaining. One important aspect of making a decision about what students must learn in the classroom and stays on point with the student being able to successfully demonstrate his proficiency on state, district, and national examinations. DuFour (2006) stated that Professional Learning Community teams must create assessments that provide timely information on a student’s proficiency so that students who struggle academically can be identified and provided with additional support services to remediate their learning. Student learning is easily impacted by teachers who work in more supportive environments and become more effective at raising student achievement on standardized tests over time than do teachers who work in less supportive environments.

**Teacher Apathy**

Good teaching really does make a difference. The difference between a teacher in the 25th percentile and a teacher in the 75th percentile translates into a 10% outpoint difference in student test scores (Kerr, 2009, p. 41). Teacher apathy presents perhaps the most serious challenge to schools under reform (Day, 2012, p. 29). With the many demands placed on teachers by school administrators, colleagues, as well as politicians
who play a substantial role in the development of school policy, teachers may lose their sense of worth when it comes to their role in the delivery of content knowledge to their students. More often than not, when schools fail, the fingers are pointed in the direction of the teacher as being the bane to the academic downfall of the system as a whole. Stakeholders throughout academia have searched for solutions to poor student achievement in America’s ailing public education system. Experts have identified some potential problems such as poor parenting, teacher shortages, poor school leadership, lack of funding, and student and teacher apathy (Richards, 2009, p. 2). Teachers may feel that they have little say in what happens within their schools. This feeling of existence without a voice may also contribute to a teacher losing interest in the overall success of their school (J. Walker, personal communication, June 15, 2016).

Teacher learning communities, however, can serve the often overlooked purpose of lending a voice to teachers, as they are the ones in the proverbial trenches teaching students who come from a myriad of cultural backgrounds, socioeconomic status, familial backgrounds, and general ability levels. A strong Professional Learning Community exhibits a strong commitment to serving all students, innovation in subject instruction to improve student learning outcomes, and success in obtaining school and district resources as well as support for their collaborative efforts (McLaughlin & Talbert, 2006, p. 18).

A Collaborative Culture

Within the school setting, the most important factor is that of student learning and achievement. The very essence of a learning community is a focus on, and a commitment to, the learning of each student (DuFour, 2006, p. 3). According to DuFour,
a Professional Learning Community allows educators to embrace high levels of learning for all students as both the reason the organization exists and the fundamental responsibility of those who work within it (DuFour, 2006). Developing a solid Professional Learning Community entails re-culturing schools, changing the technical culture, developing professional norms and organizational policies. Schools must confront beliefs that effective teaching is a matter of transmitting knowledge and that some students simply will not succeed (McLaughlin & Talbert, 2006, p. 32). Teachers who are a part of a Professional Learning Community must work together to compose a shared vision of what their school must become in order to foster student success across the curriculum. Leadership teams are designed to engage school staff in collaborative communities that serve as models for changing school cultures. The collaborative communities allow all parties within a school to become participants in the change process that leads to whole-school support of initiatives. Teams must focus on analyzing school data, researching possible solutions to problems, assisting and supporting each other, and keeping ongoing data in order to determine the effectiveness of changes within the curriculum (Eaker, DuFour & DuFour, 2002). A positively functional Professional Learning Community within a school must ensure that teachers work together to define student-learning expectations, design interventions for students who struggle, and offer opportunities for enrichment for students who excel. While the overall goal of any Professional Learning Community is to enhance student learning and achievement, continual professional growth and education for teachers is a major component of the Professional Learning Community process (B. Cox, personal communication, June 20, 2016). There must be a focus on a gradual shift in mindset from that of isolationism for
teachers to that of total, professional collaboration in order to benefit each learner and address the individual needs of the students. Successful school leaders create a school culture founded on a shared vision of the possibilities for what the school can become, develop strong lines of communication to ensure an understanding of the vision, and establish and maintain clear goals and clear direction towards achieving such goals (Craig, 2010, p. 14).

Teacher buy-in to the cross-curricular collaborative process is detrimental to the sustained success of creating a collaborative, collegial community within a public school. In order to establish a successful Professional Learning Community, it is imperative for leadership teams and faculty members to create an atmosphere of trust (Hilliard, 2012, p. 2). Effective leaders seek input from teachers in the design and implementation of important decisions and policies. The school principal’s ultimate role is that of an optimizer, a person who inspires teachers to become leaders in developing a school-wide initiative designed to improve student achievement (Craig, 2010, p. 17). Gone are the days of teachers who go into their classrooms with the door closed and teach their students independent of the overall success of the school in which they teach. Today’s teachers not only interact with each other face-to-face, but many teachers are becoming increasingly familiar with using technology as a means to have professional communication with other peers (Hilliard, 2012). Thanks to the abundance of technology in our society today, teachers are not limited in how they participate in their school Professional Learning Communities as they may actively engage in professional discussion virtually at any time or place they so desire thanks to the Internet.

Professional collaboration does not even have to be limited to the confines of co-workers
or school system employees, as the worldwide web makes professional communication possible with other teachers all over the globe. Teachers may be accustomed to seeing their fellow teacher who teaches across the hall each day, and may not be as likely to verbalize ideas or offer suggestions regarding teaching practices, but technology may allow teachers who might not otherwise engage to develop connections and create professional ties with other teachers who may be working on similar curricular offerings. A teacher may link this knowledge to his or her own classroom and thereby impact teaching practice in a positive manner. Otherwise, the teacher may not have had the ingenuity on his own to develop such new methods. Teachers may have once considered social media as a means to follow each other’s lives online, but it can also be a tremendous professional resource when used correctly. Twitter is a quick and simple means of staying abreast of important educational topics in a manner that does not infringe upon the teacher’s time. Approximately 243 million people use Twitter each month (Halla, 2015, p. 10). Twitter allows teachers to learn in an online setting and then share those ideas with their fellow teachers. Due to the simplicity of Twitter, teachers are able to take in new ideas quickly, click on web pages for further in-depth learning opportunities, and communicate with other educators either in a live fashion or by delayed messaging (Halla, 2015, p. 10). Twitter opens up limitless opportunities for teachers to collaborate with not only other teachers, but with well known state department of education employees, state governors, congressional members, as well as with other teachers both nationally and internationally. Teachers are able to follow topics of interest on Twitter thanks to the development of hash tags. Hash tags allow educators to keep all comments related to a particular conversation or topic in one place online. Hash tag
examples may be akin to #STEM, #digitalclassroom101, or #ushistoryclass (Halla, 2015, p. 11). Not only does teacher collaboration help to improve teachers’ professional knowledge, but it also significantly improves student learning and achievement (Ostovar-Nameghi & Sheikhahmadi, 2016, p. 199). Online teacher collaboration is equally as important as more traditional face-to-face communication.

A Commitment to Continuous Improvement

In order for school systems to possess a culture that exemplifies sustained and substantial student success, school systems must maintain a commitment for cultivating strong professional learning communities. Jim Collins (2001) began his best-selling book *Good to Great* with a seemingly straightforward observation: “Good is the enemy of great.” Teachers who feel as if they are doing a “good” job within their classrooms and as a part of their school as a whole may not be motivated to push themselves further. In some instances, there may be the perception that teachers seem as though they have some level of oppositional defiance towards lawmakers, who have attempted to place more demands on teachers as far as accountability is concerned. In Tennessee, teachers are now measured on student growth, not achievement ("Meaningful accountability needs both classroom observation and test scores - Education Post," n.d.). In essence, if a student is not growing academically, then a teacher is failing in the classroom.

“Vision is a trite term these days, and at various times it refers to mission, purpose, goals, and objectives, or a sheet of paper posted near the principal’s office” (Issacson & Bamburg, 1992, p. 42). There must be a reasonable form of teacher buy-in for a school to have a noticeable change in its culture. Developing a mission and vision for the school in the confines of a board room with little to no staff input may lead to a
teacher’s less-than-enthusiastic reception of or participation in ideas presented from the top-down. Without a clear vision, a school lacks direction. If there is no common ground, then all teachers are in effect left to their own devices.

Persuading teachers to initiate new teaching practices and procedures may be difficult for school administrators. DuFour (2006) stated that the Professional Learning Community model in the public school setting offers a tangible, realistic, compelling vision of what schools might become. One potential obstacle to creating a powerful vision is the reality that vision statements in schools are often created perfunctorily and lack follow-through. They are usually the result of a directive to "get it done" by a certain date and delivered to a central office administrator ("Developing a vision and a mission," 2016.). School improvement initiatives in the past have been commonplace in the world of education, with new mandatory methods and strategies coming along in a seemingly cyclical fashion. In some instances where teachers have found themselves focusing more on compliance issues with administrators, or state laws, their focus may become clouded and the vision for the school and what it should accomplish is lost (C. Curtis, personal communication, June 18, 2016). When schools focus primarily on compliance, they tend to concentrate their school improvement efforts on what and how they are being measured (Bernhardt, 2013, p. 2). One example of focusing on compliance stems from the No Child Left Behind Law, in that NCLB suggested that schools find blocks of time in the daily schedule to focus on improving language arts skills for students. The thought behind this logic was that if a child did well in reading, then he or she would do well in all other subject areas as well. Bernhardt (2013) suggests that during the NCLB era, many schools noted an overall improvement in student reading
scores, but other subject areas remained low, therefore disproving the idea that following a mandatory prescriptive for increasing student achievement in one area of learning, or focusing solely on one particular subgroup might not be effective at serving all students across the curriculum.

**Professional Capacity Building**

In order to structure a Professional Learning Community within a school, an interdisciplinary team model may serve as an effective means for collaboration considering that all teachers should share common content. Teams set up in the school should create overarching curricular goals that team members will work together interdependently to achieve (DuFour, 2006, p. 92). Ensuring that all students learn becomes a matter of delivering fair and equitable instruction from classroom to classroom. “Teaching need not be exceptional to have a profound effect: continuous, commonsense efforts to even roughly conform to effective practice and essential standards will make a life-changing difference for all students,” (Hall & Simeral, 2008, p. 1). Professional Learning Community teams must ask themselves, “What happens in our school when, despite our best efforts, a student does not learn?” To put this commitment to student learning into practice, the professional learning community participates in a collective sharing of experiences, information, and capacities to guide their learning ("Literacy and numeracy secretariat," n.d.). When the focus is on the community within the school, the Professional Learning Community learns to grow by means of its greatest resource: the members and their interconnections with one another. From the development of a culture within the group, which includes the group’s
diversity, conflict, as well as teamwork comes the commitment to cooperate and collaborate professionally as a team (Wiseman, Arroyo, & Richter, 2013, p. 144).

In order to properly establish an effective Professional Learning Community within the school environment, it is important that school administrators structure their Professional Learning Community teams with certain expectations. DuFour (2006) suggests that highly organized and functional Professional Learning Communities usually adhere to the following practice in order to achieve a desirable level of functionality: provide a clear structure and purpose for staff meetings, address the most challenging instructional concerns, provide support to educators from all levels of the school system, foster an atmosphere of trust, provide constructive feedback, and support teachers’ sense of efficacy and level of professionalism.

The best team structure for any Professional Learning Community would be fairly simplistic in nature, whereby teachers who teach the same subject would compose a team. However, in some circumstances, there may not be enough of a particular “type” of teacher to develop a complete group. Therefore, those teachers must find a way to be a part of the collaborative process. DuFour (2006) indicated that team structures within a Professional Learning Community would be structured either by vertical teams, electronic teams, or by logical links. Those team structures follow the basic rationale that vertical teams link teachers with those who teach content above or below their students. Additionally, electronic teams use technology to create powerful partnerships with colleagues across the district, the state, or even around the world. Logical links put teachers together in teams that are pursuing outcomes that are linked to their particular areas of expertise (DuFour, 2006).
Implementing a Professional Learning Community

System dynamics is the study of complex systems, including such human systems as families, organizations, cities, and nations (Senge, n.d.). If you look deeply into any system and analyze the relationships between members, you will find infinite complexity (Senge, n.d.). The “systems thinking” framework developed by Senge depicts a diagram to illustrate a hierarchical level of principles divided into three planes in which constant higher leverage for lasting change is directly impacted by a system structure, pattern of behavior, and the events leading up to those reactionary outcomes. When done well, systems thinking can create a reality in which the whole is greater than the sum of its parts. Professional Learning Communities are quite similar to systems thinking in that a professional learning community is a school where teachers and administrators continuously seek and share new learning in order to increase their professional effectiveness. Professional Learning Communities are based on the belief that learning is more fruitful when it is undertaken in a collaborative environment, where participants can test their ideas, challenge each other’s assumptions and process new information together (DuFour, 2004). A Professional Learning Community involves much more than a staff meeting or group of teachers getting together to discuss a book they’ve read. Instead, a Professional Learning Community represents the institutionalization of a focus on continuous improvement in staff performance as well as student learning (Provini, 2012). Professional Learning Communities emphasize teacher leadership, along with their active involvement and deep commitment to school improvement efforts. Professional Learning Communities therefore benefit teachers just as much as they do students. Typically, the implementation of a Professional Learning Community includes six steps: study, select,
plan, implement, analyze, and adjust. Prior to beginning the process, teachers review student achievement data to identify a specific standard or standards on which many students are not meeting goal.

Provini (2012) also suggested that teachers work in collaborative planning teams to examine and discuss standards-based learning expectation for their students while selecting evidence-based instructional strategies for meeting required standards; furthermore, teams develop common lesson plans which incorporate the selected strategies and serve to identify the types of student work each teacher will use to demonstrate learning has occurred. Provini further offered that teachers implement the planned lesson, record successes and challenges, and gather evidence of student learning which will then be reviewed with the team in order to reflect on the implication of the analysis of student work and discuss potential modifications to instructional strategies.

Additionally, there are certain characteristics that are inherent in Professional Learning Communities. These specific characteristics work to promote adjustments and improvements in teaching practices and school culture. The characteristics may be categorized into four categories that include: collaboration, a focus on student learning, teacher authority, and continuous teacher learning (Vescio, Ross, & Adams, 2008, p. 84). Collaboration within a Professional Learning Community leads to increased ownership in the school and curtails teachers from working in complete isolationism. Professional Learning Communities at higher levels of development are shown to have stronger linkages between student achievement and teachers’ professional learning (Vescio, Ross, & Adams, 2008, p. 85). A teacher’s ability to make decisions concerning how the particular Professional Learning Community is set up and how the school arrives at
certain curricular decisions lends to feelings of teacher authority within the Professional Learning Community. Feeling involved in the school governance process allows teachers to feel as if they are valued members of the school climate and further encourages teacher authority. Continuous teacher learning is one of the main staples in the Professional Learning Community model, whereby teachers are consistently involved in professional development that is driven by their own needs as it pertains to incorporating effective teaching practices into their classes.

Developing a fully functional Professional Learning Community does not happen overnight. The Professional Learning Community approach is a long-term proposition, taking three to six years to fully incorporate into a school’s routine practices. Staff teams must have time to meet during the workday throughout the year. They also need to focus their efforts on essential questions about learning and generate products such as lists of key student outcomes, methods of assessment and strategies for meeting goals (Provini, 2012).

**Professional Learning Community Norms**

Lencioni (2007) wrote, "Like it or not, all teams are potentially dysfunctional. This is inevitable because they are made up of fallible, imperfect human beings." Team norms are the foundation of a Professional Learning Community. Some teams feel like they can operate without norms, but conflict or a dysfunctional team member usually highlights the purpose of norms. When teams operate with norms, each member of the team understands how to communicate, how shared decisions will be handled, when to arrive for meetings, and how to professionally disagree (Weber, 2011). If teachers are not yet ready and willing to work together as a Professional Learning Community, it is
important to work hard on building a school culture that supports collaboration and sharing. Members who are able to trust each other will be more likely to freely express their ideas among colleagues. A focus on the system or the group as a whole does not, however, mean that the individual should be ignored, for, as Hall and Hord (1987) emphasized, organizations do not change, individuals change. Needless to say, there is a certain level of fear and uncertainty when sharing one’s thoughts and conceptual beliefs with their peers. To promote trust, members of the school community must begin by engaging in discussions to establish explicitly stated norms for how they will collaborate and communicate with one another (Weber, 2011). It is important to remember that individuals serve as the catalyst of change when they function as a group or simply by themselves. Administrators must also understand the importance of monitoring what is expected of the staff that is charged with leading the change initiative at the ground level. Hall & Hord (2006) find that monitoring is a critical phase in facilitating organizational change, which in-turn, is a key leadership responsibility. Since the No Child Left Behind Act, there has been an increase in attention to the evaluation process within the school setting (Engleman, 2004). Hopkins & West (2002) suggest that real school improvement will only succeed if evaluation becomes the central focus and tenet of every initiative and improvement effort. White & Smith (2010) proffer the idea that school administrators must verify that each cycle of change in the school is an improvement over the last, that best practices are established as common practice, and that creative best practices become the rule rather than the exception. It is also beneficial to teachers and staff for school administrators to provide individualized support to teachers who are acting as leaders within the Professional Learning Community in an effort to sustain
leadership across the various departments within the faculty. Schools that have had successful school improvement efforts typically operate as strong professional learning communities, with teachers systematically studying student assessment data, using the data to modify their instruction and working with colleagues to refine their teaching practices (Fullan, Hargreaves, & Fullan, 1996). DuFour (2006) states that Professional Learning Community team members stay more focused and on-task if they establish a set of norms for the group. DuFour (2006) also states that norms are essentially “ground rules or habits that govern the group.” When teams establish a certain process for holding each other accountable when someone violates a norm pre-determined by the group, then unnecessary confrontations and unspoken tensions between team members may be avoided. Garmston and Wellman (1999) identify seven norms of collaborative teams. They ascertain that when team members follow these norms, they promote the productive dialogue essential to be a part of an effective team. These norms include: pausing, paraphrasing, probing for specificity, putting ideas on the table, paying attention to self and others, presuming positive intentions, and finally, pursuing a balance between advocacy and inquiry.

There is a common myth that if you seat people together in a group, then they will become a team (B. Wood, personal communication, June 25, 2016). School administrators should not automatically assume that a group will be high performing simply because it consists of multiple people sharing a space. Real communities have norms, agreements, and rules. Some are unspoken and unwritten while others are written. There is a need for both. Teachers who are supported both by school administration, as well as by their colleagues, in their undertakings as a part of a
Professional Learning Community are typically found to be more effective in their capacity as educators (Hall & Hord, 1987, p. 12).

**Measuring Success**

Booker T. Washington, the great post-Civil War educator and founder of the Tuskegee Institute proclaims in *Up From Slavery* (1901), “The older I grow, the more I am convinced that there is no education which one can get from books and costly apparatus that is equal to that which can be gotten from contact with great men and women.” This statement powerfully highlights the fact that teachers should not be the “sage on the stage” in the classroom, meaning that teachers should have meaningful interactions with students that will lead to an increased opportunity for success in the post-secondary environment. DuFour (2006) suggests that school leaders must do more than deliver curriculum documents to teachers to ensure all students have an opportunity to master the same essential learning. Teachers must collaborate in a formal process to further emphasize their dedication to student achievement. The usage of common assessments in the classroom setting in order to test what students are learning is vital to knowing whether or not a student is advancing at a level in which he or she may be successfully retaining and applying presented knowledge. Doug Reeves (2001) refers to common, teacher-made formative assessments as the “best practice in assessment,” (pg. 71) and the “gold standard in educational accountability,” (p. 114) because they promote overall consistency between classrooms related both to students and teachers. Common assessments, generally speaking, help teachers teach in a more equalized and balanced manner more often than not. Providing this consistency in the way that information is presented to students benefits all learners, not just the highest achieving students. Special
needs students benefit from this form of teaching in that they are offered the same learning environment as their non-disabled peers. Knowing what outcome students should be aiming for based on curriculum standards keeps teachers and administrators focused on what matters. Otherwise, there will be a flurry of activity that accomplishes nothing but noise.

Reflective teaching in today’s schools is not a relatively new approach, but one that bears heavy consideration and importance when it comes to self-monitoring success as an educator, especially when individual results impact other Professional Learning Communities’ team members. John Dewey, oftentimes referred to as the father of modern education, suggested that teachers should be reflective in their teaching. Dewey believed that teachers should take time to reflect on their classroom observations, knowledge and experience so that they can effectively nurture each child’s learning (Carter, n.d.). Reflection or “critical reflection,” refers to an activity or process in which an experience is recalled, considered, and evaluated, usually in relation to a broader purpose. It is a response to past experience and involves conscious recall and examination of the experience as a basis for evaluation and decision-making and as a source for planning and action (Richards, n.d.). In teaching, not only do professional practices change, but also the professional identities of partners found within Professional Learning Communities. In order to truly see what the future may hold, teachers must be reflective in their teaching practices in order to deduce where they are and where they could be in the future. As professional identities shift, teachers may begin to regard their students as involved in the co-construction of knowledge about themselves and their own situation within the developing personalized learning agenda which is so prevalent in
today’s world of education (Dymoke, 2013, p. 22). Dymoke further states that true reflective teaching practices involve trust and relative autonomy as schools today are steeped in cultures of accountability and audits, involving measurements and managerialism. As reflective teaching practices are, for the most part, evidence based and involve data as well as various performance markers, reflective practice draws particular attention to the aims, values, and social consequences of education.

Differentiation in the classroom setting is an imperative component of a functional Professional Learning Community. Just as it is equally important for teachers to have effective communication among themselves in order to conduct viable research leading to the construction of problem solving techniques, the Professional Learning Community also serves as an individualization mechanism for academic content delivery to students. Students who are identified by the Professional Learning Community team as having barriers to learning may benefit abundantly from curricular differentiation in the presentation of academic content. More than a century ago in the United States, the teacher in a one-room schoolhouse faced the challenging task of dividing time between teaching young people of varied ages who had never held a book and could not read or write, while at the same time, working with other students who were more advanced academically (Tomlinson, 1999, p. 1). Today’s teachers oftentimes find themselves in similar situations whereas their students come from increasingly different backgrounds, but are usually the same age. In a differentiated classroom, teachers start with two critical “givens.” One, there are content requirements, often in the form of standards, that will serve as destination points for their students, and two, there are students who will inevitably vary as learners (Tomlinson, 1999, p. 4). Teachers must be ready to face this
challenge by incorporating effective means of serving all learners in the classroom. Tomlinson (1999) states that, in differentiated classrooms, teachers ensure that students compete against themselves as they grow and develop academically. Academic growth is usually aimed at a particular goal, or destination point. Teachers must develop methods of providing instruction to students who quite simply do not learn in the same manner. Teachers in differentiated classrooms begin with a clear and solid sense of what constitutes powerful curriculum and engaging instruction. Modifications are then made to both the curriculum and how the content is presented in terms of instructional delivery methods (Tomlinson, 1999, p. 5).

**Response to Intervention**, seemingly born of the educational movement towards that of instructional differentiation, is oftentimes referred to as RTI, or RTI². Originally, Response to Intervention began in the 1960s, but has only as of late gained significant momentum among researchers and practitioners as a plausible means of identifying learning and/or reading disabilities. Furthermore, there is ample evidence to suggest that RTI is a viable method as a progress-monitoring tool for students with or without disabilities (Bender & Shores, 2007, p. 1). Response to Intervention integrates assessment and intervention within a school-wide, multi-level prevention system to maximize student achievement, while at the same time, reducing student behavioral issues. RTI allows schools to identify students who are at-risk for poor learning outcomes, monitor student progress, provide evidence-based interventions, and adjust the intensity and nature of those interventions based on a student’s academic responsiveness ("National center on response to intervention," n.d.). Response to Intervention wisely underscores the unacceptability of waiting for students to fail. The National Center on
Response to Intervention created a guidebook which provides four essential components of Response to Intervention as (1) a school-wide, multilevel instructional and behavioral system for preventing school failure, (2) screening, (3) progress monitoring, and (4) data-based decision making for instruction, movement within the multi-level system, and disability identification. The guidebook also states response to intervention is a “framework for providing comprehensive support to students and is not an instructional practice,” (“Center for mental health in schools at UCLA,” n.d.). Within these layers of RTI lies the overarching concept of a multi-layer prevention system with a stringent focus on student success. Response to Intervention provides three levels of remediation that may be utilized when working with an at-risk student. Each level represents a continuum of support from the prior level. The first level in the Response to Intervention model is that of primary prevention: this level focuses on high-quality core content instruction that meets the needs of most students. The second level of RTI is that of secondary prevention, whereby evidence-based interventions of moderate intensity address learning or behavioral challenges of most at-risk students. The third level of the RTI model, referred to as tertiary prevention, employs a more direct, individualized approach in that students may be removed from the regular education setting and placed in a more direct-response environment ("Essential components of RTI- A closer look at response to intervention," 2010, p.4). As an added component of Response to Intervention, active learning in the classroom is fundamental to the operation of a well-rounded, student-focused environment. The ideal situation in a classroom is to have an atmosphere where students and teachers feel positively stimulated, well supported, and engaged in the learning objectives of the day. Student engagement in academic context is
essential in order to not only ensure learning is taking place, to keep distractions and potential behavioral problems from arising. In order to precipitate active learning within the classroom, the teacher may wish to provide experiences for students that provide opportunities other than reading materials from the text and answering questions. Active learners are engaged in the content presented to them by participating in higher-order thinking activities such as in-depth discussions of academic material, participating in problem-based and discovery learning, working on special projects related to curricular content, experiences outside the classroom, or learning activities in the online setting ("Center for mental health in schools at UCLA," n.d.).

In tandem with the Response to Intervention model, is the Positive Behavior Interventions Support (PBIS) model that provides a similar, school-wide model similar to that of RTI. When combined with Response to Intervention, the two models can provide an effective framework for both academic and behavioral needs. Managing student behaviors has always been an area of concern for schoolteachers and administrators. Classroom disruptions have been proven to lower student achievement, not only for the offending student, but also for his classmates (Lannie & McCurdy, 2007). Safety is a basic need to every human being, and should include but is not limited to emotional and physical safety. According to Devine and Cohen (2007), feeling secure while at school greatly promotes the performance and learning of all students. This results in the positive formation of student peer relationships and academic achievement. Despite the school system’s best efforts, some students may not feel entirely safe and secure while at school. Bullying is an ever-present issue within schools and students who are potentially at-risk of being bullied, or being the victims of peer pressure, may suffer if certain behaviorally
based punitive actions are not put into place by the school. A negative climate can contribute to high absenteeism, academic underperformance, and high dropout rates (Attar-Schwartz, 2009). Since the early 1990s, the national discourse on school discipline has been dominated by the philosophy of zero tolerance (American Psychological Association Zero Tolerance Task Force, 2008). In general, the zero tolerance policy found in schools today has served to make students feel safer and create an environment of proactive protection of students and teachers while placing emphasis on students who behave in a positive manner.

**Ensuring Success**

Every school can increase the rate of student success, close the achievement gap, reduce the dropout rate, meet the needs of each student, and yield a crop of successful, confident, competent, and well-prepared young people (Hall & Simeral, 2008, p. 3). Bearing this thought in mind, it is imperative that teachers remember that every school is full of children, who possess limitless potential. However, as with any curriculum change or new programming initiated, there must be a quantifiable measurement of success in order to gauge the effectiveness of the program and justify the change in curriculum. A determination must be made as to whether or not the Professional Learning Community is proving itself to be successful, and if it is, then there must be a plan for sustainability. If the Professional Learning Community isn’t successful at first, administrators should look at the framework of the Professional Learning Community and question the expectations and vision of the group. A plan for moving forward in a positive manner should be addressed. DuFour (2006) suggested certain tips for progressing academically, clarifying, and monitoring essential learning. DuFour believes
in the less is more notion, and states that teams should identify eight to ten most essential outcomes students will be expected to achieve for a particular semester. DuFour also proffers a strong focus on proficiency, rather than coverage of material. The usage of curriculum pacing guides may serve as an instrument by which material may be covered in a timely fashion. It is also recommended by DuFour (2006) to recognize that common assessments might create teacher anxiety. Teachers may worry they will be the “weakest” link in the department. It is important to reassure staff that these methods of assessment will not be used against them, for example, in evaluation results. Use technology as a support tool. Use assessments as a means rather than an end. Do not spend so much time focused on the obtainment of higher test scores, but rather emphasize that test scores shall be looked upon as an indicator of teacher effectiveness as it relates to helping a student learn (DuFour, 2006).

Punishment must not be placed upon teachers in the event that a Professional Learning Community is not being productive, but rather a re-training and the expectation of a “buy-in” of teachers actively participating in the Professional Learning Community process. Some questions that may be utilized for keeping teachers focused on truly learning by doing in the aspect of participating whole-heartedly in the Professional Learning Community process include: Should Professional Learning Community teams be created on the basis of shared responsibilities? What would be the benefit of dispersing leadership within Professional Learning Community teams? Should Professional Learning Community team monitoring be done in order to continually assess the effectiveness of the Professional Learning Community?
Success cannot be sustained by itself; everyone from administration to teachers to the school staff must work together in order to ensure that each student is able to be successful in the classroom. Setbacks should be viewed as opportunities to begin again, with the benefit of greater wisdom and experience. There is no reason to believe that first efforts to transform a school will lead to spectacular results (DuFour, 2006, p. 197). DuFour suggests that a highly functional Professional Learning Community must be action-oriented, with a focus on “learning by doing,” and suggests that the first year of implementing a Professional Learning Community into a school system be devoted to helping staff members learn how to work in teams with a focus on consensus building, conflict resolution, and norm writing. The second year should be devoted to examining and rewriting curriculum. In the third year, staff should be trained in writing effective assessments. Finally, in the fourth year, staff should be trained in how to interpret and analyze data from assessments. Taking too much time to coerce teachers to work together in teams causes the Professional Learning Community process to become dampened and runs the risk of teacher-participants losing interest. DuFour further states that leaders of Professional Learning Communities must consistently communicate, through both their words and their actions, their conviction that the people in their school or district are capable of accomplishing great things through their collective efforts.

**Conclusion**

The purpose of this study was to examine the relationship between teacher participation in a Professional Learning Community, teacher-imposed changes to teaching practices within the classroom, and student achievement outcomes. This review of literature examined the contextual background of Professional Learning Communities
by discussing the historical concept of education and how teachers have, more often than not, taught in professional isolationism. The literature furthermore discussed the characteristics of a fully functional Professional Learning Community, while focusing on how a Professional Learning Community within a school impacts student learning outcomes and educational achievement. Members of a Professional Learning Community must continually assess their effectiveness on the basis of student results: tangible evidence that their students are acquiring the knowledge, skills, and dispositions essential to their future academic success (DuFour, 2006, p. 117). In order to maintain forward progress when implementing new initiatives in the school system, it is vital to limit school district goals and initiatives, as this fosters results-oriented staff members. School districts must guide the work of individual schools and the professionals. School systems must come to a consensual agreement to determine and prioritize what the overall goal of the district should be and define the goals that are most important. The SMART goal acronym (O’Neill & Conzemius, 2005) provides much-needed clarity to the term and indicates that goals are SMART when they are both strategic and specific, measurable, attainable, results-oriented, and time-bound.

According to DuFour (2006), the definition of a team is a group of people working interdependently to achieve a common goal for which members are held mutually accountable. School systems must create conditions that force faculty members to work together in order to accomplish a pre-determined task or goal, while keeping an ever-present focus on results, not necessarily the method in which the teachers take to arrive at meeting the goal. Schmoker (1999) suggests that writing specific learning goals is crucial in order to effectively organize a Professional Learning Community in a
manner in which it contributes to student success. Even though specific learning goals are the centerpiece of a Professional Learning Community, writing a set of pre-determined curricular goals that are developed by administrators and central office personnel with little to no input from classroom teachers is certain to result in catastrophe for any school system. Teachers must have input into strategic planning, or else the school system runs the risk of faculty members not feeling as though they have any particular ownership in the Professional Learning Community process whatsoever. The words of a mission statement are not worth the paper they written on unless teachers begin to do things differently in their classroom and change their teaching practices (DuFour, 2006, p. 19).

While there is great effort to maintain a continuum of teacher professional knowledge acquisition, the Professional Learning Community must also maintain a focus on positively impacting student achievement. DuFour (2006) states that teacher collaboration is a means to an end, but not the end itself. Teachers work together during Professional Learning Community meetings in which they share information and data on their students. Some students may be common to more than one teacher, particularly when teachers from different curriculum areas are involved in the Professional Learning Community Process. Teachers work collectively to develop strategies that will impact student performance academically, which in turn, benefits the school as a whole.

According to Drucker (1992) teachers must ask themselves questions such as: why does our organization exist? What are we here to accomplish? What is the business of our business? Great schools “row as one”; they are quite clearly in the same boat, pulling in the same direction in unison. The best schools are tightly aligned communities marked
by a palpable sense of common purpose and shared identity among staff members with a clear sense of “we.” Struggling schools feel fractured; there is no sense of direction (DuFour, 2006, p. 23). Professional Learning Communities must add value and increased learning for students. If this does not occur, there really is not much purpose in the continuation of the Professional Learning Community. Teachers must be knowledgeable and skilled at their most effective level so that all students learn successfully to high quality standards. Continuous professional learning can contribute to both teachers and students. Ultimately, there are two types of schools: learning enriched schools and learning impoverished schools. The more time a school spends focusing its overall mission on student-driven data while basing its services to students accordingly, the more enriched the learning for each student in the school will become over a course of time. School administrators must find opportunities for teachers to meet during the course of the school day in order to not only fulfill their Professional Learning Community duties, but to also impart to their faculty that they are supportive of their efforts. Time for collaboration is essential for establishing a school culture that supports a Professional Learning Community. Teams need time to meet and share data and information about their students. Principals may wish to provide Professional Learning Community teams with a timetable and schedule common planning times between departments (Ontario Principals’ Council, 2009, p. 112).

The culmination of teacher support for the desire to move a school system forward in order to benefit students and teachers across the educational continuum is paramount in the beginning phase of any Professional Learning Community. School leaders must strive to support school faculty members in moving the school to a higher
level of learning for all students while focusing on ways to identify students who may struggle early on in their educational career. The Professional Learning Community should develop and implement student success mechanisms such as Response to Intervention practices so that all students are able to succeed academically and advance into the post-secondary education setting.
CHAPTER THREE

Methods and Procedures

The purpose of this study was to determine the relationship between Professional Learning Community teacher participation and the achievement outcomes of their students. The research question was:

What is the relationship between educators' perceptions of participation in a Professional Learning Community and student academic achievement outcomes?

This chapter describes the population and sample, and provides a description of the instruments used for this particular study. This chapter also contains research procedures and furthermore identifies data analysis methods that serve to answer the research question.

Research Design

The purpose of this study was to examine the relationship between educator Professional Learning Community participation and the impact their participation in a Professional Community had on the achievement outcomes of their students. In order to examine these teacher held perceptions, a quantitative study was conducted. Quantitative research is essentially based upon collecting numerical data to explain a particular phenomenon (Muijs, 2011, p. 2).

Research Participants and Setting for the Study
Population

The population sample for this study was selected from the teaching faculty at High School A, a code name. The survey was administered to 200 faculty members who were actively participating in Professional Learning Communities in various departments within the school. Participants were selected after permission to survey had been given by the university Institutional Review Board (IRB) and the school system involved (Appendix B). The sample was selected using convenience sampling. Convenience sampling as defined by Sproull (1995), is a nonrandom sampling method in which the researcher uses some convenient group or individuals as the sample size in order to gather data. As related to this study, convenience sampling was utilized in attempt to maximize the number of respondents.

Setting

High School A (code name) is a public, grades seven through 12 institution that offers both a college preparatory path, as well as, a Career and Technical Education (CTE) path. High School A is located in a rural area, has an enrollment of approximately 2000 students and is considered socio-economically deficient. High School A also offers students who are struggling academically the option to enroll in online courses in order to recover credit deficiencies. Students who excel are offered the option to participate in dual enrollment course offerings through a local community college. Students at High School A have the option of participating in a variety of sports, and fine arts offerings.

Description of Instruments

Data were collected using a survey that was created specifically for this study. The survey was developed based on a review of professional literature based on the
efficacy of Professional Learning Communities within schools. The survey was quantitative in nature. The quantitative survey consisted of ten statements that were rated on a Likert Scale. The quantitative survey method was selected because the goal of the survey was to provide an overview of the general impressions regarding a selected topic based on responses from a smaller group, and then comparing the findings with those of a larger population (Hesse-Biber, 2010, p. 108). Utilization of the Likert Scale allows for measurement of the degree of agreement with a statement based on an ordinal scale (McLeod, 1998). The Likert scale listed teacher perceptions of how Professional Learning Communities impact their teaching practices and in-turn, how their students fared academically. Respondents ranked items on a scale as follows: (1) strongly agree, (2) agree, (3) neutral, (4) disagree, (5) strongly disagree, (6) not applicable. The use of the not applicable option on the survey allows the respondent to make a choice of not responding to a particular question in the event the item does not apply to them (Ang, 2014, p. 137). The researcher created a research-based instrument entitled *The Professional Learning Community Teacher Satisfaction Survey* (See Appendix A) for this study. The survey represented key components found in the professional literature.

The researcher used Academic Achievement data taken from the American College Testing (ACT) test that was generated over a span of three years. The ACT is a test designed to establish mastery of a generalized curriculum denoted by the Standards for Transition or College Readiness Standards and is presented to test-takers in multiple-choice format (Center for Public Education, 2006). This data was of interest to the researcher as all students in High School A are required to take the ACT during their junior year. Test score information was provided to the researcher via the Tennessee
Department of Education (TDOE). ACT data for this study was analyzed using a one tail t-test. The t-test is one type of inferential statistics. It is used to determine whether there is a significant difference between the means of two groups (Siegle, n.d.).

After the survey and ACT test data were analyzed, the researcher adjusted the language in the original contents of the initial survey and administered it to 6 administrators within High School A in order to provide supporting data to the study based on administrator perceptions (Appendix C). The supplemental data served as a method to support original conclusions drawn from the data. In an attempt to provide triangulation of the data, the researcher used a combination of the Likert survey, ACT test data, and school administrator surveys.

Data Collection Procedures

After the researcher was granted approval from the college IRB board, and the school system involved, the researcher emailed High School A teachers a link to the online survey that was administered using the Survey Monkey Website. Teachers were informed during the introduction page displayed on the Survey Monkey Website that all answers are anonymous and provided a means for teachers to provide informed consent (Appendix D). On page two of the survey, procedures were explained and a contextual rationale for the survey was provided. When teachers completed the survey, data from the Survey Monkey Website were transferred to Excel in order for statistical analysis to be performed by the researcher.

Proposed Data Analysis

Once the data were collected and transferred into Excel, the researcher was able to conduct statistical analysis. The data were collected from a list of Likert survey items
with the following intervals: (1) strongly agree, (2) agree, (3) neutral, (4) disagree, (5) strongly disagree, (6) not applicable. After the data were collected, a descriptive analysis was conducted. This analysis led to the determination of an average score in each category. Once the average score was obtained, the researcher conducted a frequency distribution to determine whether scores were entered correctly. Statistical mean was used to help determine differences between subgroups in the data population.

To further analyze the data, the researcher utilized a one-way analysis of variance (ANOVA). The ANOVA was performed on the data in order to show differences between teacher perceptions of Professional Learning Community participation and resulting student achievement. A one-way ANOVA is defined as a method to determine whether there are any statistically significant differences between the means of three or more independent (unrelated) groups (Leard Statistics, 2013).

Once teachers in High School A had completed the survey, six school administrators were invited to respond to a survey written in order to determine administrator perceptions of Professional Learning Community impact on student achievement under anonymity. The survey given to the school administrators addressed school administrator satisfaction with how teachers utilized Professional Learning Communities to impact student success. The data were analyzed using the same methods utilized for the teacher data. The school administrator survey allowed for triangulation and also served as supplementary data for the study.
CHAPTER FOUR

Analysis of Data

The purpose of this study was to determine the difference between the teacher perceptions of Professional Learning Community participation and the impact of their involvement within the Professional Learning Community on student academic achievement. Teachers at a large, rural, public school completed an online survey that was administered through Survey Monkey. The Professional Learning Community Teacher Survey (Appendix A) was designed by the researcher, based on empirical research, in order to ascertain teacher attitudes and perceptions of the Professional Learning Community environment. Teachers responded to a survey with 10 Likert-type items. In order to provide depth to the study, student achievement data from the American College Testing (ACT) college readiness assessment test was analyzed in order to compare differences in student achievement data in the pre-Professional Learning Community time frame versus the post-Professional Learning Community phase.

After the group of teachers completed the survey, three school administrators who served in the role of either assistant principal or that of executive principal were surveyed to measure overall administrator satisfaction with teacher participation in Professional Learning Communities within the school. This data provides supplemental information that allows for triangulation.

As described in Chapter Three, several statistical measures were used to analyze the data to answer the research question that served to guide this study. Descriptive
measures, as well as a one-way ANOVA, were used to determine correlation. The research question was:

What is the relationship between educators’ perceptions of participation in a Professional Learning Community and student academic achievement outcomes?

This chapter presents the findings of the study. Results are reported in both text and table form.

**Demographic Data**

Certified secondary educators serving as professional teachers at High School A (code name) were invited to participate in the study in February of 2017. Of the 200 educators employed by High School A, 87 chose to participate in the study. This is a relatively high response rate of 43.5%.

As illustrates, 55 teachers (48%) held Bachelors degrees, 26 teachers (23%) held Masters degrees, and six teachers (5%) held Educational Specialist (Ed.S.) degrees.

Table 4.1

<table>
<thead>
<tr>
<th>Participant Program of Study</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelors</td>
<td>55</td>
<td>48</td>
</tr>
<tr>
<td>Masters</td>
<td>26</td>
<td>23</td>
</tr>
<tr>
<td>Ed.S.</td>
<td>6</td>
<td>5</td>
</tr>
</tbody>
</table>

Finally, participants were asked how many years they had served as educators in the public school system. Of the participants, 12 (10%) had been employed five or fewer years, 14 (12%) had been employed between six and 10 years, 28 (24%) had been
employed for 11-15 years, 13 (11%) had been employed 16-20 years, 17 (15%) had been employed 21-25 years, and 3 (3%) had been employed 26 or more years.

**Professional Learning Community Teacher Survey**

When completing the survey, respondents were asked to rate their overall satisfaction level regarding how their participation in Professional Learning Communities within the school impacted student academic achievement outcomes. Respondents were asked to complete the survey with a holistic view of Professional Learning Communities, rather than focusing on their class as related to overall student outcomes for the school. The survey provided 10 types of questions that directly relate to educators’ participation in Professional Learning Communities. Respondents were asked to rate each response using a Likert-type scale as follows: 1) Strongly Agree, 2) Agree, 3) Neutral, 4) Disagree, and 5) Strongly Disagree.

Teacher responses indicated that 50% (44) teachers felt that the Professional Learning Community in which they participate provides an ideal environment for delivering on the promise that all students can learn. The mean score for this response was 2.12 with a standard deviation (SD) of 0.85. This indicates that teachers participating in Professional Learning Communities within High School A were equally divided in their assumption that the Professional Learning Community had made positive impact on the educational enrichment of all students. The study indicated that 57% of teachers responded they provide systematic, timely, and direct interventions when students are not successful academically. The mean score for this question was 2.25 with a SD of 0.86 indicating that the majority of teachers reported intervention services were being offered to students who struggle in the classroom setting.
Most respondents, 45 out of 87 (52%), indicated agreement that educators at High School A worked collaboratively with a specific set of norms within their respective Professional Learning Communities. Additionally, 21 out of 87 (18%) respondents surveyed reported that they strongly agreed that norms were in place during Professional Learning Community meetings, thereby allowing for more efficient meetings. The mean for this survey item was 2.06 which a SD of 0.81 and suggested teachers operated within their respective Professional Learning Communities under a set of norms.

Regarding the development of higher order thinking skills and experiences for students, the majority of respondents indicated they either agreed or strongly agreed that ideas for improvement are focused on high-quality learning experiences for all students. According to the survey, 55 of 87 (63%) agreed that ideas generated during Professional Learning Communities were focused on providing high-quality instruction for all students. There were 14 respondents out of 87 (16%) who strongly agreed that a focus on high-quality instruction is a standard practice. This survey item indicated a mean of 2.16 with a SD of 0.86 and indicated respondents felt there was a focus on quality instruction within the school.

Concerning collegial feedback, 52 of 87 (60%) respondents reported that staff members offered feedback to each other regarding teaching and learning based on their classroom observations. The mean for this survey response was 2.10 with a SD of 0.79 and highlighted the rationale respondents felt that collegial feedback was occurring within the Professional Learning Community. Four out of 87 (5%) disagreed that any type of collaborative feedback occurred as a result of meeting as a Professional Learning Community. An overarching question regarding trust among the teaching staff found that
33 out of 87 (38%) of respondents indicated that the staff was characterized by openness and trust while 18 out of 87 (21%) indicated that the staff was not characterized as trustworthy or open. The mean for this item on the survey was 2.57 with a SD of 1.00 and indicated staff members generally felt as if their colleagues were trustworthy.

In response to school administrators participating democratically with teachers including sharing power, authority, and decision making with teachers, 32 of 87 (37%) respondents agreed while 17 of 87 (20%) of teachers disagreed. Additionally, 19 of 87 (22%) of respondents indicated they agreed with the question that asked if school administrators involve the whole staff in decision-making processes. Alternately, there were 27 respondents out of 87 (31%) who disagreed. The mean score for this question was 3.09 with a SD of 1.09, suggesting that slightly more educators surveyed at High School A indicated that school administrators were democratic in nature.

**One-Way Analysis of Variance**

A One-Way Analysis of Variance (ANOVA) was used to examine whether there was a correlation between teacher perceptions of the Professional Learning Community and student achievement outcomes. The independent variable was teacher responses to 10 survey questions which focused on teacher perceptions of the Professional Learning Community in relation to positive student academic outcomes. The dependent variable was student achievement outcomes as represented by ACT data both prior to and after the integration of the Professional Learning Community model in High School A. Table 4.2 illustrates the mean and variance for the 10 survey questions.
Table 4.2

*Descriptive Statistics*

<table>
<thead>
<tr>
<th>Teacher Attitude and Perceptions</th>
<th>n</th>
<th>Sum</th>
<th>Mean</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrators involve the whole staff in decision-making processes.</td>
<td>86</td>
<td>261</td>
<td>3.03</td>
<td>1.02</td>
</tr>
<tr>
<td>Ideas for improvement are focused on high-quality learning experiences for all students.</td>
<td>87</td>
<td>187</td>
<td>2.15</td>
<td>0.69</td>
</tr>
<tr>
<td>Our PLC provides an ideal environment for delivering on the promise that all students can learn.</td>
<td>85</td>
<td>181</td>
<td>2.13</td>
<td>0.73</td>
</tr>
<tr>
<td>School administrators participate democratically with teachers; sharing power, authority, and</td>
<td>87</td>
<td>234</td>
<td>2.69</td>
<td>1.01</td>
</tr>
<tr>
<td>decision-making.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staff members meet regularly regarding student-centered educational issues.</td>
<td>85</td>
<td>180</td>
<td>2.12</td>
<td>0.65</td>
</tr>
<tr>
<td>Staff members offer feedback to each other about teaching and learning based on their classroom</td>
<td>87</td>
<td>177</td>
<td>2.03</td>
<td>0.5</td>
</tr>
<tr>
<td>observations.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The staff is characterized by openness and trust.</td>
<td>87</td>
<td>223</td>
<td>2.56</td>
<td>0.97</td>
</tr>
<tr>
<td>We enrich and personalize learning opportunities for students who are already academically</td>
<td>87</td>
<td>217</td>
<td>2.49</td>
<td>0.67</td>
</tr>
<tr>
<td>proficient.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We provide systematic, timely, and direct interventions when students are not successful</td>
<td>87</td>
<td>196</td>
<td>2.25</td>
<td>0.75</td>
</tr>
<tr>
<td>academically.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We work in collaborative teams with processes and norms designed to make meetings effective and</td>
<td>87</td>
<td>178</td>
<td>2.05</td>
<td>0.67</td>
</tr>
<tr>
<td>efficient.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

An alpha level of .05 was used for all statistical analyses. The Kolmogorov-Smirnov Test for normality showed no evidence against normality. This indicated that
the underlying assumption of normality was met for ANOVA. Hartley’s F-max testing indicated that the data was homogenous ($F_{\text{Max}}=2.05$). The one-way ANOVA of teacher perceptions of participating in a Professional Learning Community as related to ultimate student achievement outcomes revealed a statistically significant difference between the two areas in the study.

Table 4.3

*Analysis of Variance for Teacher Professional Learning Community Perceptions*

<table>
<thead>
<tr>
<th>Source</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between groups</td>
<td>85.89</td>
<td>9</td>
<td>9.54</td>
<td>12.45</td>
<td>0</td>
</tr>
<tr>
<td>Within groups</td>
<td>655.27</td>
<td>855</td>
<td>0.77</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Student Achievement Data*

To further correlate the impact of teacher perceptions of participation in a Professional Learning Community and that of student academic outcomes, ACT data was gathered both in the pre-Professional Learning Community setting and in the post-Professional Learning Community setting for High School A (Table 4.7). During the 2010, 2011, and 2012 school years in High School A, teachers were not required to participate in a Professional Learning Community. In 2010, the overall composite score for students who had taken the ACT as Juniors was 18.3 while in 2011, the overall composite score was 18.3. This is followed by overall composite scores of 18.1 in 2012. After the integration of the Professional Learning Community in High School A, ACT data changed slightly. During the 2014 and 2015 academic years, the overall composite
score for students who had taken the ACT exam as Juniors was 18.5. In 2016, the overall composite score for students who had taken the ACT exam in their Junior year of high school was 18.6.

Table 4.4

*Overall Composite ACT Scores of Juniors*

<table>
<thead>
<tr>
<th>Years</th>
<th>Before PLC</th>
<th>Years</th>
<th>After PLC</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>18.3</td>
<td>2014</td>
<td>18.5</td>
</tr>
<tr>
<td>2011</td>
<td>18.3</td>
<td>2015</td>
<td>18.5</td>
</tr>
<tr>
<td>2012</td>
<td>18.1</td>
<td>2016</td>
<td>18.6</td>
</tr>
</tbody>
</table>

ACT data gathered per subject area for the 2010 academic year and for the 2014 academic year indicated that there were no significant gains in English (Table 4.8). In 2010, the average student score in the area of English on the ACT at High School A was 17.9. In 2014, after the initial movement to the Professional Learning Community concept at High School A, the average student score in English on the ACT was 17.6. The data indicates a slight regression for student achievement outcomes in the subject area of English for the 2014 year.

Table 4.5

*English Scores on ACT*

<table>
<thead>
<tr>
<th>Year</th>
<th>Before PLC</th>
<th>Year</th>
<th>After PLC</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>17.9</td>
<td>2014</td>
<td>17.6</td>
</tr>
<tr>
<td>2011</td>
<td>17.8</td>
<td>2015</td>
<td>17.9</td>
</tr>
<tr>
<td>2012</td>
<td>17.4</td>
<td>2016</td>
<td>17.8</td>
</tr>
</tbody>
</table>
The area of Mathematics for High School A showed the most significant gain after the implementation of the Professional Learning Community. Student ACT scores in Math for the 2010 year averaged 17.5, while in 2014 student scores averaged 18.4 (Table 4.9).

Table 4.6

<table>
<thead>
<tr>
<th>Years</th>
<th>Before PLC</th>
<th>Years</th>
<th>After PLC</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>17.5</td>
<td>2014</td>
<td>18.4</td>
</tr>
<tr>
<td>2011</td>
<td>17.9</td>
<td>2015</td>
<td>18.1</td>
</tr>
<tr>
<td>2012</td>
<td>17.9</td>
<td>2016</td>
<td>18</td>
</tr>
</tbody>
</table>

In the area of Reading, High School A showed little to no improvement after the Professional Learning Community model was adopted. In 2010, students scored an average of 18.7 in Reading on the ACT exam. In 2011, students scored an average of 18.4 in Reading on the ACT. Similarly, students scored an average of 18.4 on the ACT exam in 2012. During the 2012 academic year at High School A, students scored an average of 18.8 in Reading on the ACT exam. In 2014, average student scores in the area of Reading were 18.8. During the 2015 academic year, students at High School A averaged 18.6 in Reading on the ACT exam. In 2016, students average 19 on the Reading portion of the ACT.
Table 4.7

**Reading Scores on ACT**

<table>
<thead>
<tr>
<th>Year</th>
<th>Before PLC</th>
<th>Year</th>
<th>After PLC</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>18.7</td>
<td>2014</td>
<td>18.8</td>
</tr>
<tr>
<td>2011</td>
<td>18.4</td>
<td>2015</td>
<td>18.6</td>
</tr>
<tr>
<td>2012</td>
<td>18.4</td>
<td>2016</td>
<td>19</td>
</tr>
</tbody>
</table>

Students who took the ACT as Juniors during the 2010 academic year at High School A, averaged 18.7 on the Science portion of the exam (Table 5.2). In 2011, there was no change in the average score for students on the Science portion of the ACT as the average remained the same at 18.7. During the 2012 school year, Juniors at High School A averaged 18.2 on the Science portion of the ACT. In 2014, students who took the ACT averaged 18.4 in Science on the ACT. During the 2015 school year, students at High School A averaged 18.9 on the Science portion of the ACT exam. In 2016, the data was unchanged as students averaged 18.9 in the area of Science on the ACT.

Table 4.8

**Science Scores on ACT**

<table>
<thead>
<tr>
<th>Year</th>
<th>Before PLC</th>
<th>Years</th>
<th>After PLC</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>18.7</td>
<td>2014</td>
<td>18.4</td>
</tr>
<tr>
<td>2011</td>
<td>18.7</td>
<td>2015</td>
<td>18.9</td>
</tr>
<tr>
<td>2012</td>
<td>18.2</td>
<td>2016</td>
<td>18.9</td>
</tr>
</tbody>
</table>

**One Tail t-Test Data**

To compute the statistical significance of the parameters distinguished in the preceding data for High School A, a One-Tail t-test was utilized. Test 1: One Tail t-test
alpha level 0.5 whereby the null hypotheses (Ho) indicated there was no difference between the mean Composite ACT score before Professional Learning Communities and after the implementation of Professional Learning Communities. The alternate hypotheses (Ha) indicated the mean composite ACT scores are greater after Professional Learning Communities than before Professional Learning Communities. The p score for this test was .007, which indicated the null hypothesis (Ho) should be rejected and the alternative hypothesis (Ha) can be concluded.

Table 4.9

*t-test: Two-Sample Assuming Equal Variances*

<table>
<thead>
<tr>
<th></th>
<th>Composite before ACT</th>
<th>Composite After ACT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>18.23333333</td>
<td>18.53333333</td>
</tr>
<tr>
<td>Variance</td>
<td>0.013333333</td>
<td>0.003333333</td>
</tr>
<tr>
<td>Observations</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Pooled Variance</td>
<td>0.008333333</td>
<td></td>
</tr>
<tr>
<td>Hypothesized Mean Difference</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Df</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>t Stat</td>
<td>-4.024922359</td>
<td></td>
</tr>
<tr>
<td>P(T&lt;=t) one-tail</td>
<td>0.007899924</td>
<td></td>
</tr>
<tr>
<td>t Critical one-tail</td>
<td>2.131846786</td>
<td></td>
</tr>
<tr>
<td>P(T&lt;=t) two-tail</td>
<td>0.015799848</td>
<td></td>
</tr>
<tr>
<td>t Critical two-tail</td>
<td>2.776445105</td>
<td></td>
</tr>
</tbody>
</table>

Test 2: One Tail t-test alpha level .05. The Ho indicated there was no difference between the English ACT score before Professional Learning Communities and after Professional Learning Communities. The Ha projected English ACT scores were greater after Professional Learning Communities than before Professional Learning Communities. The p score for this test was .36, which means the Ho should not be rejected and the Ha cannot be concluded.
Table 4.10

*t-test: English ACT Scores*

<table>
<thead>
<tr>
<th></th>
<th>Before PLC</th>
<th>After PLC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>17.7</td>
<td>17.7666667</td>
</tr>
<tr>
<td>Variance</td>
<td>0.07</td>
<td>0.0233333333</td>
</tr>
<tr>
<td>Observations</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Pooled Variance</td>
<td>0.046666667</td>
<td></td>
</tr>
<tr>
<td>Hypothesized Mean Difference</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Df</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>t Stat</td>
<td>-0.377964473</td>
<td></td>
</tr>
<tr>
<td>P(T&lt;=t) one-tail</td>
<td>0.362329318</td>
<td></td>
</tr>
<tr>
<td>t Critical one-tail</td>
<td>2.131846786</td>
<td></td>
</tr>
<tr>
<td>P(T&lt;=t) two-tail</td>
<td>0.724658636</td>
<td></td>
</tr>
<tr>
<td>t Critical two-tail</td>
<td>2.776445105</td>
<td></td>
</tr>
</tbody>
</table>

Test 3: One Tail t-Test alpha level .05. The null hypothesis indicated there was no difference between the Math ACT score before Professional Learning Communities or after Professional Learning Communities. The alternate hypothesis indicated Math ACT scores were greater after Professional Learning Communities than before Professional Learning Communities were implemented in High School A. The p score for this test was .04, which means the null hypothesis should be rejected and the alternative hypothesis can be concluded.
Table 4.11

$t$-test: *Math ACT Scores*

<table>
<thead>
<tr>
<th></th>
<th>Before PLC</th>
<th>After PLC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>17.76666667</td>
<td>18.16666667</td>
</tr>
<tr>
<td>Variance</td>
<td>0.053333333</td>
<td>0.043333333</td>
</tr>
<tr>
<td>Observations</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Pooled Variance</td>
<td>0.048333333</td>
<td></td>
</tr>
<tr>
<td>Hypothesized Mean Difference</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>df</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>t Stat</td>
<td>-2.228344058</td>
<td></td>
</tr>
<tr>
<td>$P(T&lt;=t)$ one-tail</td>
<td>0.044887935</td>
<td></td>
</tr>
<tr>
<td>t Critical one-tail</td>
<td>2.131846786</td>
<td></td>
</tr>
<tr>
<td>$P(T&lt;=t)$ two-tail</td>
<td>0.089775871</td>
<td></td>
</tr>
<tr>
<td>t Critical two-tail</td>
<td>2.776445105</td>
<td></td>
</tr>
</tbody>
</table>

Test 4: One Tail $t$-test alpha level .05: Ho: There was no difference between the Reading ACT score before Professional Learning Communities and after Professional Learning Communities. Ha: Reading Composite ACT scores were greater after Professional Learning Communities than before Professional Learning Communities.

The p score was .06, which means the null hypothesis (Ho) should not be rejected and the alternative hypothesis (Ha) cannot be concluded.
Table 4.12

* $t$-test: Reading ACT Scores*

<table>
<thead>
<tr>
<th></th>
<th>Before PLC</th>
<th>After PLC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>18.5</td>
<td>18.8</td>
</tr>
<tr>
<td>Variance</td>
<td>0.03</td>
<td>0.04</td>
</tr>
<tr>
<td>Observations</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Pooled Variance</td>
<td>0.035</td>
<td></td>
</tr>
<tr>
<td>Hypothesized Mean Difference</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>df</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>t Stat</td>
<td>-1.963961012</td>
<td></td>
</tr>
<tr>
<td>P(T&lt;=$t$) one-tail</td>
<td>0.06050196</td>
<td></td>
</tr>
<tr>
<td>t Critical one-tail</td>
<td>2.131846786</td>
<td></td>
</tr>
<tr>
<td>P(T&lt;=$t$) two-tail</td>
<td>0.121003919</td>
<td></td>
</tr>
<tr>
<td>t Critical two-tail</td>
<td>2.776445105</td>
<td></td>
</tr>
</tbody>
</table>

Test 5: One Tail $t$-test alpha level .05. Ho: There was no difference between the Science ACT scores before Professional Learning Communities and after Professional Learning Communities. Ha: Science/Reasoning ACT scores were greater after PLC’s than before PLC’s. The p score was .22, which indicated the null hypothesis should not be rejected and the alternative hypothesis cannot be concluded.
Table 4.13

*t-test: Science ACT Scores*

<table>
<thead>
<tr>
<th></th>
<th>Before PLC</th>
<th>After PLC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>18.53333333</td>
<td>18.73333333</td>
</tr>
<tr>
<td>Variance</td>
<td>0.083333333</td>
<td>0.083333333</td>
</tr>
<tr>
<td>Observations</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Pooled Variance</td>
<td>0.083333333</td>
<td></td>
</tr>
<tr>
<td>Hypothesized Mean Difference</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>df</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>t Stat</td>
<td>-0.848528137</td>
<td></td>
</tr>
<tr>
<td>P(T&lt;=t) one-tail</td>
<td>0.221969444</td>
<td></td>
</tr>
<tr>
<td>t Critical one-tail</td>
<td>2.131846786</td>
<td></td>
</tr>
<tr>
<td>P(T&lt;=t) two-tail</td>
<td>0.443938889</td>
<td></td>
</tr>
<tr>
<td>t Critical two-tail</td>
<td>2.776445105</td>
<td></td>
</tr>
</tbody>
</table>

**Administrator Survey Data**

Four administrators within High School A were surveyed in order to provide triangulation to the study from a school administrative point of view. The survey provided 10 types of questions that directly relate to administrators’ participation in Professional Learning Communities. Respondents were asked to rate each response using a Likert-type scale as follows: 1) Strongly Agree, 2) Agree, 3) Neutral, 4) Disagree, and 5) Strongly Disagree. As illustrated in Table 5.8, school administrators at High School A agreed that teachers provide high-quality learning experiences for all students. Two (50%) out of the four administrators who were surveyed reported they feel the staff at High School A provides high-quality learning scenarios for all students while there were two (50%) respondents who indicated they strongly agree. The mean for this survey item was 1.50 with a SD of 0.50.
Administrators in High School A responded affirmatively that school administrators involve the whole staff in the decision making process. Three (75%) respondents strongly agreed with this statement while one (25%) agreed. For this survey item, the mean was 1.25 with a SD of .043. Similarly, all four (100%) of school administrators either strongly agreed or agreed that, as administrators, they participated democratically with teachers; sharing power, authority, and decision-making.

The survey item that addressed the effectiveness of the Professional Learning Community ensuring all students can learn received all four (100%) of the school administrators either strongly agreeing or agreeing with the statement. The mean for this item was 1.50 with a SD of 0.50.

In regard to whether or not staff members met regularly at High School A regarding student-centered educational issues, all four (100%) of respondents indicated they either strongly agreed or agreed that teachers held regular meetings that addressed student-centered educational issues. The mean for this survey question was 1.50 with a SD of 0.50.

One (25%) respondent strongly agreed with the survey item which stated staff members offer feedback to each other about teaching and learning based on their classroom observation data. Two (50%) of the respondents agreed while one (25%) respondent remained neutral. The mean for this survey question was 2.00 with a SD of 0.71.
Of the four respondents, one (25%) strongly agreed that the staff at High School A is characterized by openness and trust. One (25%) respondent agreed, while two (50%) were neutral. The mean for this survey item was 2.25 with a SD of 0.83.

One (25%) school administrator responded strongly agree to the survey question staff members enrich and personalize learning opportunities for students who are already academically proficient. Three (75%) of respondents agreed. The mean for this question was 1.75 with a SD of 0.43. Similarly, two (50%) respondents indicated they agreed with the statement staff members provide systematic, timely and direct interventions when students are not successful academically. The mean for this survey item was 2.75 with a SD of 0.83.

All four (100%) of respondents indicated they either strongly agreed or agreed that staff members work in collaborative teams with processes and norms designed to make meetings effective and efficient.

Conclusion

This study examined the correlation between teacher perceptions of participation in a Professional Learning Community and the impact on student academic achievement outcomes. In this study, data were collected from teachers within High School A, a large, rural high school in the Southeast, during the spring 2016 semester. Data were also collected from four school administrators who were also employed at High School A during the same time frame. Finally, data were collected from ACT test data for the years prior to the implementation of a Professional Learning Community at High School A, as well as after the Professional Learning Community model had been adopted. The
research question was: What is the relationship between educators’ perceptions of participation in a Professional Learning Community and student academic achievement outcomes? All data were derived from an online survey with 87 teacher responses and four administrator responses. Data were also collected from public, state school report card data available online in order to gather further conclusive data for this study.

This chapter presented descriptive statistics including demographical information and survey responses as well as public data regarding ACT achievement scores. Findings of the data disaggregated by demographical information pertaining to the teacher survey participants were also included. Additionally the statistical mean for each subgroup was provided for comparison.

Chapter Five provides conclusions, inferences, and recommendations for future research.
CHAPTER FIVE

Conclusions, Implications, and Recommendations

The purpose of this study was to investigate the correlation between teacher perceptions of participation in a Professional Learning Community and student achievement outcomes based on ACT test data. This study investigated teacher ratings of their overall perception of the Professional Learning Community as it pertains to the high school in which they were all employed as teachers for the 2016-2017 school year. The educators in the study were all employed at a large, rural high school in the southeastern United States and completed an online survey (Appendix A) consisting of Likert-type items, as well as demographic information. Further data used in the study were collected from ACT achievement data from both before and after the Professional Learning Community was implemented. The data were analyzed with procedures including descriptive means, a one-way ANOVA, as well as a one tail t-test. The research question which guided this study was:

What is the relationship between teacher perceptions of participation in a Professional Learning Community and student academic achievement outcomes?

Summary

The population for this study included all teachers employed at High School A in January 2017. Of the 200 teachers, 87 opted to participate in the study. Teachers had a range of experience in the classroom from 0-5 years to more than 26 years. Of the participants, 55 (48%) held Bachelors degrees, 26 (23%) held Masters degrees, and 6
teachers (5%) held Educational Specialist degrees. The majority of respondents held Bachelors degrees at the time of the study. Participants had a mean employment period of 15.4 years as teachers.

Conclusions

1. A one-way ANOVA provided a correlation between teacher perceptions of participation in a Professional Learning Community. The one-way ANOVA of teacher perceptions of participation in a Professional Learning Community as related to student achievement revealed a slight statistical difference between the two areas of the study.

2. The survey findings indicated that most teachers indicated that their participation in a Professional Learning Community had a favorable impact on student academic achievement. Of the respondents surveyed, 44 (50%) responses indicated that the Professional Learning Community in which they participated provided an ideal environment for delivering on the promise that all students can learn. Out of the 87 teachers surveyed, 57% responded they have provided systematic, timely, and direct interventions when students are not successful academically.

3. The findings indicated that the majority of teachers surveyed responded they either agreed or strongly agreed that ideas for improvement were focused on high-quality learning experiences for all students. Of the 87 teachers surveyed, 55 (63%) agreed that ideas developed within the Professional Learning Community were geared toward providing high-quality instruction for all students. There were 14 (16%) participants who strongly agreed that a focus on high-quality learning is common within the Professional Learning Communities within High School A.
4. In regard to collegial feedback, 52 (60%) teachers surveyed reported that staff members offered feedback to one another regarding teaching and learning based on their classroom observations. The mean response was 2.10 with a SD of 0.79 and emphasized the rationale respondents felt that collegial feedback was occurring within the Professional Learning Community. Out of the 87 respondents, four (5%) disagreed that any type of collaborative feedback occurred as a result of meeting as a Professional Learning Community.

5. ACT data was gathered for High School A in order to examine a relationship between teacher perceptions to participation in a Professional Learning Community. Based on the results of a one tail t-test, Mathematics saw the most significant gain after the implementation of the Professional Learning Community. Prior to the adoption of the Professional Learning Community model in 2010, student ACT scores in Math averaged 17.5. After the adoption of the Professional Community model, student scores at High School A averaged 18.4 during the 2014-2015 academic year. Comparatively, student ACT scores in English showed no significant gain either pre-Professional Learning Community or post-Professional Learning Community. In 2010, the average student score in the English subject area on the ACT was 17.9. During the 2014 year, students at High School A averaged 17.6 on the ACT.

Implications

The findings indicated a difference between teacher perceptions of participation in a Professional Learning Community and that of actual student achievement outcomes. The study of Professional Learning Communities is vital because schools across the
nation have embraced the Professional Learning Community model in order to ensure professional collaboration among teachers (DuFour, 2004).

In general, most teachers reported favorable satisfaction levels in regard to their participation in a Professional Learning Community. However, in comparison to ACT data, there is room for improvement in the Professional Learning Communities of High School A. ACT data gathered prior to the implementation of Professional Learning Communities indicated little to no change in overall student ACT scores except in the area of Math. Student composite scores increased slightly after the Professional Learning Community model was initiated. In order for a Professional Learning Community to have a positive impact on student achievement outcomes, schools need to have a solid mission, collaborative teams that work interdependently to achieve shared goals, a results-oriented focus, and a commitment to continuous improvement (Rentfro, 2007). Survey responses indicated teachers were divided in their responses that the Professional Learning Community had made a positive impact on the educational enrichment of all learners. Of the teachers surveyed at High School A, 44 (50%) responded that the Professional Learning Community in which they participate provides an ideal environment for delivering on the promise that all students can learn.

The survey respondents indicated they provide systematic, timely, and direct interventions when students are not successful academically. Of the teachers surveyed, 57% reported that systematic interventions took place at High School A. Members of Professional Learning Communities use results-oriented action steps to clarify exactly what each student must learn, monitor each student's learning on a timely basis, provide
systematic interventions, and use collective inquiry/feedback to create a collaborative atmosphere of continual improvement (Tagaris, 2007, p. 1).

Most teachers surveyed reported they operated their Professional Learning Communities with a specific set of norms. Of those surveyed, 21 of 87 (18%) indicated that norms were in place during Professional Learning Community meetings. Norms within the Professional Learning Community are important because any group that meets regularly or that is trying to “do business” needs to identify its existing norms or develop new norms (Richardson, 1999, p. 1). Within Professional Learning Communities that operate under a set of norms, each member of the team understands how to communicate, how shared decisions will be handled, when to arrive for meetings, and how to professionally disagree (Weber, 2011).

Regarding higher-order thinking skills and experiences for students, teachers responded favorably that ideas for improvement were focused on high-quality learning experiences for all learners. Of the 87 teachers who participated in the study, 55 (63%) indicated that ideas generated during Professional Learning Communities at High School A were aimed at providing high-quality instruction as a standard practice.

Teachers at High School A reported that staff members offered feedback to each other regarding teaching and learning based on their classroom observations. Only four of the 87 respondents (5%) disagreed that any type of collaborative feedback occurred as a result of meeting as a Professional Learning Community. A collaborative technique helps participants identify key behaviors, practices, and dialogue that foster or inhibit collaboration among PLC members. During these conversations, participants share revelations, questions, and observations (Pirtle & Tobia, 2014).
Survey respondents indicated that school administrators participated in a democratic manner within the setting of the Professional Learning Community. Of the 87 respondents, 32 (37%) indicated school administrators acted democratically, while 17 out of 87 (20%) disagreed. Nineteen out of 87 (22%) respondents indicated they agreed that school administrators involve the whole staff in decision-making processes. The concept of operating in a more transparent manner while treating teachers in a democratic fashion, referred to as distributive leadership, has begun to gain popularity in the world of education. The benefits of distributed leadership are clear: connecting teachers with the goals and values of the school and freeing the principal of the many responsibilities of administration and creating lasting positive school change (Natsiopoulou & Giouroukakis, 2010, p. 1).

Data gathered from the pre-Professional Learning Community time period and from the post-Professional Learning Community setting from High School A indicated that there was little gain in student achievement based on ACT test composite scores. During 2010, 2011, and 2012 teachers were not required to participate in mandated Professional Learning Communities. In 2010, the overall composite score for students who took the ACT was 18.3. In 2014, the composite score for students on the ACT was 18.5. Students in High School A showed the most academic gains in the area of Mathematics on the ACT. Prior to the implementation of Professional Learning Communities in 2010, students averaged 17.5 on the ACT. In 2016, three years after the mandatory implementation of Professional Learning Communities, students average a score of 18 on the ACT, thus raising the average score roughly .5 overall. Data generated during this study indicates there is not a positive correlation between teacher perceptions
of participation in a Professional Learning Community and that of student academic achievement within High School A.

**Recommendations**

Regarding teacher perceptions of Professional Learning Communities, future study should include a larger population of respondents. This study was conducted at a large, albeit rural, high school. The study could be repeated at other high schools or middle schools of varying populations.

Future research could include teachers in one particular discipline, rather than blanket research across departments.

Qualitative studies, such as personal interviews or focus groups, would provide a more in-depth understanding of teacher perceptions of the Professional Learning Community model.

Qualitative and quantitative studies could be conducted with teachers to further explore the effectiveness of Professional Learning Communities in relation to impacts on Response to Intervention.

Future research could explore professional development options for teachers in the area of Professional Learning Communities.

**Conclusion**

This study addressed the correlation between teacher perceptions of participation in a Professional Learning Community and the effects on student achievement outcomes. The study concluded that there is a statistically significant difference in educator perceptions of participation in the Professional Learning Community within High School
A versus student achievement as indicated by ACT test data. The data indicated teachers have a favorable view of the Professional Learning Community model as implemented in High School A. However, there is room for improvement as student test scores indicated marginal gains. Additionally, the study found that teachers indicated less positive perceptions that school administrators participated in a democratic nature or shared decision-making with them as a whole. These areas could be targets for potential improvement via professional development practices. Lastly, there are additional avenues for further research relating to administrator sharing of responsibilities with teachers in the Professional Learning Community setting.
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Appendix A

Professional Learning Community Teacher Survey

This is a survey designed to examine your perception of participation in a Professional Learning Community and its impact on student achievement.

There is no risk to this survey that will affect its participants. Your responses will be completely anonymous and will only be used for this study. The researcher will store the data and will be the only person with access to the data.

If you have questions about the study or procedures, you may contact the researcher, Courtney Bennett at cbennett@cn.edu.

Your participation in this study is voluntary, and you may decline to participate without penalty. Providing answers to the survey constitutes your consent to participate. If you wish to participate, please begin the survey.

Thank you. Your cooperation is greatly appreciated.
Professional Learning Community Teacher Survey

This is a survey designed to examine your perception of participation in a Professional Learning Community and its impact on student achievement.

There is no risk to this survey that will affect its participants. Your responses will be completely anonymous and will only be used for this study. The researcher will store the data and will be the only person with access to the data.

If you have questions about the study or procedures, you may contact the researcher, Courtney Bennett at cbennett@cn.edu.

Your participation in this study is voluntary, and you may decline to participate without penalty. Providing answers to the survey constitutes your consent to participate. If you wish to participate, please begin the survey.

Thank you. Your cooperation is greatly appreciated.

1. Our PLC provides an ideal environment for delivering on the promise that all students can learn.
   - [ ] Strongly Agree
   - [ ] Agree
   - [ ] Neutral
   - [ ] Disagree
   - [ ] Strongly Disagree
2. We work in collaborative teams with processes and norms designed to make meetings effective and efficient.

- [ ] Strongly Agree
- [ ] Agree
- [ ] Neutral
- [ ] Disagree
- [ ] Strongly Disagree

3. We provide systematic, timely, and direct interventions when students are not successful academically.

- [ ] Strongly Agree
- [ ] Agree
- [ ] Neutral
- [ ] Disagree
- [ ] Strongly Disagree
4. We enrich and personalize learning opportunities for students who are already academically proficient.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

5. School administrators participate democratically with teachers; sharing power, authority, and decision making.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree
6. Administrators involve the whole staff in decision making processes.
   - Strongly Agree
   - Agree
   - Neutral
   - Disagree
   - Strongly Disagree

7. Ideas for improvement are focused on high-quality learning experiences for all students.
   - Strongly Agree
   - Agree
   - Neutral
   - Disagree
   - Strongly Disagree
8. Staff members meet regularly regarding student-centered educational issues.
   - Strongly Agree
   - Agree
   - Neutral
   - Disagree
   - Strongly Disagree

9. Staff members offer feedback to each other about teaching and learning based on their classroom observations.
   - Strongly Agree
   - Agree
   - Neutral
   - Disagree
   - Strongly Disagree

10. The staff is characterized by openness and trust.
    - Strongly Agree
    - Agree
    - Neutral
    - Disagree
    - Strongly Disagree
Appendix B
Initial Email to Teachers

Courtney Bennett, a graduate student, is completing a study leading to the completion of her doctoral dissertation regarding teacher perceptions of participation within a Professional Learning Community. You are invited to participate in the study by completing a survey, which will take approximately five minutes. Please be assured that your answers will remain anonymous as you will not be asked any identifying information. This study has been approved by the University Institutional Review Board, and there is more information on the first page of the link. Providing answers to the survey is your consent to participate in the study. Thank you for your time and honesty. Please click the following link to continue:

https://www.surveymonkey.com/r/THD8BDQ
Appendix C
Administrator Professional Learning Community Survey

This is a survey designed to examine your perception of teacher participation in Professional Learning Communities and the impact on student achievement.

There is no risk to this survey that will affect participants. Your responses will be completely anonymous and will only be used for this study. The researcher will store the data and will be the only person with access to the data.

If you have questions about the study or procedures, you may contact the researcher, Courtney Bennett at cbennett@on.edu

Your participation in this study is voluntary, and you may decline to participate without penalty. Providing answers to the survey constitutes your consent to participate. If you wish to participate, please begin the survey.

Thank you. Your participation is greatly appreciated.
Administrator Professional Learning Community Survey

This is a survey designed to examine your perception of teacher participation in Professional Learning Communities and the impact on student achievement.

There is no risk to this survey that will affect participants. Your responses will be completely anonymous and will only be used for this study. The researcher will store the data and will be the only person with access to the data.

If you have questions about the study or procedures, you may contact the researcher, Courtney Bennett at cbennett@on.edu

Your participation in this study is voluntary, and you may decline to participate without penalty. Providing answers to the survey constitutes your consent to participate. If you wish to participate, please begin the survey.

Thank you. Your participation is greatly appreciated.

1. School administrators involve the whole staff in the decision making process.

   - [ ] Strongly Agree
   - [ ] Agree
   - [ ] Neutral
   - [ ] Disagree
   - [ ] Strongly Disagree
2. Ideas for improvement are focused on high-quality learning experiences for all students.
   ○ Strongly Agree
   ○ Agree
   ○ Neutral
   ○ Disagree
   ○ Strongly Disagree

3. School PLC's provides an ideal environment for delivering on the promise that all students can learn.
   ○ Strongly Agree
   ○ Agree
   ○ Neutral
   ○ Disagree
   ○ Strongly Disagree
4. School administrators participate democratically with teachers; sharing power, authority, and decision making.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

5. Staff members meet regularly regarding student-centered educational issues.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree
6. Staff members offer feedback to each other about teaching and learning based on their classroom observation data.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

7. The staff is characterized by openness and trust.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree
8. Staff members enrich and personalize learning opportunities for students who are already academically proficient.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

9. Staff members provide systematic, timely, and direct interventions when students are not successful academically.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree

10. The staff is characterized by openness and trust.

- Strongly Agree
- Agree
- Neutral
- Disagree
- Strongly Disagree
I am currently completing a study leading to the completion of my doctoral dissertation regarding teacher perceptions of Professional Learning Community participation. In order to provide supplementary data, I am gathering data regarding administrator satisfaction perceptions of teacher participation in a Professional Learning Community. You are invited to participate in the study by completing a survey, which will take approximately five minutes. Please be assured that your answers will remain anonymous as you will not be asked any identifying information. This study has been approved by the Institutional Review Board, and there is more information on the first page of the link. Providing answers to the survey is your consent to participate in the study. Thank you for your time and honesty. Please click the following link to continue:

https://www.surveymonkey.com/r/P3R3HCB
Appendix E

Institutional Review Board Approval

CARSON-NEWMAN UNIVERSITY
INSTITUTIONAL REVIEW BOARD COMMITTEE

REQUEST FOR REVIEW OF PROJECT/THESIS/DISSERTATION RESEARCH INVOLVING HUMAN SUBJECTS

I. IDENTIFICATION OF PROJECT/THESIS/DISSERTATION (hereafter called PROJECT)
   A. Project principal investigator:
      Complete Name       Courtney Bennett
      Telephone Number    931-314-4215
      Street Address or C-N Box 115 Lakeview Trail
      City, State, Zip    McMinnville, TN 37110
      Email Address       esbennett@cn.edu
      (must be official C-N email address [username@cn.edu])
   B. Project co-principal investigator:
      Complete Name       Click here to enter text.
      Telephone Number    Click here to enter text.
      Street Address or C-N Box Click here to enter text.
      City, State, Zip    Click here to enter text.
      Email Address       Click here to enter text.
   C. Chair/Advisor of the Project Committee:
      Chair/Advisor Name:  Dr. Julia Price
      Department/Discipline: Department of Education
   D. Committee Members (if applicable):
      Committee Members:  Dr. P. Mark Taylor, Dr. Jerry Hale
   E. Project type identification: Dissertation
   F. Title of project: Professional Learning Community Impact on Student Achievement
   G. Start date:         August 2016
   H. Estimated completion date: March 2017
   I. External funding (if any):
      1. Grant/contract submission deadline:  Click here to enter text.
      2. Funding Agency:                    Click here to enter text.
      3. Sponsor ID number (if known)       Click here to enter text.
      4. C-N Proposal number (if known)     Click here to enter text.

II. TYPE OF REVIEW REQUESTED: (select all that apply)
   A. ☐ Full review (more than minimal risk involved)
   B. ☒ Short review (minimal risk project)
   C. ☒ Exemption review (may qualify under federal guidelines for categories of studies exempt from coverage)
   D. ☐ Investigational Drug: Brochure available? Yes ☐ No ☐
   E. ☐ Re-Evaluation (the study has been temporarily inactive)
III. DESCRIPTION AND SOURCE OF RESEARCH PARTICIPANTS

A. Human subjects (select all that apply)
   - ☐ Inpatients
   - ☒ Volunteers
   - ☐ Pregnant Women
   - □ Outpatients
   - □ Fetuses
   - □ Mentally Incompetent
   - □ Minors
   - □ Prisoners
   - □ Elderly Population

B. Compensation to Human Subjects: $0

C. Type of Project/Procedure to be used (please select the most applicable):
   1. ☐ Medical-Therapeutic (evaluation of drugs, treatment protocol, surgical procedure, etc):
   2. ☐ Medical-Non-Therapeutic (physiological studies, laboratory analysis of blood or body substance):
   3. ☐ Investigation drug (drug study protocol):
   4. ☐ Radioactive materials:
      - Name: Click here to enter text.
      - Subcommittee on radioactive materials approval date: Click here to enter text.
   5. ☐ Psychosocial-Manipulative (response to stressful stimuli, hypnosis, etc.)
   6. ☒ Psychosocial-Non-Manipulative (evaluation of subject response to educational material, attitude, survey, etc.)
   7. ☐ Study involving confidential material without human participation (chart review, etc.)
   8. ☐ Other (please specify): Click here to enter text.

D. Source of subjects/participants: Teachers in a rural high school.

E. Number of estimated participants: 200

F. Relationship between researcher/participant: There is no relationship between the researcher and the participants.

IV. METHODS AND PROCEDURES:
Clearly and concisely describe in non-technical language the data collection and experimental research methods used in this project. This section should be consistent in every detail with the descriptions provided to participants in the consent form or procedure. Include non-technical descriptions of stresses to participants, experimental manipulations, tests or measures, surveys, interviews, observations, photography, video, and audio recordings. Clearly distinguish between control and experimental/treatment participant groups.

Data will be collected by emailing a link to the researcher-created survey in Survey Monkey. Survey Monkey is an online platform for administering anonymous surveys to generate data. Participants will answer a set of ten questions by ranking their responses on a six item scale. Responses will be analyzed and will be ranked in an Excel spreadsheet.
V. SPECIFIC RISKS/PROTECTION MEASURES:
Specify all potential risk to participants. Estimate the nature and amount of potential risk, stress, or discomfort and assess its seriousness. Describe precautions you will take to reduce risk and assess the effectiveness of these protective measures. If appropriate, include a description of the means you will use to assist or treat participants who may incur injury from one or more of the risk identified in this section. Permit sufficient detail to permit reviewers, who may not be familiar with your area of study, to evaluate any specific risk to the participants of this research.

Include methods and provisions by which you will address the issue of anonymity of confidentiality of data. Note that anonymity (protecting the identity of the subject/participant) is only possible if the investigator cannot discover the participant’s identity from data collected. In either case, describe how you will maintain the confidentiality of the participant’s data. Identify any security measures you have for protecting the data and identify to whom access is given. If thesis committee members or others will review or help with analysis of data, address the steps that you will take to ensure subject’s anonymity and confidentiality.

There will be little to no risk to participants by completing this survey. Participants will receive an email stating that the survey is forthcoming, informing them they do not have to complete the survey during the course of the school day as to not infringe upon their instructional time. The participants will all be familiar with the area of study.

Survey Monkey insures anonymity. None of the participants’ names will be including in survey answers.

VI BENEFITS:
Evaluate the reasonableness of the risk stated in section II in relation to the anticipated benefits, if any, to the participants and/or society. If the risks are minimal, please state that the risks are minimal and include a statement of anticipated benefits.

Note that in most research projects, the only relevant benefits are those that contribute to generalizable knowledge in a field of research. In these cases, participant benefits are incidental. Please do not inflate the significance of incidental benefits in this form or in your informed consent procedures.

Payment for participation in research, if any, is an incentive for participation and should be included in this section.

The risks associated with this study are minimal. The only benefits of participating in this study are generalized and incidental.
IX. SIGNATURES – must be on a separate page: provide two (2) copies: one (1) electronically submitted with full request and one (1) original paper copy sent to university IRB committee chair

When you submit this application for review please note that all signatures must be original. As your application moves through the review process, you should prepare two identical applications, both of which contain original signatures. As primary investigator, you should keep one copy and submit the other application with original signatures for review.

Project Principal Investigator: Click here to enter text
Signature:  

Project Co-Principal Investigator: N/A
Signature:  

Project Committee Chair: Dr. Julia Price
Signature:  

PROGRAM/DEPARTMENTAL REVIEW AND APPROVAL
NOTE: This is needed if the program or department requires a review.

I have read and reviewed this research application and recommend its approval.

Director/Chair/Research Committee Chair: N/A
Signature:  

UNIVERSITY IRB COMMITTEE REVIEW AND APPROVAL

The IRB Committee has read and reviewed this application for research and approves the application.

IRB Committee Chair: Gregory A. Casalemuovo, PhD
Signature:  

Approved: April, 2010; Revised: August, 2015

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Appendix F

Permission to Reproduce

I hereby grant permission to the Education Department, Carson Newman University, to reproduce this research in part or in full for professional purposes, with the understanding that in no case will it be for financial profit to any person or institution.

Signature: [Signature]
Date: [March 14, 2017]