# The Study of Evaluating Teacher Perspectives of Collective Efficacy in the High School Professional Learning Community

By

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# DEDICATION

This work is dedicated to all the strong women in my life who through collective efficacy brought me to this moment. Through their modeling of perseverance and fortitude, I have discovered my true self and have reached goals that I did not have the self-efficacy to accomplish. I will pay it forward by sharing the power of collective efficacy with all future teacher leaders I encounter to bring the message to all students that knowledge holds the answers to life, and literacy serves as the key to knowledge!

I further dedicate this work to my family and friends who supported me with their special talents, knowledge and unending love. Their constant patience and understanding they extended to me could never be measured. Even with their busy and demanding lives, they found time for me. As a result of their most precious gift of time, love, and their belief that I would achieve my goal, I realized a better version of myself. My life has been enriched by their love.

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# ABSTRACT

This mixed-methodology study explored collective efficacy within the high school Professional Learning Community (PLC) from teachers' perspectives in southwest Florida. This text/data collection and analysis process revealed the teachers' opinions expressed in their voices and interactions displayed within their PLCs. Furthermore, the implementation of the sociogram that Owens & Valesky (2015) defined as a graphic that illustrated the social interactions within a human group and the Teacher Collaboration Assessment Rubric (Woodland, 2016) added to the depth of the quantitative and qualitative analysis. In addition to the personal interviews and field observations, both collection tools exposed the real situations that occurred in these PLCs.

The results of this study divulged that the complex and challenging learning environments of high school campus have made it necessary for educators to find emotional support and knowledge within the talents and expertise of their PLC members. The conclusion of the study further discovered that the role of the administration had a great impact on the effectiveness or ineffectiveness of the high school PLC and brings to light the powerful catalyst of a trusting school culture on the successful development of a proficient PLC.

# CHAPTER ONE: INTRODUCTION

An expedition team of five members found themselves lost in a jungle. The team needed to believe in each other in order to navigate obstacles on the unknown path. The support of this dedicated team maximized each individual member's capability, increasing it exponentially. Teams may increase potential but with varying levels of success. At the lowest level of proficiency, you have a group of people whose intentions do not necessarily align with the group's central goal. Intermediate groups consist of members appearing to cooperatively solve issues but operating superficially. However, the most effective teams establish relationships that enable each member's weaknesses to vanish beneath the collective strengths of the community in pursuit of a common goal. Since each member of the expedition team demonstrated faith in their collective strengths, the group transformed into a community empowered to achieve success.

In education, the Professional Learning Community (PLC) offers a community for empowerment. The highest performing school districts recognize the importance of organizing their faculty into PLCs and provide timely, ongoing adult learning as an essential part of continuous school improvement. The interest in the PLC process has made significant changes in education. School districts now ask teachers to work on collaborative teams to achieve common goals and accept the responsibility for mutual accountability (DuFour, 2015). Fullan, Rincon-Gallard and Hargreaves (2015) referred to mutual accountability as professional capital, emphasizing the individual and collective capacity of educators to continuously grow personally and professionally for the success of all students. PLC members experienced professional capital as they regularly revised and improved instructional practices, so students could engage in deep learning which the educational community emphasized to be the single most important

responsibility of the teaching profession, above and beyond gains in test scores (Gallard & Hargreaves, 2015).

A link exists between the Social Cognitive Theory and instructional practices that empowered high school educators to seek continuous significant school reform (Olivier & Hoffman, 2016). These school reforms addressed the needs of high school teachers who mostly worked in isolation, manifesting feelings of frustration and alienation without an opportunity to reflect on instructional practices in collaboration with respected colleagues (Palmer, 1993; Thibodeau, 2008). In addition, the high school teacher struggled to serve students of diverse levels of academic preparedness and social needs or to create productive classrooms within the complex structure of a high school campus (McLaughlin & Talbert, 2011; Palmer, 1993). Subsequently, PLCs at the high school level warranted further investigation in effective collaboration to improve instructional practices.

## Problem Statement

The jungle of complexity in the current educational environment has many high school teachers working under the scrutiny of high stakes testing and the competitive nature of today's society. Likewise, district leaders found themselves not fully able to develop the necessary professional development to effectively prepare educators for current school expectations (William, Brien, & LeBlanc, 2012). For example, the traditional episodic professional development resulted in a series of disjointed events. The delivery of these professional development endeavors came either in the form of specific district-wide professional development days, workshops, and random courses or graduate programs that had no connection to the current school goals or curriculum (DuFour, 2014). Furthermore, typical school reform followed predictable patterns. For instance, the improvement initiatives began strong but

weakened as confusion, criticism and complaints permeated the innovative initiative (DuFour, 2007).

The PLC concept did not present short cuts in school improvement; however, it did offer a design that generated challenging work (DuFour, 2007). Most high school PLCs operated one-dimensionally out of obligation and compliance, and, therefore, the professional relationships did not evolve into meaningful collaborative discussions (Oliver & Hoffman, 2016). Subsequently, the superficial interplay did not result in significant changes required to move schools towards meeting the challenges of today's society (Fullan, 2006; Oliver & Hoffman, 2016). In addition, these perfunctory interactions did not assist high school teachers in serving students from diverse levels of academic preparedness and social needs (Chen, Lee, Lin, & Zhang, 2016).

Without the support of a collegiate PLC, the members did not have the opportunity to foster self-efficacy to build leadership capacity, leaving the high school teachers feeling isolated and ill-prepared for the complexity of high school students (William, Brien, & LeBlanc, 2012). These complex trepidations resulted in a negative impact on learning and instruction (Chen, Lee, Lin & Zhang, 2016). The above-stated highly intensified learning environment in high schools created the necessity for members to experience effective PLCs. In brief, proficient PLCs practicing collective efficacy and proficient collaboration resulted in increased leadership capacity to meet today's challenges on the high school campus (Chen et al, 2016; Higgins, Scheurich & Morgan, 2011; Kohler-Evans, Webster-Smith, & Albritton, 2013; Ko, Hallinger & Walker, 2013; Leithwood & Louis, 1998; Nehring & Fitzsimmons, 2011; Olivier & Hoffman, 2016; Williams, Brien, & LeBlanc, 2012).

## Purpose

This mixed-methods study explored high school PLCs from the perspective of high school PLC members based on the constructs of the Social Cognitive Theory (Bandura, 1986; Owen & Valesky, 2015), specifically collective efficacy, to affect reform in professional development (Seidman, 2013). Hattie's (2015) (as cited in Waack, 2015) groundbreaking report ranked collective efficacy as one of the two influences with the most impact on teacher performance. The influence of collective efficacy in PLCs has been shown to be a significant benefit for both teachers and students (Blanton & Perez, 2011; Pepper, 2015). According to Pepper (2015), even when schools initially struggled with the PLC process, they still reported a positive impact on school policy, teachers' instructional practices, and school improvement. In addition, through the implementation of innovative instructional practices based on collective decision-making, teachers perceived PLCs to have a major impact on student achievement.

Furthermore, PLCs significantly reduced teacher isolation and produced outcomes that included students profiting from stimulated learning, increased motivation, and decreased achievement gaps (Blanton & Perez, 2011; Pepper, 2015; Zhang, Yuan, Yu, 2017). In a like manner, schools that operated as PLCs addressed challenges and kept a sustained focus on the core work of teaching and learning (Peppers, 2015; Woodland & Mazur, 2015). The core concepts of the PLC model relied upon collaboration, collegiality, and a trusting community culture, making it a playground for instructional experimentation (Nehring & Fitzsimmons, 2011). Educational issues were better understood through the authentic experience of teachers, whose individual and collective experiences constituted the daily challenges and success of the classroom (Seidman, 2013).

Most research studies on collective efficacy focused on group interventions, emphasizing that both student and teacher efficacy have a positive relationship with essential educational outcomes (Budworth, 2011; Goddard, 2001). Furthermore, the work of Tasa, Taggar, and Seijts (2007) discovered that collective efficacy evolved through the interactions between group members (Lee, Stajkovic, & Sergent, 2016). However, there has been relatively little research examining the individual factors of social interactions and relationship building that supported a collaborative culture to enhance the collective efficacy of the high school PLC, enabling educators to feel empowered to make decisions that directly affect school reform (Leithwood & Louis, 1998; Nehring & Fitzsimmons, 2011, Palmer, 1993; Wang, 2016). This study utilized the mixed-methods approach in an exploration of collective efficacy through the social-cognitive behaviors of the high school PLC from the member's perspective to develop or sustain effective high school PLCs.

## Significance of the Study

Significantly, this study addressed the high school PLCs from the member's perspective as a professional development tool based on the Social Cognitive Theory with an emphasis on collective efficacy. Specifically, the research examined the behaviors within high school PLCs to discover the strategies or protocols that nurture professional relationships to enable high school PLC members to experience collective efficacy. From the seminal work of Palmer (1998) to the more recent work of Wang (2016), the literature captured the value of the concept of PLCs and how elevated levels of collaboration positively affect collective efficacy. Subsequently, the complexity of the high school classroom and the need to address the reported feelings of isolation by high school educators (McLaughlin & Talbert, 2011) justified the need for further exploration of the value of collective efficacy in PLCs. The study focused on the unique

viewpoint of educators regarding the professional relationships within the high school PLC. This study investigated the high school PLCs regarding the value of collective efficacy through the framework of the Social-Cognitive Theory to support productive collaboration among high school PLC members, resulting in increased collective efficacy, teacher empowerment, and leadership capacity to meet the specific needs of the high school classroom (Carpenter, 2014; Chen et al., 2016; Fullan, 2005, Friedman, 2011; Huggins et al., 2011; Ko et al., 2013; Leithwood & Louis, 1998; Liou & Daly, 2014; Nehring & Fitzsimmons, 2011; Owens &Valesky, 2015; Palmer, 1993; Wang, 2016).

## Theoretical Framework

The Social Cognitive Theory as a theoretical framework provided a powerful theory base to predict behaviors (Staples & Webster, 2007). The PLC philosophy promoted the Social Cognitive Theory by interrelating behaviors, personal cognition, and environmental factors (Staples & Webster, 2007). By applying collective efficacy, PLCs effectively analyzed student data, created conjoint responsibility, and promoted shared leadership (Dufour, 2013). In addition, PLCs reduced teacher isolation, enhanced teacher competency, and increased positive professional relationships (Friedman, 2011; Klar, 2012; Shernoff, Martinez-Lora, Frazier, Jakobsons, & Atkins, 2011; Owens & Valesky, 2015). For example, high performing PLCs engaged in deep conversations, expressed positive trusting relationships among PLC members, and allowed teachers to share concerns and seek advice from colleagues, fostering the accessibility and exchange of knowledge, resulting in productive collaboration (Liou & Daly, 2014).

Albert Bandura (1986) combined the external environment, human behavior, and personal cognition to originate the Social Cognitive Theory (Staples & Webster, 2007). Initially Bandura (1986) named his theory Social Learning Theory; however, he discovered that the cognitive process mediated social learning and decided to change the name to the Social Cognitive Theory. This theory focused on social learning, self-efficacy, collective efficacy, and the understanding of psychological and social motivation (Owen & Valesky, 2015).

**Self-efficacy**

To understand the constructs of collective efficacy, first self-efficacy must be addressed. Bandura (1986) defines self-efficacy as an individual's measurement of their capability to accomplish an action, to attain the desired outcome. A key aspect of self-efficacy emphasizes that individuals can be proactive in their intellectual growth through their personal actions (Owens & Valesky, 2015). For example, people who have an elevated sense of self-efficacy visualized success to bring about a fruitful outcome. The Social Cognitive Theory suggests that self-efficacy affects the level of perseverance applied in the presence of challenges or setbacks. Behaviors become regulated by purposeful goals. For instance, a person with an elevated level of self-efficacy can commit to an ambitious challenge (Bandura, 1989; Stapes & Webster, 2007).

The fundamentals of self-efficacy focus on enactive attainment, vicarious experiences, verbal persuasion, and psychological state. Enactive attainment occurs as a person experiences the performance of a task (Owens & Valesky, 2015). Bandura (1986) emphasized the proficiency of performance rooted in enactive attainment as the most influential fundamental of self-efficacy. The more efficient a person became at accomplishing a task, the more failure became accepted and seen as a learning tool. The next fundamental—vicarious experience—occurred while watching another complete a task. Viewing the successful execution of a task increased the

impact on one's belief in a positive outcome. Verbal persuasion, in comparison to the two previously mentioned fundamentals, had a limited effect. Its usefulness came from the power of encouragement from peers. Feedback inspired a person to put forth his/her best efforts and to persevere until the task has been successfully accomplished. Finally, the psychological state can be defined as an internal reaction to executing a task. If a person displayed high anxiety in their ability to efficiently accomplish a task, fear resulted (Budworth, 2011; Owens & Valesky, 2015; Staples & Webster, 2007).

**Collective Efficacy**

Analogous to self-efficacy, collective efficacy predicted the performance of a collaborative team through completion of specific projects, persistence, cognition, stress levels, and achievements of the group. As self-efficacy related to an individual's belief in their capability, collective efficacy referred to the shared belief of a group in its capacity to act (Bandura, 1986; Budworth, 2011; Owen & Valesky, 2015). Notably, the actions that influenced a group member's belief included the activities of other team members, methods of team leaders, and organizational practices. Collective efficacy can be defined as the degree of consensus among group members regarding their capacity to accomplish the project; therefore, the level of consensus affects the perception of collective efficacy. For example, if the school had earned an exemplary school grade as opposed to an unsatisfactory school grade, it produced positive perception of their collective efficacy. Furthermore, members exercised collective efficacy by effectively communicating, prioritizing tasks, being supportive of other team members. Through these actions, a member of a team exhibited a belief in their own ability to contribute productively to the team's effectiveness which translated into a high perception of team performance (Staples & Webster, 2015). To illustrate, when a knowledgeable group member

applies logic and offers a rational explanation for their findings, the group experiences an enhanced performance. Therefore, a group's performance improved when the group consisted of mostly well-trained members (Budworth, 2011; Goddard, 2001; Tasa et al., 2007).

Similarly, collective-efficacy strengthened the adaptability of a group, specifically their resiliency when faced with challenges. If the high school PLC's collective-efficacy prevailed, the group problem-solved and improved their learning environment through a concerted effort. However, if the high school PLC viewed a project as insurmountable, the group lost their motivation, which had a monumental influence on reform (Owens & Valesky, 2015).

Collective efficacy had a paramount effect on group members when the objective required interdependency (Gully, Incalcaterra, Joshi, and Beubien, 2002, as cited in Budworth, 2011). Consequently, a group's collective beliefs impacted the behavior of the group members and the creation of the group norms. The influence of social norms—the accepted behaviors of individual group members—shaped the social aspect of collective efficacy. Especially, when the greater the effect of collective efficacy, the more the group committed to the norms the more the expected outcomes were actualized (Goddard, 2001).

**Group Trust and Dynamics**

Group trust had an essential role in the development of collective efficacy. In other words, when group members expressed concerned for one another, repeated interpersonal interactions, and believed in the intrinsic value of their relationships, trust formed among the group members, which eventually lead to the maturity of collective efficacy (Rousseau, Sitkin, Burt, & Camerer, 1998, as cited in Lee, Stajkovic & Sergent, 2016). Through vicarious learning and social persuasion, the affective and interdependent elements of emotional connections and relationships further nurtured group trust. Group trust facilitated open communication among

group members and mediated constructive discourse, allowing groups with elevated levels of trust to be more willing to take risks. To illustrate this point, a frequent question a group member was asked was, “Who do I trust?” To answer this question and others, groups developed social norms that enabled members to properly communicate, interact, and share ideas. By setting norms, members established social expectations and guided one another to comply with acceptable group behaviors, which supported cooperation and suppressed potential hindrances, like bias (Lee et al., 2016).

## Definition of Key Terms

It is important to note the operational definitions of the key terms as they were used in this study.

*Professional Learning Community.* A trusting and safe learning environment where members nurture relationships to become empowered to affect school-wide reform (Palmer, 1992, 1993; Sullivan, 2013; Wang, 2016).

*Collective Efficacy*. A connected community, intensifying teacher autonomy and professional creativity with a synergy that buttresses self-confidence to a level of teacher empowerment (Bennett, Ylimaki, Dungan, & Brunderman, 2013; Blanton & Perez, 2011; Pepper, 2015).

*School Culture of Trust.* Principals champion a network of interdependent relationships within their faculty to collectively concentrate on student-centered learning and nurture a culture of trust by actively monitoring the school’s progress toward the agreed upon vision and mission, celebrating the positive outcomes (Blanton & Perez, 2011; Bennett et al., 2013).

*School Leadership Capacity.* The entrenchment of leadership throughout the school community as a mutual responsibility of all shareholders (Lambert, 1998).

*Social Cognitive Theory.* A focus on social learning and intellectual growth through proactive personal interactions (Owens & Valesky, 2015).

*Sociometry*. Measures the interpersonal connection between two people. (Kurzman, 2006)

*Sociogram.* A graphic to illustrate the flow of the intimate social design of a human group (Owens & Valesky, 2015).

*Trust.* A collaborative structure and bottom-up framework where educators share a mutual respect and depend on their colleagues for support (Carpenter, 2014; Chen, 2016; Tschannen-Moran, 2004).

## Research Questions

Based on the Literature Review, the study probed for a deeper understanding of the effects of the social interactions within the high school PLC. The following epistemological research questions explored the participants' actions, processes, and perceptions found within the data that addressed the framework of Social Cognitive Theory from the perspective of the high school PLC members.

1. What are teachers' perceptions of the behaviors in high school PLCs?
2. How are PLC members' social-cognitive behaviors related to teachers' perceptions of the effectiveness of high school PLCs?
3. How are teacher's perceptions of effectiveness of high school PLCs related to the study's Teacher Collaboration Assessment Rubric (TCAR) assessment of collaborative efforts within the PLC?

## Summary

This dissertation offered a unique perspective that employed the Social Cognitive Theory to analyze how social cognitive behaviors affected collective efficacy within PLCs from the high school PLC members' point of view. Therefore, this study added to the literature that supports the importance of PLCs for the professional development of educators (Nehring & Fitzsimons, 2011; Wang, 2016). The literature review revealed the prominent impact of PLCs that transform a school culture into a collegial trusting professional environment (Carpenter, 2014; Chen, Lee, Lin, & Zhang, 2016; DuFour, 2015; Fullan, 2006; Liou & Daly, 2014). The same research asserted that the most influential asset of PLCs included the ability to increase the school's leadership capacity through distributive leadership. By utilizing this leadership style, administrators disseminated leadership responsibilities by an individual's expertise, which enabled teachers to collectively learn and work towards common goals (Burke, 2003; Goksoy, 2016; Lambert, 2006). Within this school climate, PLCs provided a large supportive network of colleagues for new teachers in their critical first years (Leithwood & Louis, 1998; Owens & Valesky, 2015; Wang, 2016).

# CHAPTER TWO: LITERATURE REVIEW

## Definition of a PLC

The PLC, a complex ideology embedded in cultural and organizational concepts, possesses one of the most influential organizational devices for school improvement. PLCs in a collegial trusting school culture put theory into practice (Botha, 2012; Carpenter, 2014; Chen, Lee, Lin, & Zhang, 2016). Research shows that PLCs flourished in a safe atmosphere where each new or experienced educator felt confident to freely voice their opinion, take risks to test innovative instructional practices, and support one another as they mature in both their professional and personal development (Friedman, 2011). When this happened, the collaborative culture that combined individual responsibility, instructional practices, and student achievement became the main feature of successful schools (Fullan, Santiago Rincon & Hargreaves, 2015). The prominent impact occurred as new teachers connected to a large network of colleagues and received support for the critical first years of teaching. Through this process, schools increased leadership capacity, one of the most influential organizational factors of the PLC concept (Botha, 2012; Carpenter, 2014; Chen, Lee, Lin, & Zhang, 2016; Friedman, 2011; Huggins, Scheurich & Morgan, 2011; Leithwood & Louis, 1998; Nehring & Fitzsimmons; 2011; Palmer, 1992, 1993; Sullivan, 2013; Wang, 2016).

## Structural Design of a PLC

The PLC design created a quality of professional respect that encouraged all members to accept responsibility for student achievement and provided a continuous improvement forum. Through deep conversation, teacher reflection, and collaborative protocols, teachers exercised the PLCs core elements of inquiry into instructional practice based on student data. This collaborative model had a strong link to student achievement as PLC members welcomed the

opportunity to perfect their teaching skills (Botha, 2012; Carpenter, 2014; Chen et al., 2016; Kohler-Evans, et al., 2013; Shernoff, Martinez-Lora, Frazier, Jakobson, Atkins, 2011; Wang, 2016). As an effective professional development instructional tool, the PLC empowered teachers to communicate across the curriculum, especially as they creatively addressed concerns in the area of Exceptional Student Education (ESE) and English Language Learners (ELL) (Chester, 2015; D'Ardene et al., 2013; Hardin & Koppenhaven, 2016; Thibodeau, 2008; Smith, Wilson, & Corbett, 2009; Walker, 2013).

## Progressive Stages of a PLC

PLCs evolved through progressive stages of implementation (Botha, 2012; Leclerc, Moreau, Dumouchel & Sallafrancque-St-Louis, 2012). The progression began with the initial stage (level 1) where many challenges existed to offset the implementation. The implementation stage (level 2) followed, where a clear, shared vision appeared, and relationships began to form. During the integration stage (level 3), pedagogical practices complemented the clear, shared vision and true collaboration occurred (Leclerc, et al., 2012). Within this progressive professional development approach, PLC members shared common interests and goals that focused on the school's vision and mission (Botha, 2012; Chen et al., 2016; Frick, Polizza, & Frick, 2009; Palmer, 1993; Shernoff et al., 2011).

## The PLC Purpose

**Nurturing human relationships through trust.** The trepidations of today's classroom elicited an intense willingness for teachers to depend on their colleagues to deal with the stress of standardized testing and accountability (Shapiro & Gross, 2013; Tschannen-Moran, 2004). A stable trusting school culture was established to meet these challenges and establish a sense of trust and community. This trusting school culture allowed teachers to acquire an open-minded

perspective, mutual respect, and loyalty. Naturally, these same elements were rooted in the previously mentioned PLC's stage of development. In these developmental stages, members embraced friendship and enjoyed camaraderie, which spurred the necessary interdependent relationships that buttressed the PLC's process. Within the social context of this cooperative community and the PLC principles, PLC members gained profound insight into improving instructional practices (Easton, 2015; Gray & Kruse, & Tarter, 2016; Liou & Dale, 2014; McAlister, 2016). Furthermore, PLCs built the professional capital of teachers and school leaders as PLC members made decisions based on their "best collective and individual professional judgement" (Fullan, Rincon-Gallardo & Hagreaves, 2015). This nurturing professional community promoted teacher efficacy and leadership capacity which empowered PLC members to negotiate turbulent circumstances (Cranston, 2011; Fullan, 2005; Liou & Daly, 2014; McAlister, 2016; Palmer, 1992, 1993; Rebore, 2014; Wang, 2016).

**Effectively fostering equity and positive communication.** Teachers that work in isolation to tackle the challenges of public education felt secluded with no opportunity to engage in conversation with their colleagues. The integrity and collaboration within the infrastructure of a PLC addressed the educators' expressions of solitude (Gray et al., 2015; Kohler-Evans et al., 2013; Jappinen, 2012; McLaughlin & Talbert,2011; Shernoff, et al., 2011). The equitability in a PLC stimulated the practices of advanced communication skills among new and experienced teachers, strengthening the collaborative capacity of the group. However, the value of effective practice in PLC dialogue was emphasized so that every member's thoughts could be clearly heard and acknowledged. Through the achievement of superior communication skills, advancing cognitive dialogue flourishes, different ideologies replaced the antiquated established paradigms

and education rituals (Easton, 2015; Levine, 2011; Liou & Daly, 2014; McAlister, 2016; Robore, 2014; Sims & Penny, 2014; William, Brien & LeBlanc, 2012).

**Promoting respect for the education profession**. Professional respect among PLC members offered teacher leaders the opportunity to conduct ongoing collaborative inquiry that connects theory to practice, affecting a long-term commitment to the education profession (Botha, 2012; Chen et al, 2016; Hoffman, Dahlman & Zierdt, 2009). With a renewed sense of commitment, teachers realized the effect of empowerment as they viewed themselves as learners who wanted to continue to grow in professional knowledge. As leadership capacity grew, PLC members shared a passion for knowledge, gained autonomy, and utilized professional judgment (Easton, 2015; Hargreaves, 2007; Hallam, Smith, Hite, Hite, & Wilcox, 2015; McAlister, 2016; Vangrieken, Meredith, Packer, & Kyndt, 2016). As teacher leaders, they produced recommend-ations that transcended to school-wide actions that affected positive transformation in classroom instruction and increased student learning (Easton, 2015; Gray et al., 2015; Sims & Penny, 2014). Thus, PLCs supported respect for the teaching profession, elevating teacher quality and increasing positive relationships among colleagues, thereby promoting teacher retention (Friedman, 2011; Higgins et al., 2011; Gray et al., 2015; Liou & Dale, 2014; Wang, 2016).

**Promoting ethics in education.** The transformational power of the PLC's cooperative organizational structure came from the ethical elements of trust, benevolence, reliability, competence, honesty, and respect for the education profession (Gray et al (2016). The culmination of all these elements led to reflective dialogue amongst PLC members that equipped them with the capability to uncover strengths and weaknesses in instruction (Palmer, 1992, 1993). By setting a tone framed with ethical elements, a PLC encouraged teachers to be open to new educational

concepts and think more holistically as they gathered insight that bolstered student progress (Cranston, 2011; Kalkan, 2016).

The trusting culture of a PLC demonstrated the determination of PLC members to improve their practices out of devotion to serve their students to the best of their ability. Similarly, PLCs promoted reliability by building a network of interdependency among faculty members as each teacher collectively took responsibility for student-centered learning. In a like manner, PLCs buttressed self-competency as members intensified their autonomy and professional creativity (Bennett, Ylimaki, Dugan & Brunderman, 2014).

PLCs realized the full effect of honesty as PLC members exposed their vulnerability to one another, thereby experiencing deep levels of conversation and critical thinking (Gray et al., 2016). Leana (2011) emphasized that teachers would be twice as likely to turn to a colleague rather than to outside experts and more likely to seek advice from other teachers than from the principal. The most compelling evidence was one teacher quoted by Leana (2011) who stated, "It's dangerous to express vulnerability to experts or administrators because they will take your professional status away" (p. 6). This synergized environment produced teachers who took risks and embarked on professional development in a community setting where they explored innovations in instructional practices. These actions supported each PLC member's weaknesses and allowed his/her strengths to thrive (Cranston, 2011; Fullan, 2005; Liou & Daly, 2014; McAlister, 2016; Rebore, 2014; Wang, 2016).

This framework of ethical elements of the PLC design emboldened teachers and administrators as they shared in the responsibility of governing their school site to affect curriculum and policy reform (Hallam et al., 2015; Liou & Daly, 2014; Shapiro & Gross, 2013). The willingness of principals to share leadership had a powerful influence on the cohesiveness of

a school's trusting climate and truly nurtured the human aspect of the relationship among teachers that supported the growth of leadership capacity and promoted a successful learning environment for all students (Cranston, 2011; McAlister, 2016; Sims & Penny, 2014; Tschannen-Moran, 2004).

## Management of a PLC

### The PLC Model

Fullan (2016) emphasized professional capital's essential role in continuous learning. The PLC model provided support for professional capital where PLC members made a commitment to work together for a common cause. Three elements interplay in professional capital: human capital, social capital, and decisional capital. Human capital refers to the quality of basic teaching talents (Fullan, 2016). Social capital refers to the quality of relationships when teachers need information or advice on how to best accomplish their job. For instance, when teachers with low teaching skills worked in a school with high social capital, they improved their instructional practices by reaching out to other educators, resulting in better student outcomes (Fullan, 2016; Leana, 2011). Decisional capital involves many individuals in a PLC that decide on an issue based on a sum of practices and expertise. For PLCs to make equitable and cognitive decisions, especially decisions based on human or social capital, decisional capital was essential (Fullan, 2016). Furthermore, professional capital encouraged internal accountability where PLC members willingly accepted the personal, professional, and collective responsibility for continuous improvement (Fullan, Rincon-Gallardo & Hargreaves, 2015).

Social capital played an important role for administrators and teachers to master the complex concept of trust and its effect on collaboration. The faculty saw the principal as a supportive problem solver who had a tremendous amount of trust and influence regarding their

faculty (Fullan, 2016; Gray, et al., 2016; Hallam et al., 2015). The principal's role in professional capital combined the parts of learner and leader (Fullan, 2016) creating a school culture of coherence and cohesion where faculty and the administration shared a mindset with two-way communication and consultation across the two parties that communicated key priorities and developed teacher leaders (Fullan, Rincon-Gallardo & Hargreaves, 2015). This combination of roles devoted human and social capital forced continuous learning outcomes. These outcomes involved routinely effective feedback of purposeful interactions of the school culture (Fullan, 2016).

**Concentric circles.** This graphic representation effectively conceptualizes the relationship among the school administration, faculty, students, and surrounding community that acknowledges the powerful element of trust has on the functionality of the PLC. In Figure 1, the center circle represents the relationship between the teacher and the student, the middle circle symbolizes the relationship among the faculty and their relationship with the administration, and the outer circle signifies the school and school surrounding community. The surrounding community defines the parents, booster organizations, and business or community partners.


*Figure 1. Concentric circles (Hallam et al., 2015)*

The design of the concentric circles demonstrates that the surrounding community trusts the administration and the teachers of the school to serve the best interest of students. The illustration implies that the relationship among the teachers and the administration is supportive of the surrounding community, and especially, to the students in their classrooms. The concentric circles format supports the improbability for any significant school improvement to be realized without the essential element of trust (Cranston, 2011). Blanketed in this security, PLCs become a constructivist form that engages in school-wide decision making where members take responsibility for their actions to effect school improvement (Lambert, 2006; Kilinc, 2014).

## Educational Setting

PLC members engaged metacognitively when they actively monitored and regulated their ideas to stimulate collaboration (Prytula, 2012). In this rich learning environment, the size of the PLC membership did not influence the power of the group. Each member optimized their pedagogy through self-realization and efficaciously applied the common academic language of their profession (McAlister, 2016; Robore, 2014). Within this work climate, PLC members professionally grew and increased their professional capital through experience and reflection as they analyzed student artifacts and data that transformed assumptions into the implementation of instructional practices based on sound educational theories (Stewart, 2014).

## Time and Norms

**Time.** The success of a PLC pivoted on the issue of time (Botha, 2012; Cranston, 2009; Klar,2012; Palmer, 1993). PLCs which regularly met at a designated time in a specified location and followed a structure prioritizing collaboration operated the highest efficiency levels (D'Ardenne et al., 2013; Palmer, 1993). With specific allocated time to collaborate and participate in dialogue, PLC members' instructional practices improved (Blanton & Perez, 2011;

Woodland and Mazur, 2015), especially when administration set time aside to release teachers from their classroom responsibilities during the school day to meet for PLCs (Cranston, 2011; Easton, 2015; Ferguson, 2013; Klar, 2012; Levine, 2011; Robore, 2014).

In highly functioning PLCs, administrators and educators found ways for PLCs to realistically manage their time on a weekly, or even daily basis to share proven educational practices (Ferguson, 2013; Jappinen et al., 2015; Kohler-Evans et al., 2012; Liou & Daly, 2014). For example, some administrators devised a Buddy Day system. The Buddy Day involved a rotation of blocked classes partnered up to release teachers from their classes as they attended PLCs during school hours (Ferguson, 2013). In other highly-developed PLCs, teachers addressed their own insufficient time issues (Kohler-Evans et al., 2013; William et al., 2012). One example was the use of technology to promote effective time management through the inclusion of a virtual learning model, like a Flipped Classroom, where the explicit instruction occurred online with coaching conversations supporting the instruction (Harding & Koppenhaven, 2016).

Killion (2013) offered another option for schools to consider, a process that established time within the school day by forming a time study team with various representatives of the faculty to research the time study process to make recommendations to the entire faculty. Table 1 lists the tasks of the time study team, as defined by Killon (2013).

Table 1 Efficient Use of Time in PLCs

*The Focused Tasks of The Time Study Team (Killion, 2013)*

| |
|---|
| analyze the results of a survey on time in education; |
| explore how time is currently being utilized, and conclude how to improve the use of existing time within PLCs; |
| investigate resources that offer efficient time models; |
| suggest ways to find the time PLCs need within the school day. |
| review suggested modification before revealing recommendations school-wide; |
| review of time uses continuously and make revisions to fully realize the benefits of the team's suggestions. |

**Norms and protocols.** Rudimentary management of norms and protocols to assist PLC members in learning and practicing proficient communication skills promoted collaboration and creativity. Pre-established norms and protocols minimized miscommunication within the PLC and were revisited when these miscommunications still inadvertently occurred (Burke, 2003; Cetin & Kinik, 2016, Kilinc, 2014; Kilinc & Ozdemir, 2015; Pepper, 2012). These norms and protocols functioned as a promotional agent that sustained the PLC as it moved through progressive stages. By setting norms and using protocols, educators experienced satisfaction in their professional growth. For example, as PLC members established their group norms and protocols, the creation of specific roles included the role of facilitator. When the PLC members attained an elevated level of shared leadership, the facilitator role became a rotated position with each member had the opportunity to lead. As teacher leaders advanced towards their full potential, they eliminated external influences, became less resistant to change, and improved instructional practices. Each PLC evolved at different rates to achieve this high level of competency (Botha, 2012; Carpenter, 2016; Chen et al., 2016; Kalkan, 2016; Kilinc, 2014; MacPhail et al., 2014).

## Traditional Professional Development (PD) vs. PLCs

### Traditional Professional Development

Traditional professional development (PD) usually ranges from a half-day or full-day workshop that provides anything from a lecture or presentation that promotes a classroom strategy or technique to course work at the university level for a full semester. These passive classroom activities and isolated practices inadequately prepared teachers to incorporate their new knowledge. Typically, all teachers participated in PD activities to maintain their teacher certification, but the criteria for certification varied from state to state. Approximately, 90% of

all school teachers regularly registered for PD. Unfortunately, it is unclear if this traditional PD equipped teachers with the deep understanding of the complex concepts of the content being presented (Harris, Stevens, & Higgins, 2011; Stewart, 2014). For example, Harris et al., (2011) found that after educators attended a day-long PD workshop for mathematics, teachers did not have the opportunity to receive effective feedback on their new pedagogical practices. Consequently, teacher and student learning gains, if they occurred, went undocumented. Harris et al. (2011) concluded that "the development of mathematics knowledge for teaching is a process that required intense study over time" (p. 959). Joyce and Showers (2002) (as cited in Stewart, 2014) stressed if no application beyond the initial training occurred in traditional PD, then the impact would be minimal on student learning.

**High-quality Professional Development**

High-quality professional learning required the appropriate conditions for a deep understanding of pedagogy that included active reinforcement in a classroom setting to insure that instructional practices were analyzed, evaluated, and improved upon (Stewart, 2014). Teachers gained a broader cognizance of curriculum when they grappled with it as they explored, assessed, and implemented improvements (Stewart, 2014). Borka (2004) (as cited in Stewart, 2014) asserted when teachers had a deep and malleable comprehension of the curriculum, students had a fuller understanding of the concepts. For example, the Training Industry created the 70:20:10 model in the 1980s as the general guideline for the optimal PD. The 70:20:10 model claimed that educators gained 70% of new knowledge from job-related hands-on experience, 20% from interactions in a social learning community, and 10% from traditional style educational workshops. The 70% component became the most beneficial because, as stated above, educators addressed challenges and interacted with respected

colleagues in their work setting. In addition, educators received immediate feedback for issues in the classroom that needed to be addressed. A majority of the 70:20:10 model targeted feedback and encouragement from collaborating with peers—a valuable approach to learning through a social cognitive environment (Training Industry, Inc., 2017).

## PLCs As High-quality Professional Development

As PLC members collectively accepted responsibility for student achievement goals and promoted shared leadership, they exercised the PLC philosophy through interrelated behaviors in a social cognitive environment (Staples & Webster, 2007). For example, this PLC ideology was encouraged by the social learning percentage of the 70:20:10 model through social capital (previously stated as a component of professional capital) that offered PLC members accessibility to current information (especially in content area) and quality interaction (Dufour, 2013). As the professional development for educators shifted from passive to active collaborative practices, PLCs with consistent, student-centered teaching environments, supported by peers, promoted professional capital, and offered a highly effective method of professional learning (Dufour, 2013; Stewart, 2014).

## Andragogy and PLCs

**History.** The Greeks translated andragogy as "man leading." A German educator, Alexandra Krapp, first used the term andragogy in 1833. Later, Malcolm Shepherd Knowles (1913 – 1997), an American educator, became well known for the use of the term andragogy. In 1980, Knowles' work on the four assumptions about the characteristics of any form of adult learning identified andragogy as an art and science. Similarly in 1984, Knowles suggested four principles that applied to adult learning (Pappas, 2013). The theory of andragogy emphasizes that

adults have a drastically different learning process from children. Moreover, it identified adults as active and self-directed learners (McDonough, 2014).

**The principles and assumptions.** The details in the principles of andragogy further explain the differences between childhood and adult learning. Adults need to (a) be involved in the planning and evaluation of their instruction, (b) learn through experience, (c) learn concepts that have immediate relevance and impacted their professional or personal lives, and (d) learn through problem-solving and content-oriented tasks. These principles align with key assumptions. Regarding self-concept, an assumption can be made that as a person matures, they develop a self-directed independent personality. The assumptions emphasize that adults learn through experience, particularly by problem-solving and connecting concepts to their professional and personal lives. Furthermore, instead of immediate rewards, intrinsic desire to learn evolves. These principles and assumptions became the foundations for adult learning (Pappas, 2013; Taylor & Kroth, 2009).

**Adults preferred to learn in a social context.** In 2011, Knowles' work (as cited in McDonough, 2014) viewed collaborative learning as a preference for adult learners. In addition, Knowles' writings emphasized that adults wanted autonomy and individual learning goals. Through the natural process of maturation, adults accepted responsibility for their lives and their learning. Consequently, adults retained knowledge longer and better which resulted in an improved application of new knowledge. Furthermore, Knowles' research revealed that adult learners needed to be accepted as equals with the opportunity to communicate with others in a group setting (McDonough, 2014).

**Andragogy and the PLC philosophy.** The PLC philosophy embedded the above-noted principles, assumptions, and specific characteristics of andragogy through the norms, practices,

and protocols of PLCs. Within this social context, members of a PLC shared a mutual respect as educational professionals and adult learners. As adult learners, PLC members problem-solved, discussed classroom concerns, shared classroom experiences, and possessed an intrinsic desire that explored relevant instructional practices that better served their students. The high school PLC epitomized andragogy as its members worked through the complex problems of the high school classroom. For example, a twelfth grade English-language arts (ELA) PLC discussed ways to address their agenda topic: seniors who have not yet met the graduation ELA benchmark. As adult learners, these PLC members applied the adult learning principals and assumptions listed above to problem-solve meeting these students' needs (McDonough, 2014; Pappas, 2013; Taylor & Kroth, 2009).

## The Innovative PLC Ideology

**Shared leadership**. Sullivan (2013) described PLCs as high-quality PD, since they create a collaborative learning environment where members become self-aware and professionally grow through shared leadership; this complements traditional PD. Table 2 lists these principles.

Table 2 Principles of Shared Leadership

*Principles of shared leadership (Stewart 2014)*

| Principle | Description |
|---|---|
| Equality | Teachers actively plan PD, not just attending |
| Choice | Teachers choose what and how to learn |
| Voice | Empowers and respects teachers |
| Reflection | An integral part of learning |
| Praxis | Learning is applied to real-life practice |
| Reciprocity | Teachers are expected to participate and receive feedback |

PLC members participated in ongoing collaborative work committed to these above-stated goals. They operated in a professional development cycle for continuous improvement wherein they critiqued student work and discovered gaps in student learning.

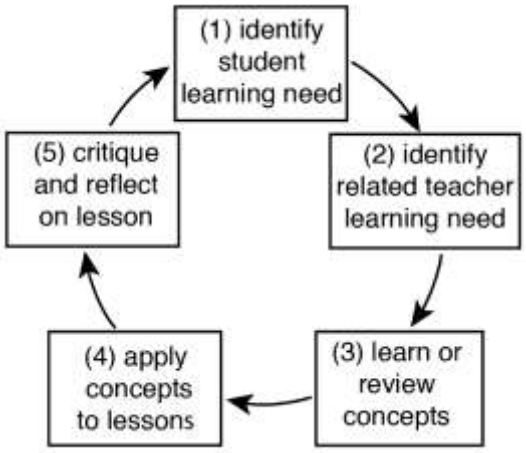


*Figure 2. Cycle of continuous improvement (Stewart, 2014).*

Through this cycle of continuous improvement, the PLCs furthered their understanding of how students learned content and then applied that knowledge to implement the appropriate instructional practices (Stewart, 2014). The social cognitive characteristics of a PLC presented other contrasting features to traditional PD: members visualized one another performing a task, received feedback, and expressed their psychological state (Owens & Valesky, 2015). Stewart (2014) pointed out that specific activities in a PLC included how members looked at students, learned concepts, collaborated to synthesize their educational philosophies, stated initiatives, and met to explore, assess, and improve instructional practices.

**Transformational state of continuous professional learning.** The distinction between collecting information through passive learning in traditional PD to active learning through collaboration in a PLC elevated training to professional learning. Active learning in PLCs enabled members to focus on the specific needs within their classroom that improved

instructional practices (Stewart, 2014). As PLC members morphed into this fluid state of continuous learning, they benefited from collaborating in a non-judgmental climate and participated in productive discourse. In this dynamic social context, each PLC member demonstrated sustainable and continuous improvement (Carpenter, 2014; Chen et al, 2016; Fullan, 2003; Friedman, 2011, Huggins et al., 2011; Lambert, 2006; Leithwood & Louis, 1998; Nehring & Fitzsimmons, 2011; Palmer, 1993; Wang, 2016).

The PLC facilitator role has its foundation in the Social Cognitive Theory because PLC members exhibit proactive and self-regulated behaviors instead of being reactive followers (Friedman, 2011). For example, in this transformational state, the PLC became a catalyst for change because the facilitator optionally asked and listened to insightful questions and genuinely listened to member responses. Thus, the teacher leader role in the transformational stage increased teacher efficacy and brought about a resurgence of energy that influenced others to follow their example (Hoffman et al., 2009; Kohler-Evans et al., 2013; Klar, 2012; MacPhail et al., 2013; Palmer, 1993; Sullivan, 2013; William, Brien & LeBlanc, 2012).

## Factors of an Effective PLC

### Proficiency of Professionalism

As PLCs became the epitome of professionalism, key elements surfaced. One key element was a facilitator who worked to make the PLC experience pleasant for all members. For instance, they paid attention to the small details such as setting a regular time and room arrangement, selecting and making copies of readings, arranging speakers, and sending reminders. These nurturing gestures demonstrated that the facilitator valued each PLC member. Without the hassles, PLC members anticipated each other's company and replaced obligation with natural desire to accomplish worthwhile goals. As an effective leader, the facilitator set

goals, motivated, gave substantial feedback, and possessed personal conviction (Hoffman, Dahlman & Zierdt, 2009).

Equally important to the role of the facilitator was the establishment of norms. PLC members formed procedural norms and networked. Eventually, deep friendships resulted as PLC members cared for one another. Other key elements of highly professional PLCs were linked to shared leadership and mutual respect (Hoffman, Dahlman & Zierdt, 2009). As distributive leadership placed the principal at the center of the foundation of PLCs, mutual respect and trust between the administration and all the faculty members occurred (Ferguson, 2013). With this relationship in place, teacher leaders emerged at their own pace as they shared the leadership responsibilities for ongoing school improvement (Hoffman et al., 2009).

In this highly collegial PLC, members employed professional capital that affected a paradigm shift where progressive educational beliefs became a reality (Botha, 2012; Hoffman et al., 2009; Frick et al., 2009; James-Wilson & Hancock, 2011). During this shift, PLCs formulated professional relationships, reflected on effective instructional practices, and worked cohesively (social capital) that increased their levels of commitment and enthusiasm as practitioners. As teachers strove toward prominent levels of instructional expertise, they developed into continuous learners, an essential component in the pursuit of the PLC ideology (Fullan, 2016; Gray et al., 2015; Hallam et al., 2015; Kolher-Evans et al., 2013; Liou & Daly, 2014; Levine 2011; MacPhail et al., 2014; McAlister, 2016; Sims & Penny, 2014).

**PLC time.** Since the deep and mutual learning in a PLC demanded time to yield effective school improvement, and with no set time allotment rule, the appropriate amount of time for PLC collaboration was difficult to measure; therefore, time allotted for PLCs varied (Woodland & Mazur, 2015). However, more important than allotted time was the quality of PLC time for

members to engage in authentic, teacher-led professional development and collective PLC decision-making (Cranston, 2011; Liou and Daly, 2014; Woodland & Mazur, 2015) to increase the capacity of professional capital (Fullan, 2016). Through these productive interactions where highly critical questions were discussed, PLC members developed school-wide efforts that supported student learning, expanded pedagogy, and connected theory to practices (Gray et al., 2015; Levine, 2011; Woodland and Mazur, 2015).

Table 3 Highly Critical Questions

| *Highly Critical Questions (Woodland & Mazur, 2015)* |
|---|
| What should Students learn? |
| How should we teach students? |
| How will we know when they have learned it? |
| What will we do when students do not learn? |
| What will we do when they do learn? |

**Proficient levels of collaboration.** A positive culture between faculty and administration yielded collaborative and sustainable learning experiences in PLCs. Administrators who invested in ongoing collaboration with educators promoted leadership capacity through common school-wide goals. Without the existence of collaboration that included administration, highly effective school improvement would remain unattainable (Jappinen et al., 2015). In a climate of trust, principals became the catalyst for reform through their visible presence, strong commitment, and guidance and made it possible for PLCs to envision large scale goals and overcome obstacles (Schneider, Huss-Lederman, & Sherlock, 2012). The most advantageous feature of continuous learning became apparent as members routinely shared their classroom experiences and expertise (Battersby & Verdi, 2015; Peppers, 2015).

**Three PLC strategies for proficient collaborations.** In a continuous learning process, PLCs utilized three strategies: practices in collaboration skills, recognition of individual strengths, and compromise (Botha, 2012; Frick et al., 2009; Hardin & Koppenhaven, 2016). Practices in effective collaboration skills and meaningful reflection produced high quality instruction (Woodland & Mazur, 2015). PLC members recognized their individual strengths as they equitably engaged in andragogy, engendered mutual respect, and collaborated (Peppers, 2015). As PLC members collaborated in authentic dialogue, conflict inevitably occurred, but these conflicts, through compromise, produced the rewards of meaningful interactions (Zhang, Yuan & Yu, 2017). As PLC members used the strategies, deep dialogue flourished, teachers tackled core educational issues publicly, revealed dilemmas, shared expertise, and examined student work to find solutions to their concerns (Blanton & Perez, 2011). These meaningful interactions resulted in a shared vision among PLC members as they engaged in deep conversation, productive discourse, and criticism without judgment that resulted in personal and professional growth (James-Wilson & Hancock, 2011, Jappinen et al., 2015; Klar, 2012; Kohler et al., 2013). This productive discourse occurred through leadership that influenced other PLC members to step forward and respond with possible resolutions to the conflict (Mitchell & Sackney, 2015).

Proficient collaborative PLC practices and distributive leadership affected change in instruction and student achievement (Goksoy, 2016; Hoffman, et al., 2009). Namely, a successful PLC learned to manage conflict, and they transformed conflict into a continuous learning cycle. As a PLC's dialogue evolved through the discourse management process, over time the PLC progressed from simple topics, to practical instructional practices, and then to intensive discussion of the theory. Essentially, when a PLC engaged in deep dialogue about student

learning, patterns surfaced that resulted in PLCs making legitimate improvements in instructional practices. As collaboration and community developed among PLC members, a combination of expertise coalesced that resulted in reform (Bennett, Ylimaki, Dungan & Brunderman, 2014).

## Factors of an Ineffective PLC

The dominant factor in failing PLCs was inadequate appropriation of time and place (Kohler-Evans et al., 2014; Shernoff et al., 2011; William, Brien & LeBlanc, 2012). Teachers believed the shortage of time challenged the collaborative practices of PLCs. A teacher's already heavy workload partially contributed to this shortage because it drew time and energy away from PLC activity (Zhang, Yuan, & Yu, 2016). According to Wei, Darling-Hammond, and Adamson (2010) (as cited by Woodland & Mazur, 2015), a third of the teachers in the United States spent less than eight hours per year on collaborative time; only 2% allotted thirty-three or more hours annually. Furthermore, based on the research of Wei et al. (2010) and Yoon, Duncan, Lee, Scarloss, and Shapley (2007) (as cited in Woodland & Mazur, 2015), "any professional development . . . for less than an average of eight hours per month will likely have little or no impact on instructional practices or student learning" (p.9).

Chappui, Chappui & Stiggins (2009) (as cited in McConnell, Parker, Eberhart, Koehler & Lundeberg, 2012) discovered that, with time at a premium, PLCs had trouble creating cadres of teachers who shared common time, content, needs, and interests. Wells and Feun (2008) found that the hindrance of insufficient time prevented teachers from deep PLC dialogue. Furthermore, misappropriation of common time frustrated PLC members, especially when they got stuck in a vacuum, focusing only on one topic which consumed too much time and subtracted from collaboration (Chester, 2015; Sims & Penny, 2014). Namely, when PLCs lingered on departmental business or dwelled on summative assessments, they degraded the value of the PLC (Wells & Feun,

2008). This resulted in teachers who viewed PLCs as a poor investment of their time, that deterred from the promise of collaborative PD as the most effective teacher learning tool (Botha, 2012; Hardin & Koppenhaven, 2016; McConnell et al., 2012).

Over time systematic protocols for time facilitated PLC development. Wells and Feun (2008) concluded that schools needed more than three years to fully transform from traditional PD to highly effective PLCs. They emphasized that in the initial stages of PLC development, if the PLC philosophy fully embedded in the school culture, there was a reasonable expectation that the PLC would eventually evolve to a level of teacher empowerment (Wells & Feun, 2008). The formal teacher observation/evaluation administrative practices demanded that principals spent most of their energy monitoring individual teachers with minimal effect on professional capital, giving them less time to encourage the implementation and sustainability of PLCs (DuFour, 2016; Fullan, 2016).

**Ineffective administration.** Micromanagement by authoritative leadership sucked the passion out of PLCs (Chester, 2015). Principals impeded the PLC progress when they were unaware of social capital and insensitive to the frustrations of PLC members; they did not respond to PLC dialogue concerns; or they spoke more in generalities as opposed to specific details about teacher expectations (Fullan, 2016). When the administration lacked clear and well-designed plans, the efforts of PLC members were wasted, which created a significant level of dissatisfaction (Well & Feun, 2008; Zhang et al., 2016).

In addition, dysfunctional PLCs resulted from a lack of structured time allotment, an abundance of bureaucracy, and a lack of trust in the administration (Chester, 2015). Administrators needed to be aware of the complexity of an effective PLC. The process for implementation and sustenance of PLCs required more effective principals who viewed their role

as PLC facilitators, igniting innovation and professionalism (Dufour, 2016; Fullan, 2016; Wells, 2008). In the PLC, the principal played a vital role in the cultivation of teacher leaders. Teachers viewed administrators as allocators of resources such as time, structure, and support to meet the challenges of the implementation of school reform. In a like manner, teachers preferred principals mentoring them individually and collectively in PLCs to develop professional capital (Dufour, 2016). Without professional capital being built—the above-mentioned resources being supplied and supported by the principal—PLC efforts eroded (Fullan, 2016).

Principals further deterred PLC advancement by placing little or no weight on the research-based theories and practices of the PLC philosophy (Botha, 2012; Kalkan, 2016; Smith, Mestry & Bambi, 2014). Null and Feun (2008) emphasized the importance of additional trainings for principals on how to respond to negativity. By working with other administrators or district personnel to problem-solve the implementation of PLCs, administrators learned how to balance their expectations with reality (Wells, 2008). Administrators developed personal relationships with the PLC members who viewed the principal as the central figure for building a culture of trust (Wells & Feun, 2008).

**Ineffective PLC communication.** Insufficient communication created deficient PLC dialogue which rendered it unsuccessful. It produced a power imbalance and resulted in meaningless, civil verbosity (Easton, 2015). At this dysfunctional stage, PLC members politely avoided conflict, which prevented the PLC from accomplishing its goals (McAlister, 2016). These social behaviors created a misinterpretation of dialogue because the perception of the listener, especially when PLC members interrupted one another, caused competition, monopolization of the discussion, or withdrawal (Easton, 2015; Robore, 2014). Furthermore, when PLC dialogue did not challenge the effectiveness of pre-existing instructional practices, it

rendered the PLC worthless (Null & Feun, 2008). This empty dialogue forestalled discourse essential for instructional improvements. Indeed, it kept PLCs from discussing difficult topics like ethnicity and the achievement gap (Bennett et al., 2013). Bryk, Gomez & Grunow (2010) (as cited by Woodland, 2016) found that unproductive dialogue did not identify shared common targets, measurable goals, or the mechanics of instructional improvement. When PLCs failed to address their negative habits of ineffective dialogue, their methodologies never changed (Woodland & Mazur, 2015; Woodland, 2016).

Another type of deficient dialogue was constrictive discussion. This prevented collaboration and detracted from learning because a PLC became transfixed on a single focus for an extended period**.** Notably, if PLC members only concentrated on assessment data of students who were not performing well, a constrictive discussion left other important issues unaddressed such as content or methodology. If this narrow conversation only remediated content knowledge, then teachers missed the comprehensive needs of underperforming students. PLC members overlooked any trends that would have otherwise made specific learning deficiencies apparent (Sims & Penney, 2014). Fullan (2007) (as cited in Wells & Feun, 2008) warned that PLCs must not be a time for myopic transactions. By limiting the discussion to just remediation or a single data source, PLC members averted the investigation of innovative instructional practices and did not holistically address concerns about student learning (Sims & Penny, 2014).

**Unsatisfactory collaboration.** The PLC philosophy expected teachers to be actively engaged in intercommunication and reciprocal action. In opposition, the underdeveloped or modestly operational PLC had many members that exhibited passivity and modest engagement (Woodland, 2016; Zhang, 2016). If teachers did not take specific actions, their continuous learning process stalled or seized up which resulted in superficial resolutions to the complex

realities of teaching (Null & Feun, 2008). This passively contrived collegiality within PLCs shielded members from revealing their misgivings about sharing their lessons (Zhang, 2016). These negative social behaviors kept PLC members from being authentically present. PLC members just followed the curriculum guide, shared information and resources, coordinated calendars, focused on discipline problems, and resolved pragmatic management issues. They did not collaborate to determine the most essential elements of instruction such as analyzing student achievement, hampering the serious professional inquiry vital to elevated levels of organizational performance. To illustrate, a teacher performance appraisal system exacerbated these social negative behaviors as it prompted PLC members to concentrate on standardized test results and their ranking in the appraisal system, which created rivalry and stifled PLC participation and development (Wells, 2008; Woodland, 2015).

## Participation in PLCs Promote Continuous Professional Development

### Transformation

Highly effective PLC members experienced the power to elicit change through their transformative capabilities. Palmer (1992) asserted the transformation began when current classroom conditions reached a level of frustration that challenged teaching ideology and caused teachers to share their new ideas with other professional educators. Throughout this transformation process, teachers engaged in common goals, desire for change, and deep dialogue which resulted in productive discourse. Within these deep and productive discussions, new ideologies unfolded that transformed thoughts into actions (Palmer, 1992).

**Creative conversations.** In highly functional PLCs, productive discourse sparked metacognitive conversations on specific topics such as critical teaching moments and the human conditions in their classroom (Palmer, 1993). However, when elevated productive discourse did

not occur, PLCs established new ground rules. One example is Creative Conversations which provided ninety minutes of structured PLC time following protocols, which scaffolded effective dialogue. In the last fifteen minutes of the PLC, members restated what they heard and reflected the presenting member's words back from their own, unique perspectives. By following Creative Conversation ground rules, each PLC member affirmed mutual respect for individual ideologies and took full advantage of the professional development support within the PLC (Palmer, 1993).

**Participation in PLCs Build Collective Efficacy**

Goddard, Hoy, and Woodfolk, 2000 (as cited in Perlli, 2016) stated that "collective teacher efficacy has a positive effect on student achievement." Through collective efficacy, PLC members rejuvenated, built self-confidence, and refocused on the central purpose of education. Within this supportive community, PLC members regained their commitment to the teaching profession (Orntein, Pajak, Ornstein, 2015). Subsequently, teacher efficacy promoted leadership through commitment to a school's mission and professional learning (Perlli, 2016). Each PLC member aspired to live up to the expectations of the PLC (Easton, 2015). Goddard, Hoy, and Woolfolk (2000) (as cited in Perlli, 2016) found four characteristics which enhanced collective efficacy: (1) the administration recognized a teacher's successful work; (2) peers modeled to foster transformational leadership; (3) socialization offered the opportunity to share classroom experiences; and (4) satisfaction resulted from accomplished objectives. As teachers supported and inspired one another in PLCs, they saw themselves as learners that continually searched for best practices in their profession (Easton, 2015; Frick et al., 2009; Sims & Penny, 2014).

**Participation in PLCs Develop Teacher Leaders**

**Leadership capacity.** PLCs facilitated distributive leadership, engaged in professional capital, and built an equitable environment that sustained continuous learning (Burke, 2003;

Cetin & Kinik, 2016; Fullan, 2016; Goksoy, 2016; McKenzie & Locke, 2014). More specifically, Lambert (1998) highlighted that high school PLCs provided an excellent venue for teacher leaders to effectively work with adults that successfully supported distributive leadership. Again, Sims and Penny (2014) pointed out that high school PLCs who focused on authentic learning and student success increased leadership capacity with a strong commitment to the school vision and mission. Another key point emphasized in these studies was that principals employed distributive leadership which deliberately linked human, social, and decisional capital to school-wide decisions made within the high school PLC (Fullan, 2016; Goksoy, 2016). In a like manner, this prominent level of leadership capacity generated community support and attracted business alliances. Schools with this positive culture authentically engaged stakeholders by educating them in the PLC process (Bennett et al. 2014).

**Teacher empowerment.** In this elevated level of leadership capacity, PLC members relied on consensus that produced recommendations for school-wide actions and elevated PLC members to school reformers (Bennett, et al., 2014; Sims & Penny, 2014). As schools evolved to this highly effective level of transformation, a re-culturing of the schools occurred. The PLC experience altered educators' perception of leadership as something the entire faculty shared (Bennett et al., 2014). In a climate of respect and benevolence, leaders emerged naturally to authentically improve instructional practices (Mitchell & Sackney, 2015). In the teacher leader position, PLC members became agents of change who felt empowered to assume the role of a school-wide community members by facing challenges that affected all stakeholders (Klar, 2012, Kohler-Evans et al., 2013; Jappinen,2012; Jappinen et al., 2015; Kilinc, 2014; Lambert, 2009; Magnusson & Martin, 2013; Palmer 1992, 1993; Thibodeau, 2008).

The PLC school-wide culture instilled in its members a sense of belonging to a community that empowered educators who took ownership of their contributions to a larger educational community by collectively recommending school-wide reforms (Blanton & Perez, 2011). This feeling of empowerment kindled a fierce loyalty among the faculty. The faculty matured as members of a connected community, intensifying teacher autonomy, professional creativity, and synergy that buttressed self-confidence and teacher efficacy. Sometimes the PLC process was a slow and arduous endeavor, where barriers, such as suspicion and competition, adversely affected the successful evolution of an elevated level of teacher empowerment (Bennett et al., 2014; Blanton & Perez, 2011; Pepper, 2014; Zhang et al., 2017). To overcome these barriers, PLCs were viewed as embedded professional development opportunities since they refocused on school improvement (Bennett et al., 2014). For example, PLC members became self-motivated and worked towards sustainable PLCs as the school's embedded professional development (Blanton & Perez, 2011; Pepper, 2015; Zhang, Yuan, & Yu, 2017). Transformational leadership within PLCs resulted in solutions to difficult problems, sustainable growth, and increased student learning (Mitchell & Sackney, 2015).

**School Culture Promotes PLCs.**

If principals developed trust, commitment, and loyalty among their faculty members, they transformed educational practices, established a culture of trust, and embraced the PLC as a catalyst for change. As they nurtured a trusting climate, principals became well-acquainted with their faculty, made them feel valued, and set a tone for teacher autonomy (Chen et al., 2016). Coupled with the elevated climate of trust, principals increased their effectiveness of distributive leadership, and empowered teachers to implement reforms (Burke, 2003; Lambert, 2006; Pepper,

2010). Furthermore, a vision that included clear expectations and practical application added to the foundation for a cohesive learning community (Cetin & Kinik, 2016).

**Distributive Leadership Through PLCs**

Distributive leadership reformed the administrator's role from enforcer of stringent curriculum to advocator for student learning (Burke, 2003). As teacher leaders accepted the responsibility for school-wide decision through the distributive leadership model, it resulted in better outcomes for student learning and increased school improvement (Botha, 2012; Frick, 2009; Klar, 2012; Kilinc & Ozdemir, 2015). However, the transition from the traditional authoritative leadership to distributive leadership was challenging and time-consuming (Lambert, 2006; Ceit & Kinik,2016; Kilinc,2014; Pepper,2010; Sims & Penny, 2015).

Teachers under distributive leadership received a great deal of administrative support and the freedom to apply the constructivist approach (Bengtson & Connor, 2014). Constructivism started with school shareholders' commitment to the establishment of a paradigm shift that empowered and encouraged teacher leaders. This process naturally resulted in improved instructional practices and student achievement. In the most advanced stage, PLC members self-directed and motivated members without any outside assistance from administration (Lambert, 2006). PLC members benefited from distributed leadership as they became facilitators in their classrooms instead of just being compliant and fearful of failure (Bengtson & Connor, 2014).

**Increased Leadership Capacity Through PLCs**

The administrator played a vital role in the successful implementation of leadership capacity (Bengtson & Connors, 2014; Burke, 2003; Cetin & Kinik, 2015; Kilinc & Ozdemic, 2015; Leclerc et al., 2012; McKenzie & Locke, 2014). As an instructional leader, the principal nurtured collaboration between their administration and teacher leaders (Burke, 2003; Lambert,

2006; McKenzie & Locke, 2014; Pepper, 2010). In this manner, the principal paved the way to leadership capacity as teachers set protocols and created specific norms for their PLC (Pepper, 2010). For example, the principal, viewed as a visionary by the faculty, directed expected behaviors through modeling. As a change agent, the principal influenced the development of PLCs based on their shared leadership skills. At the most efficient level of faculty leadership capacity, the principal saw PLC members as a continuous professional community of individual leaders and learners who made collective school-wide decisions regarding instruction practices (Bengtson & Connor, 2014; Kilinc & Ozdemir, 2015).

## The Role of the District and the Superintendent

The superintendent and other district personal are also critical in the successful implementation of PLCs (Olivier & Huffman, 2016). According to Fullan and Stiegelbauer (as cited in Hord, 2004) (as cited in Abrego & Pankake, 2011) along with the district staff support, the central office administrator was the single most important key player in the development of PLCs. By the virtue of the superintendent's influence over the school board, they had a direct profound effect on a district-wide transformation to PLC ideals and policies that promoted teacher efficacy and leadership capacity, especially in the initial stages (Albrego & Pankake, 2011). Under the superintendent's leadership, the faculty and school administrators viewed the district as a collaborative governing body that affected a sustainable change in schools (Horton & Martin, 2013; Olivier & Huffman, 2016). With the support of the superintendent, the district affected a paradigm shift, that empowered principals as they implemented distributive leadership (Horton & Martin, 2013). For example, the superintendent appointed district administrators that conducted tutorials for school administrators and other school site leaders that focused on the establishing the PLC at school sites. When the PLC philosophy had the full continuous support

of the superintendent, the PLC process earned the title of a highly functional conventional system in the district for professional development and student success. Ultimately, the well-rooted PLC system remained in that self-sustained role even if the office of the superintendent experienced a change in leadership (Albrego & Pankake, 2011).

The school district had a dynamic influence on the implementation of PLCs through highly effective collaborative practices, policies, and allocation of resources (James-Wilson & Hancock,2011; Leithwood & Louis, 2011; MacPhail et al., 2013; Olivier & Huffman, 2016). In addition to the policymaking and financial support, the district utilized opportunities for professional development of administrators in shared leadership and the PLC process. With this district support, principals modeled these practices at their school site. District leaders provided ongoing support and united all shareholders in the common purpose of distributed leadership with a high priority for PLC goals (Olivier & Huffman, 2016). However, PLC members effectively collaborated and satisfied their teacher-leader responsibilities because district leaders emphasized the importance of appropriately paced goals and protected teacher time (McKenzie & Locke, 2014; Olivier & Huffman, 2016).

**Bureaucracy, Organizational Trust and PLCs**

The bureaucracy of a school organization includes the district and the superintendent, and the influence of their leadership reflected the positive as well as the negative elements of a bureaucracy. The positive elements of bureaucracy supported and fostered an environment of trust and collaboration among school sites, as demonstrated in previous discussions. However, if the characteristics of a negative bureaucracy corroded organizational trust, the implementation and sustainability of PLCs would not be achieved. The teacher's perception of PLCs and organizational trust decreased when coercive bureaucracy increased. As stated earlier, the nature

of PLCs required shared vision for student learning, distributive leadership, and collaboration, all difficult without a trust-based relationship (Kalkan, 2016).

### Compliance vs. Functional Richness

According to DeFour and Eaker (1998) (as cited in Abrego & Pankake, 2011) "There is growing evidence that the best hope for significant school improvement is transforming schools into professional learning communities" (p.3). However, not every PLC possessed the intended purpose of collaboration or the structure to necessarily be an effective PLC (Abrego & Pankake, 2011; Sims & Penny, 2014). Furthermore, PLCs that responded only to vague concepts of best practice and authoritative mandates rarely affected the desired results of increased student achievement. This is apparent in cases where of groups of teachers with the label of a PLC executed the minimum tasks and complied with district directives, serving as examples of the educational community's loose application of the definition of a PLC (Sims & Penny, 2014). DuFour (2004) (as cited by Sims & Penny, 2014) asserted that the term PLC "has been used so ubiquitously that it is in danger of losing all meaning" (p.39). To avoid this situation, school districts invested in continuous professional development for administrators and teachers so that the entire district was prepared to understand and implement the complex process of effective PLCs (Sims & Penny, 2014).

## PLCs in Elementary, Middle, and High School

To be able to fully understand the high school PLC, a description of essential elements of collaboration and administrative influence in elementary and middle school PLCs is necessary. Through this comparison of the different school levels, the need for further research at the high school level became apparent.

## PLCs In Elementary School

An elementary PLC usually consists of a grade level team with a shared curriculum who regularly collaborates and continually improves their instructional practices. At the elementary level, PLC teachers' professional learning engaged and exposed the gaps in their teaching practices so that they acquired the knowledge and skills to effectively teach. In elementary PLCs, members worked collaboratively and made decisions based on outcomes of common formative student assessments. This resulted in interventions or enrichment activities that positively affected essential student learning (Brown III, 2016; Gutierez, 2016). The reflective process created a constructive feedback mechanism where the elementary PLCs collected information, analyzed, and assessed instructional practices. For example, one elementary PLC embraced each member's teaching methods that produced new best practices that were then field tested and evaluated (Brown III, 2016). In another example, elementary PLCs teachers engaged in inquiry and reflective dialogue to content-specific lessons that modified their instructional practices and bolstered their content knowledge; this resulted in more accurate student responses on content-based questions (Gutierez, 2016). At the elementary level, PLCs built community among teachers where they worked on common objectives, researched lessons, observed implementations, critiqued effectiveness, and enhanced instructional practices (Brown III, 2016; Gutierez, 2016).

**Administrative influence.** In an elementary environment, principals used distributive leadership and increased leadership capacity, thereby improving the quality of the educational process and student learning (Kalkan, 2016). An elevated level of trust between the administration and the faculty ensured collaboration in elementary PLCs. Trust became an important mediation variable between the elementary principal and teachers, for example, the

way elementary principals communicated and used authority affected teachers' perception of school structure. As elementary principals challenged, questioned, and reflected on team-designed lessons and instructional practices, they cultivated trust through involvement in PLCs. In addition, elementary administrators monitored—not managed—the interactions of the PLCs. As facilitators of collaboration and instructional leaders, elementary principals made every effort to insure that the weekly PLC meetings engaged in productive discourse and produced effective outcomes to support student learning (Brown III, 2016).

## PLC In Middle School

A foundation of continuous, collaborative professional development is required to achieve a cohesive, collaborative group in middle school. In middle school, a significant difference may exist in the both the level of collaborative practice and the understanding of PLC foundational knowledge (Lippy & Zamora, 2012/2013). Consequently, middle schools may neglect one or more of the essential PLC elements, especially in the area of collaborative professional culture (Hipp, Huffman, Pankake, & Olivier, 2008, as cited in Lippy & Zamora, 2012/2013). When middle school PLCs lacked support for training in the PLC model, resulting in varied comprehension of the purpose and function of PLCs, a superficial implementation of the PLC process occurred that could not be sustained overtime or positively affect student learning (Lippy & Zamora, 2012/2013).

**Two disparate middle school scenarios.** Wells and Feun (2013) found contrasting results in the implementation of PLCs in two middle school districts. The first district did not effectively employ the transformational power of elements critical to the successful implementation of PLCs such as shared leadership, collective creativity, shared values and vision (Hord, 1997, as cited in Wells & Feun, 2013). Failed administrative support and a dearth of time

for development hampered the launch and sustainability of PLCs. The PLCs in this first district only sporadically focused on reviewing student work, a major element necessary for PLC success. Instead, the PLC members concentrated more on sharing materials. Analysis of student learning did not occur (Wells & Feun, 2013).

The second district engaged the essential elements of PLCs and yielded better outcomes. Furthermore, the study of the second district affirmed the importance of leadership from both the central office and school site administrators for PLC success. For example, the second district supplied ongoing training on the PLC concept for the principals. Subsequently, the principals effectively facilitated faculty collaboration while continually reporting analyzed results of state and district-aligned assignments and assessments. The study of these two districts emphasized the significance of fidelity to the PLC's concepts of positive school culture, leadership capacity, and effective administrative and district leadership (Wells & Feun, 2013).

**Administrative influence.** Through distributive leadership and collaboration between faculty and middle school administrators, PLCs experienced success where teachers developed to increase student achievement. To experience this success, principals collected and analyzed data to become familiar with the school's climate and evaluated the actualization of their vision and mission. In addition, the faculty viewed the principal as a model for instructional leadership—one who practiced relationship building through honest discussion and collaboration. As effective leaders, principals kept an open mind, used purposeful reflection, and efficiently analyzed data. With these factors in place, the faculty became a cohesive group that relied on consensus to make school-wide decisions (Burke, 2003).

**PLCs In High School**

In general, resistance to change existed among the high school faculties, especially with the unfamiliar concept of collaboration; therefore, the embedded high school PLCs assisted teachers in the acclimation of the PLC philosophy (Chen et al.,2016; Wang, 2016). Through this embedded professional development, the collaborative PLC model improved the quality of education with a wide range of implications for professional and instructional practices on the high school campus (Carpenter, 2015; Chen et al., 2016; Huggins, Scheurich, & Morgan, 2011). For example, the high school PLC produced innovative solutions for classroom concerns and creative implementations of the curriculum (McLaughlin & Talbert, 2001; Nehring & Fitzsimons, 2011).

High school PLCs that committed time, viewed students holistically, reflected on instructional practices, experienced deep discourse, built leadership capacity, and pursued a collective vision and mission successfully implemented PLCs. When the entire high school community shared knowledge and enhanced their professional competency, they experienced a transformational change. As high school PLCs improved their educational practices through professional development, a direct relationship existed between continuous professional development and the quality of education on the high school campus (Huggins et al., 2011; Ko, Hallinger, & Walker, 2012; Lambert, 2006; Wang, 2016). Through reformed instructional practices, high school PLCs reached a level of exemplary leadership capacity that empowered high school educators as change agents, thereby helping high school students meet the employment demands of this century (Carpenter, 2015; Chen et al., 2016; Friedman, 2011; Huggins et al.,2011; Lambert, 2006; McLaughlin & Talbert, 2001, Wang, 2016).

**Administrative influence.** A successful high school PLC relied on the principal and the educator's level of expertise in collaboration. As instructional leaders, principals shredded their authoritative cloak that hindered the PLC process (Huggins et al., 2011). This new administrative role demanded voluntary, equitable participation from both teachers and administration. As principals participated in PLCs, they facilitated the teachers' reflective practices and gradually released leadership responsibilities to PLC members. When administrators relinquished their authoritative leadership to a more distributive leadership model, it transformed high school teachers into a community of professional learners. Consequently, this professional relationship between principals and their faculty lessened the importance of routinely monitoring the quality of teachers' instructional practices (Carpenter, 2015; Chen et al., 2016; Friedman, 2011; Huggins et al., 2011; Ko et al., 2012; McLaughlin & Talbert, 2001; Wang, 2016).

As the administration and the faculty committed to a shared vision, the principal transformed department heads from managerial organizers to instructional leaders. As instructional leaders, department heads set expectations, modeled practices, promoted school values, and provided individual support. Through these actions, department heads became powerful resources for the sustainability of the high school PLC (Friedman, 2011).

An inclusive school culture of collegial learning and distributive leadership, resulted in an environment of continuous improvement, emotional bonds, and strengthened professionalism (Chen et al., 2016, Huggins et al., 2011; Ko et al., 2012; Wang, 2016). Within this collegial environment, PLCs shared the responsibility of student learning, implemented high school curriculum in innovative ways, and produced creative solutions to classroom concerns (McLaughlin & Talbert, 2001).

# CHAPTER THREE: METHODOLOGY

Mixed-methods design, with its complementary qualitative and quantitative design, lent itself to appropriately addressing the research questions (Hoy & Adams, 2016). For example, the qualitative aspect of mixed-methods approach analyzed text from a social context (Fassinger & Morrow, 2013) and encouraged accessibility to the participants through the interview and field observation process. This process included a sociogram and sections of the Teacher Collaboration Assessment Rubric (TCAR) (Creswell, 2013; Woodland, 2016). To further support the field observation process, the quantitative statistical analysis of the TCAR empirically examined the quality of the PLC (Woodland, 2016). The elements of these specific qualitative and quantitative collection instruments proved capable of measuring the research questions, solidifying mixed-methods as the correct choice (Fassinger & Morrow, 2013; Woodland, 2016).

## Justifiability of Interpretations/Reliability and Validity

By applying the mixed-methods approach, the quantitative instruments aided in the collection of data that promoted reliability and validity, and the qualitative text demonstrated justifiability of interpretations through employed transparency, communication, and coherency in the text analysis. Within the structure of the mixed-methods analysis, the study combined the fixed and measurable qualities of the quantitative approach with the dynamic and complex elements of the qualitative method that fortified evidentiary support for the study's conclusions (Auerbach & Silverstein, 2003Creswell, 2013; Janesick, 2004).

### Trustworthiness

Through a triangulation process of the personal interview, field observation with strengths and needed improvement sections of the TCAR, and the sociogram (Creswell, 2013;

Hoy & Adams, 2016), the text provided trustworthiness, authenticity, and quality in its results (Auerbach & Silverstein, 2003; Maxwell, 2013). This triangulation acknowledged subjectivity in the text analysis, which resulted in justified application (Auerbach & Silverstein, 2003). Justifiability was further demonstrated through field tests of the personal interview questions; data-rich text from a high-quality audio digital recording with accurate transcription of the personal interviews; and detailed description of the observation from the strengths and needed improvement sections of the TCAR (Auerbach & Silverstein, 2003; Creswell, 2013; Denszin & Lincoln, 2011; Maxwell, 2013). Furthermore, the DDAE rubrics within the TCAR added metrics and explicit quantitative validity to the trustworthiness of the text (Maxwell, 2013).

## Selection of Participants

The participants included four to five teachers in various content areas and grade levels from six high schools in a large school district in Central Florida. The selection of the six high schools occurred through aggregation and analysis of data from a teacher school climate survey report. The averages of the targeted major themes (time to collaborate, teacher leadership, school leadership, professional development, instructional practices, and overall school climate) served as a method of selection for the participating high schools. The six high schools (identified by numbers 1 through 6) with the three highest and the three lowest averages of the targeted major themes of the teacher school climate survey report became the participating high schools for this study. The phenomenon of unequal distribution of volunteers among the school sites occurred and was noted in the data analysis.

The specific participating PLC members for each school site were randomly selected from teacher responses to a school site survey. To ensure anonymity, the participants' names were substituted by a number and were referred to by the number designated through the study.

The data and text collection took two months, as the participants were observed in their PLC and/or were interviewed for about twenty to thirty minutes.

### Teacher School Climate Survey Report

The district administered the teacher school climate survey to all site-based teachers, specialists, guidance counselors, and administrators. To ensure anonymity for all instructional and professional staff members, the district provided a website link and a personal code for teachers to access the survey. The district shared the results of the teacher school climate survey with district personnel and site administration. The participating high schools for this study were selected by their rank as the three highest and three lowest self-rated average in each of the following thematical categories: time to collaborate, teacher leadership, school leadership, professional development, instructional practices, and overall school climate. An introductory letter was sent to the all six principals of the selected high schools offering them the opportunity to participate in the study.

### School Site Survey

After the principals of the six focus high schools agreed to cooperate, another letter was sent to each principal which included a link for an electronic school site survey. The principal then forwarded that letter to their faculty. After the teacher clicked on the link, a survey appeared that asked the teacher to respond “yes” or “no” to four questions. The teacher completed the final question as they entered their name and additional contact information in the spaces provided (see Appendix B).

## Methods of Data Collection

The mixed-methods approach, the structure of the research questions, the Social Cognitive Theory framework, and data collection instruments provided a vivid picture of PLCs

as they functioned at the various participating high schools (Creswell, 2013; Janesick, 2004). As a result, rich text and data collection from multiple sources enabled distinguishability between justifiable and unjustifiable subjectivity while interpreting text and data (Auerbach & Silverstein, 2003). The school site survey supplied a selection of teacher participants at each site. The personal interview provided a process for obtaining a deep analysis of the teacher perspective. During the field observations, the TCAR captured a view of the participants in their authentic PLC environments (Maxwell, 2013). At the same time, the visual of the sociogram showed the physical seating arrangements and the relationships among PLC members (Creswell, 2013).

**Personal Interview**

Based on the literature review and the theoretical framework of the Social Cognitive Theory, open-ended interview questions were introduced to foster exploration of the social-cognitive behaviors in high school PLCs. Furthermore, the open-ended questions invoked the participants to remember significant aspects of their PLC experiences and encouraged them to specifically express their point of view. Some of the questions elicited the participant's perspective as to what made a PLC successful (see Appendix D). The twenty to thirty-minute in-depth personal interview uncovered details of the participant's authentic and individual experiences that brought richness to the text (Seidman, 2013).

For the convenience of the participant, a hard copy of the interview questions was provided. When appropriate, based on the participants' responses, additional questions probed to better define the feelings the teachers expressed about participating in their PLCs (Seidman, 2013; Woodland, 2016). All interviews were audio-digitally recorded, uploaded to a desk-top CPU and a flash drive, transcribed verbatim using the Express Scribe Transcription software, and coded. After the completion of each transcription, the word document was labeled and saved to a

specific folder on the desk-top CPU and flash drive. Each participant had the opportunity to review their transcript to ensure validity and reliability (Seidman, 2013; Saldana, 2013). The interview process was tracked with an "I," the school's identification number followed by the number of the interview. For example, if the first participant interviewed was from the school with the identification number one, then the interview would be assigned the number "I-1-1."

**Field Observation**

The field observations were conducted in teachers' classrooms. Field notes recorded observations of the interactions of PLC members during their meetings. The field notes began with a description of the setting and the PLC members. In addition to this, the field notes served as one way to systematically record the observed interactions and communications within PLC meetings. The empirical nature of the field observation technique was the cornerstone of the qualitative work of this study (Janesick, 2004). All participants, including the PLC members being observed but not interviewed, completed and signed an Informed Consent Authorization paper (Ritchie, 2003, as cited in Seidman, 2013).

**Sociogram And Sociometry**

A social network analysis helped to determine the connections and assumptions that existed within PLCs (Deal, Purinton, & Waetjen, 2009). To illustrate the group dynamics that existed in a social cognitive environment, the work of Jacob Moreno (1947) (as cited in Owens & Valesky, 2015) developed sociometry, which measures the interpersonal connection between two people. Owens & Valesky (2015) defined the sociogram as a graphic that illustrated the social interactions within a human group. Figure 4 illustrates the relationship within a group that responds to the simple question, "Who would they like to work with in the group?" revealing the group's informal structure (Owens & Valesky, 2015, p. 87).

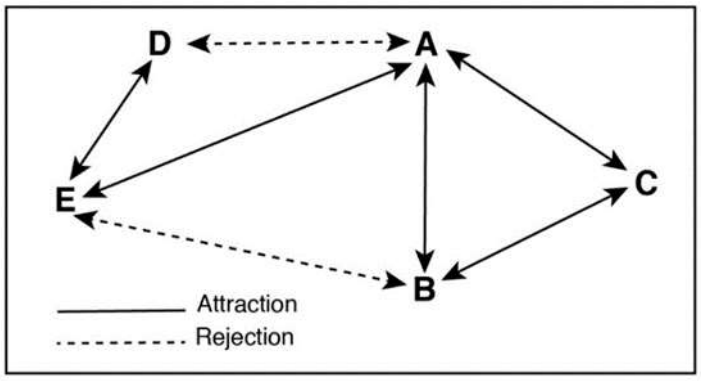


*Figure 3 Sociogram (Owens & Valesky, 2015, p. 87).*

The study designated the sociogram as a visual representation of the relationships among PLC members. Through letter assignments for each PLC member, the seating arrangement for PLCs were depicted on a canvas that sketched out the levels of connections among PLC members and examined their collaborative proficiency (Deal, Purinton, & Waetjen, 2009; Owens & Valesky, 2015). The sociogram provided a graphic representation of sociometry, which rendered it a powerful structural tool for small group interactions or any interpersonal dynamics (Kurzman, 2006).

**Teacher Collaboration Assessment Rubric (TCAR)**

During the field observations, the TCAR's four instructional evidence-based rubrics of Dialogue, Decision-making, Action, and Evaluation (DDAE) cycle of inquiry (see Appendix A) were employed to quantitatively assess the observed interactions of the PLC members, which explored the Essential Questions of Practice (Goodlad, Mantel-Bromley & Goodlad, 2004; Woodland, 2016).

**Essential questions of practice.** The Dialogue, Decision-making, Action, and Evaluation cycle of inquiry (DDAE) centered around an Essential Questions of Practice, which promoted the educators' capacity to make substantive reforms in their instructional practices that produced powerful increases in student learning. Each rubric originated with the DDAE (Goodlad, Mantel-

Bromley & Goodlad, 2004). Each of the elements within the DDAE cycle of inquiry depended on the outcome of the previous element; therefore, the DDAE cycle of inquiry evidenced an interdependent learning process (Gajda & Koliba, 2008; Woodland, 2016). Subsequently, a PLC that utilized a shared purpose made the DDAE cycle of inquiry more cohesive, thereby producing highly effective instructional practice which bolstered learning outcomes. This purposeful, continuous cycle of inquiry has been noted "as the single-most important vehicle for school renewal" (Goodlad, Mantel-Bromley & Goodlad, 2004).

**Dialogue.** The DDAE cycle of inquiry began with PLCs engaged in highly-developed collaborative dialogue about their students' learning and reflections on their instructional practices. Consequently, PLC members adapted instructional practices based on the outcomes of their discussion and determinations from shared common measurable goals (Gajda & Koliba, 2008; Woodland, 2016). For example, PLCs that realized the full value of line "d" in


*Figure 4. Cycle of team inquiry (Woodland, 2016).*

the Dialogue rubric demonstrated that the "team dialogue consistently addresse[d] essential questions of practice, instructional quality, and student learning" (Woodland, 2016).

**Decision-making.** The next key element of the DDAE cycle of inquiry targeted meaningful learning experience based on decisions that modified instructions practices. PLC

members collaboratively worked to determine which instructional practices, curriculum, and engagement strategies made the most positive effect on student learning. Highly effective PLCs agreed on specific and measurable student learning goals along with the appropriate means to scaffold student learning (Gajda & Koliba, 2008; Woodland, 2016). For example, PLCs that realized the full value of line "d" in the Decision-making rubric demonstrated that "[t]he team regularly made decisions about what specific instructional practices it [would] initiate, maintain, change and discontinue" (Woodland, 2016).

**Action.** Decision-making and Action emphasized the interdependency of neighboring elements of the DDAE cycle of inquiry. To clarify the influence between the two elements, the outcome of the PLC's collaborative decisions was only realized through the actions taken by the PLC. Likewise, without the decision-making process within a PLC, the members acted superficially, which resulted in less effective outcomes (Gajda & Koliba, 2008; Woodland, 2016). For example, PLCs that realized the full value of line "a" in the Action rubric demonstrated that "Team members kn[e]w the specific individual actions that they should take as a result of group dialogue and decision-making" (Woodland, 2016).

**Evaluation.** The last element assessed the full development of the DDAE cycle of inquiry. A high functioning PLC systematically collected and analyzed both quantitative and qualitative information to evaluate the effectiveness of the modifications made as a result of the previous elements of the DDAE cycle of inquiry (Gajda & Koliba, 2008; Woodland, 2016). For example, PLCs that realized the full value of line "a" in the Evaluation rubric demonstrated that "[t]eam members collect/have access to data about the quality of their instructional practices and their student and their students' learning" (Woodland, 2016).

**Other aspects of the TCAR.** In addition to the DDAE cycle of inquiry rubrics, the TCAR furnished a space to record areas of strength, areas of improvement, and resources needed. At the top of the each of the three columned rubrics from left to right was posted two points, one point, and zero points, respectively. Two represented the highest score possible and zero being the lowest points possible for each of the targeted Do-Plan-Act-Check concepts of each specific rubric. The PLC dialogue and decision-making rubrics totaled up to fourteen points. The PLC action and evaluation rubrics totaled up to twelve points. All four rubrics totaled up fifty-two cumulative points (Gajda & Koliba, 2008; Woodland, 2016).

In an email, Rebecca Woodland granted permission to use the TCAR with full attribution in this study; therefore, at the top of each column from left to right a value was posted of three points, two points, and one point, respectively. The three being the highest points earned and one being the lowest points earned for each of the target Do-Plan-Act-Check concepts of each specific rubric. The PLC dialogue and decision-making rubrics totaled up to twenty-one points. The PLC action and evaluation rubrics totaled up to eighteen points. All four rubrics totaled up seventy-eight cumulative points. The TCAR was field tested in a non-participating high school in the same Central Florida school district as the participating high schools.

**Validity and reliability.** Blitz & Schulman (2016) clarified that the TCAR has not been formally validated, and no formal reliability data has been collected on the TCAR. However, Blitz and Schulman (2016) developed a tool for researchers, practitioners, and education professionals that compiled forty-nine instruments for measuring key performance indicators for PLCs. This tool— Measurement Instruments for Assessing the Performance of PLCs — collected, reviewed, classified, and archived valid, reliable, and tested measures for PLCs. The Measurement Instruments for Assessing the Performance of PLCs had forty-nine instruments

(thirty-two quantitative and eighteen qualitative) that measured a range of variables that assessed one or more dimensions of PLCs for educators that evaluated various aspects of PLCs. The TCAR was listed among the thirty-two quantitative instruments. Blitz and Schulman (2016) explained that by focusing on the four structural components of the Essential Questions of Practice—Dialogue, Decision-making, Action, and Evaluation, the TCAR measured the rigor of a PLC through observable behavioral attributes (see Appendix A). The Measurement Instruments for Assessing the Performance of PLCs identified the TCAR as beneficial for PLC research study (Woodland, 2016).

By the same token, face validity has been provided for the TCAR by a university-based subject matter expert (SME), school district leaders, and teachers that piloted the TCAR in multiple school districts across the country. Through this expert evaluation, the alignment between collaboration theory and the items on the TCAR resulted in a high mean alignment ($M$ = 4.5) between the TCAR content and the constructs of the DDAE cycle of inquiry (Woodland, Lee & Randall, 2013). Additional face validity has been supplied for the TCAR as an adaption of the Community of Practices Collaboration Assessment Rubric as a feature in Phase 5 of the Collaboration Evaluation and Improvement Framework (CEIF) (Gajada & Koliba, 2007, 2008; Woodland and Hutton, 2012, as cited in Woodland, 2016). The CEIF used a five points scale that assessed the collaboration level of data collection strategies and measurement tools. For example, the CEIF promoted the TCAR design as a useful evaluation tool that examined both interorganizational and interprofessional collaboration (Woodland & Hutton, 2012).

Furthermore, Standards for Educational and Psychological Testing provided validation methods for the content and internal structure of the Teacher Collaboration Assessment Survey (TCAS), a revised version of the TCAR, in relation to other variables, including convergent and

discriminant evidence (ERA, APA, NCME, 1999, as cited in Woodland, Lee & Randall, 2013). This information could possibly be used to support the TCAR as it was a revised version of the TCAS. The chi-square test of the fixed effect hypothesis determined that the items in each scale had a range of difficulty (Woodland, Lee & Randall, 2013). In addition, Blitz and Schulman (2016) reported reliability of separation was 0.98 and the overall mean square 1.07, which suggested that together the items on the scale appropriately defined the construct. No negatively discriminating items in any of the scales were indicated.

The work of Zito (2011) (as cited in Woodland, Lee & Randall, 2013) supplied a criterion that analyzed the relationships of the scale scores of the TCAS to external variables. The Zito process discovered a strong and statistically significant relationship ($r = .513$, $p < .01$) between teacher collaboration and reported changes in instructional practices. In addition, a moderate and statistically significant correlation between perceived improvement instructional practices and teachers' dialogue ($r = .41$, $p < .001$), decision making ($r = .46$, $p < 001$), action taking ($r = .45$, $p < .001$), and evaluation practices ($r = .43$, $p < .001$) established evidence of the validity of the TCAS in relation to other related variables (Woodland, Lee & Randall, 2013).

A Pearson correlation computed the relationship between scale scores and other measures that assessed similar constructs and provided convergent evidence for the TCAS. For instance, discriminant evidence was provided in a study by Woodland, Lee and Randall (2013), which revealed a strong conceptual link between test scores and measures of different constructs among the components of the DDAE cycle of inquiry. The relationship among Dialogue, Decision making, and Action were statistically significantly strong (.72 to .83), and the correlations between these variables and the evaluation scale (.58 to .61) provided the convergent and discriminant evidence of TCAS's validity. The study focused on the TCAR as an observation

tool. The rubric format of the TCAR better served the exploration of the research questions than the survey structure of the TCAS.

## Procedures

The study utilized the following procedures to capture the perspectives of high school PLC members relevant to the research questions and the framework of the Social Cognitive Theory. To facilitate the data analysis of the study, the following delineated procedures supported exploration of the social behaviors and interaction of high school PLCs.

### Methods of Data Collections

The research questions required exploration of professional relationships and interactions that existed within a high school PLC from the perspective of educators. The participants responded from their viewpoint on the importance of collective efficacy in the implementation and sustainability of high school PLCs.

**Choosing the participants high schools.** To address the nature of these research questions, the study conducted a data analysis of the major themes of a teacher school climate report that identified the six participating high schools in one large Central Florida school district. The outcome of this data analysis revealed the three high schools with the highest self-rated average rating (High Self-rated), and the three high schools with the lowest self-rated average rating (Low Self-rated).

**Acquiring the participants.** After the selection of the six participating high schools, an electronically distributed school site survey invited teachers at the selected high school sites to voluntarily participate. The survey included four “yes” or “no” statements and then required the teachers to include their name and other relevant contact information. The participating teachers were designated a specific number and were referred to by that number. The survey resulted in

one to three teachers responding in different content-area and grade-level PLCs from each selected participating high school. Additional participants were procured for personal interviews through personal recommendation from follow-up phone calls to survey responses and personal appeals during field observations. More field observations were scheduled as a result of discussions during some of the personal interviews. All participants, including the PLC members only involved through the field observations, completed and signed an Informed Consent Authorization paper (Ritchie, 2003, as cited in Seidman, 2013).

## Text and Data Analysis

### Quantitative Statistical Analysis

A series of independent sample t-tests were the appropriate statistical application for this study because the independent grouping variable, the self-rated averages from the teacher school climate survey, had two categories (low and high self-rated average), and the dependent continuous variable, measures assessed by the TCAR, suited the criteria for this critical ratio. The independent sample t-tests compared the measures assessed by the TCAR between the schools with the low and high self-rated averages. The t-test determined if there was a significant difference in self-rated averages (teacher school climate survey) between the High Self-rated school group and the Low Self-rated school groups selected for this study. The t-test was also used to determine if there were significant differences in TCAR assessments between the High and Low Self-rated schools. The general formula for a t-test is the standard error of the difference between the mean of the two groups which results in a t-ratio and the level of significance (p-value). The p-value indicated the probability that the results are a function of chance. The relationship between the independent grouping variable and the measures assessed

by the TCAR was considered significant as the p-value was equal to less than .05 ($p < .05$). This will be explained further in the following chapter (Hoy & Adams, 2016; Muijs, 2011).

**Correlation.** The Pearson correlation coefficient (Pearson *r*) indicated the magnitude of the relationship between the two variables—the independent grouping variable, the self-rated average of the teacher school climate survey, and the dependent continuous variable, measures assessed by the TCAR. The higher the absolute value of the correlation, the stronger the relationship. Since the study worked with two continuous variables, the formula for Pearson's correlation coefficient was appropriately applied. As correlations range in value from -1 to +1, the two variables were either perfect positive or negative correlation. The sign of the correlation represented the direction of the relationship (negative, positive) (Hoy & Adams, 2016; Muijs, 2011).

**Qualitative Affective Method**

The qualitative affective method investigated subjective qualities of the human experience such as emotions, values, and conflicts, all relevant to the constructs of the Social Cognitive Theory. These affective qualities aligned with the social-cognitive behaviors because they were core motives of human actions and interactions (Saldana, 2013). The coding types (emotion, value, versus) of the affective method enabled a deep analysis of the text and revealed categories within the study. This process allowed ideas to emerge through inquiry as the study closely examined the categories and connected them to the theory (Creswell, 2013). Affective method coding added validity through corroboration because it was applied to interview transcripts, field observations that included the strengths and areas of improvement of the TCAR and the sociogram (Saldana, 2013).

**Emotion coding.** Emotion coding labeled the emotions and experiences as they were recalled by the participant, which made it an appropriate analysis tool for this study's framework and the research questions. It defined emotion as distinctive thoughts or psychological states. Emotion coding explored intrapersonal and interpersonal experiences and actions of the participants. By coding the text in this manner, the human experience became acknowledged, which provided insight into the participants' perspectives (Saldana, 2013).

**Value coding.** Value codes reflected a participant's values, attitudes, and beliefs, and made them a suitable match for the study's theoretical framework and research questions. These constructs (values, attitudes, and beliefs) each possessed different meanings. The value coding brought all three terms under one comprehensive umbrella. Value coding did not differentiate among these constructs unless the objective of the text analysis determined the participant's motivation, causation, or ideology (Saldana, 2013).

**Versus coding.** This coding identified divisive factors among individuals in direct conflict with each other. Conflicting personal perspectives, policies, or philosophies in the text ranged from actual to conceptual. Through versus coding, dichotomies became apparent (Saldana, 2013).

**Coding cycles.** The first cycle of coding did not compress the number of codes or categories in the preliminary text analysis. A second cycle subsequently incorporated the Qualitative Analysis Procedures with the Affective Coding Method. The Qualitative Analysis Procedure identified additional relevant information and repeated ideas. From the adjustment in code classifications and clarification of the thinking process, the second analysis yielded highly developed themes and theoretical constructs (Saldana, 2013).

## Categorizing

The qualitative analysis of the mixed-method methodology—the structure of the research questions and the Social Cognitive Theory as the framework—formed the categories or themes that emerged from the text analysis. The participants' responses were categorized based on similar qualities that emerged regarding a successful or unsuccessful PLC as well as outcomes of collective efficacy and social cognitive behaviors within the high school PLC.

## Limitations

Limitations, or weaknesses of the study (Simon 2011), were largely due to the limited sample size and duration of the study. Only one school district participated in the study. As a result of this narrow focus, generalizations were limited for all other settings. Furthermore, the study was conducted during a brief period; therefore, it was a snapshot dependent upon the conditions that existed during that stint of time.

## Delimitations

Delimitations were described as the characteristics of the study that limited the scope and defined the boundaries but were within the control of the study (Simon, 2011). For example, in a single school district, three highest self-rated and three lowest self-rated high schools were produced by targeted major themes gleaned from the teacher school climate survey report. Through the implication of the mixed-method research design, a triangulation was created within the framework of the Social Cognitive Theory by the employment of the personal interview process, field observations using the TCAR, and the sociogram. This collection and analysis of rich text and data collection enabled a deep investigation of the philosophies of the Social Cognitive Theory regarding the implementation and sustainability of high school PLCS.

## Assumptions

The design of this study utilized human participants that conformed to expected norms. As such, certain assumptions were considered beyond the controls of this study as they possessed significant importance to the study (Simon, 2011). These assumptions included but were limited to the following items.

- Participating high school PLC members answered the interview questions in a candid manner.
- The criteria for the selection of the participating high schools allowed the interview responses to originate from an authentic experience.
- High school PLC participants were sincerely interested in the study with no other extraneous motives.
- The observed PLC meetings would be authentic and not staged.

# CHAPTER FOUR: FINDINGS

This study included both quantitative and qualitative analysis, mixed methodology which enabled a thorough exploration of the research questions (Hoy & Adams, 2016). Mixed-methods allowed a combination of both the quantitative analysis of the statistics with the deep inquiry of the qualitative mechanisms that made the findings of the study yield a plethora of diverse information.

Furthermore, a triangulation was created through multiple qualitative collection tools such as personal interviews, the field observations with the sociograms, and the sections of the TCAR that focused on the areas of strengths and needed improvements. Some of the participants took part in both the personal interview and the field observation of their PLC. This phenomenon deepened the understanding of the participants' interactions and communications in and about their PLCs. In addition to these qualitative collection tools, the quantitative data collected from the Dialogue, Decision-making, Action and Evaluation rubrics incorporated in the TCAR further supported a triangulation (Fassinger & Morrow, 2013; Woodland, 2016). This triangulation promoted integrity of the analysis as it combined the measures of the quantitative approach with the analytics of the qualitative method (Auerbach & Silvestein, 2003; Creswell, 2013; Janesick, 2004).

## Research Questions

Bandura (1986) explained the view of social cognition in the Social Cognitive Theory as a triad of reciprocal human functions where "behaviors, cognitive and other personal factors, and environmental events all operate as interacting determinants of each other" (p.18). The research questions created for the study were born from concepts in the framework of the Social Cognitive Theory; therefore, these three questions served their purpose to explore the three

reciprocal behaviors from the teachers' perspective of collective efficacy in a PLC (Fassinger & Morrow, 2013; Woodland, 2016).

1. What are teachers' perceptions of the behaviors in high school PLCs?
2. How are PLC members' social-cognitive behaviors related to teachers' perceptions of the effectiveness of high school PLCs?
3. How are teachers' perceptions of effectiveness of high school PLCs related to the study's Teacher Collaboration Assessment Rubric (TCAR) assessment of collaborative efforts within the PLC?

## High Schools and Participants Selection

The participating high schools were chosen through a teacher school climate survey that the participating school district administered annually and shared with all district schools by the end of that same school year. Table 4 displays the six high schools that were selected with only one high school being designated as a Title 1 school.

Table 4 School Demographics of the Six Participating High Schools

*School Demographics of The Six Participating High Schools*

| **Description of Student Population** | **Range** |
|---|---|
| Student population among the six participating schools | 1,637 to 3,034 |
| White student population of the three High Self-Rated high schools | 43.72% or higher |
| Black and Hispanic population of the three Low Self-Rated high schools | 55.98% or higher |
| Economically disadvantaged rate of the three Low Self-Rated high schools | 52% or higher |

An introductory letter which included Institutional Review Board (IRB) authorizations from both the college and the school district in the body of the letter, was sent to all six

principals of the selected high schools, which offered them the opportunity to participate in the study. After the principals of the six focus high schools agreed to cooperate, another letter was sent to each principal, which included a link for an electronic school site survey. The principal then forwarded that letter to their faculty. The outcomes of the school site survey and alternative methods of procuring participants for the personal interviews and field observations will be shared in the following paragraphs.

**Teacher School Climate Survey Results**

The participating high schools were arbitrarily numbered from one through six so as to avoid any associative relationship between the numerical value of the number and the location, type, size etc. of the school. The six participating high schools were chosen according to the teacher school climate survey results that disclosed a high school self-rated agreement average of 81.02 percent. Table 5 supplies the specific self-rated averages of the three High Self-rated and the three Low Self-rated high schools, which painted alternate pictures of the functionality of their school environments (Teacher School Climate Survey).

Table 5 Self-rated Averages of Teacher School Climate Survey

*Self-rated Averages of Teacher School Climate Survey Results*

| **Participating High School** | **Self-Rated Average** | **Exceeded Total Self-Rated Average** |
|---|---|---|
| High School 1 | 94.10% | +13.08 |
| High School 2 | 93.57% | +12.55 |
| High School 3 | 93.51% | +12.49 |
| High School 4 | 71.16% | - 9.86 |
| High School 5 | 69.73% | -11.29 |
| High School 6 | 64.22% | -16.80 |

The major themes of this survey relevant to the research questions included time to collaborate, teacher leadership, school leadership, professional development, instructional practices, and overall school climate. According to the self-rated average of all named categories, high schools one through three responded more positively than high schools four through six (Teacher School Climate Survey Report). For this study, high schools one through three were grouped and labeled as High Self-rated schools. High schools four through six were grouped and labeled as Low Self-rated schools.

Table 6 Major Relevant Themes of Teacher School Climate Survey

*Major Relevant Themes of Teacher School Climate Survey Results*

| **MRT** | **HS 1** | **HS 2** | **HS 3** | **HS 4** | **HS 5** | **HS 6** | **SRA** | **GB H/L** |
|---|---|---|---|---|---|---|---|---|
| TL | 92.31 | 92.11 | 91.61 | 69.30 | 66.30 | 63.60 | 78.28 | 28.7 |
| SL | 97.52 | 95.12 | 94.96 | 63.28 | 58.10 | 55.81 | 78.52 | 41.71 |
| LR | 96.81 | 96.30 | 95.41 | 69.20 | 66.74 | 64.19 | 81.62 | 32.62 |
| PD | 93.59 | 93.06 | 92.78 | 77.03 | 75.16 | 66.38 | 82.74 | 27.2 |
| OSC | 93.76 | 93.46 | 91.10 | 77.33 | 76.16 | 73.40 | 86.26 | 20.36 |

*Note:* MRT – Major Relevant Themes; HS – High School; TL – Teacher Leadership; SL – School Leadership; LR – Leadership Responsiveness; PD – Professional Development; OSC – Overall School Climate; SRA – Self-rated Average; and GBH/L – Gap Between High/Low.

## School Site Survey Responses

The school site survey was conducted using Survey Monkey®. Eleven responses were submitted; however, a respondent submitted an incomplete survey rendering this submission unusable. Ten fully completed survey respondents agreed to a field observation and/or a personal interview. They supplied contact information and a cell phone number and/or a personal email. A follow-up email was sent to the ten respondents. After three days, if a return email was not received, a follow-up phone call was made. Two of the respondents, who in the survey agreed to a field observation and/or personal interview, did not acknowledge the multiple emails or follow-up phone call; therefore, an appointment could not be arranged. During some of the follow-up phone conversations, other possible additional participants were suggested, which resulted in two additional participants. The outcomes of the school site survey, the follow-up emails, and phone calls secured ten personal interviews and four field observations.

**Acquired additional participants.** A snowball sampling supplied an alternative method of obtaining further participants. During the field observation, other PLC members agreed to personal interviews. After some of the personal interviews, the participant recommended other possible interested PLC members for personal interviews and/or field observations. At one of the participating high schools, an additional appeal to the administration was employed which secured two more personal interviews and one field observation. An additional fifteen personal interviews and five field observations were secured. The final number of twenty-five personal interviews and nine field observations were arranged and executed.

## Participant Protection

All participants, whether they were involved in the field observation as a member of a PLC and/or the personal interviews, completed, signed, and returned an Informed Consent Form.

All participants were presented with the approved IRB letter from the college and the school district. All participants along with their respective high schools were identified by arbitrary numbers. After each personal interview was transcribed, a copy of the transcript with a cover letter and a stamped self-addressed return envelope was sent through U.S. mail to the participant's school address. In the cover letter, the participant was instructed to review the transcript for accuracy, make the necessary revisions (if any), and mail the revised transcription back to the researcher. Two of the participants returned the transcript. One transcript had no marked revisions. The other transcript requested that one section be omitted because of the sensitive nature of the content. The omission request was honored as it concerned only two lines, and the concepts in those two lines were inconsequential to the text analysis of the study.

## Quantitative Findings

### Selection Strategy – Low and High Self-rated Average Grouping Variable

An independent samples t-test confirmed that the "High Self-rated schools" *(M = 93.83, SD = .30)* was significantly greater in self-rated quality climate compared to the "Low Self-rated schools" *(M = 68.37, SD = 3.66), t(7) = 18.23, p <.001*.

### Factor comparison of High/Low Self-rated Teacher School Climate Groups

As shown in Table 7, a series of independent samples t-test revealed the Total Collaboration Assessment scores provided by the experimenter was significantly greater for the High Self-rated schools than the Low Self-rated schools. Specifically, the experimenter rated the High Self-rated schools greater than the Low Self-rated schools in terms of four of the TCAR factors including: Quality of the Dialogue, Quality of the Decision-making, Quality of the Evaluation process, and the number of strengths. The High Self-rated schools had significantly fewer needed improvements as measured by the TCAR compared to the Low Self-rated schools.

The difference in the Quality of the Action process as measured by the TCAR between the High Self-rated schools and the Low Self-rated schools approached significance.

Table 7 TCAR Factor Comparisons Between High and Low Self-rated Survey Groups

*TCAR Factor Comparisons Between the High and Low Self-rated Teacher Climate Survey Groups*

| ERTF | STCSG | Mean (SD) | t Stat |
|---|---|---|---|
| TCA | High | 77.13 (12.90) | t (7) = 3.05, p = .019* |
| | Low | 51.49 (8.89) | |
| QDP | High | 80.16 (12.57) | t (7) = 2.83, p = .026* |
| | Low | 58.73 (2.74) | |
| QDMP | High | 84.92 (15.77) | t (7) = 2.88, p = .024* |
| | Low | 52.37 (16.49) | |
| QAP | High | 79.63 (22.13) | t (7) = 2.07, p = .078 |
| | Low | 50.00 (14.70) | |
| QEP | High | 62.03 (10.19) | t (7) = 2.60, p = .037 |
| | Low | 42.87 (11.43) | |
| NS | High | 4.00 (0.89) | t (7) = 3.74, p = .007* |
| | Low | 2.00 (0.00) | |
| NW | High | 1.67 (0.52) | t (7) = -4.41, p = .003* |
| | Low | 3.33 (0.58) | |

*Note*. Teacher Collaboration Assessment Rubric (TCAR) by Woodland, 2016. ERTF – Experimenter Rated TCAR Factors; SRTCSG – Self-Rated Teacher Climate Survey Group; TCA – Total Collaborative Assessment; QDP – Quality of Dialogue Process; QDMP - Quality of Decision-Making Process; QAP – Quality of Action Process; QEP – Quality of Evaluation Process; NS – Number of Strengths; and NW – Number of Weaknesses. *=significance

**Relationship Between Self-rated Quality of School Climate and the Experimenter's Assessment of the TCAR Factors**

In this study, the Pearson correlation coefficient (Pearson *r*) analyzed the relationship between two continuous variables. The continuous variables included self-ratings according to the teacher climate survey and the experimenter's assessment of several TCAR factors, composed of Dialogue, Decision-making, Action, Evaluation, Total Collaboration Assessment, the number of strengths, and the number of needed improvements (Muijs, 2011). As shown in Table 9, consistent with the results of the independent t-tests, self-ratings of quality of school climate were significantly positively correlated with experimenter's TCAR assessment, including Total Collaboration Assessment, Dialogue, Decision-making, and the number of strengths, *ps* < .05. Consistent with the results of the independent samples t-test, self-ratings of quality of school climate were significantly negatively correlated with experimenter's TCAR assessment, of number of needed improvements, $p = .005$.

In fact, experimenter assessment of number of needed improvements was significantly negatively correlated with every sub factor of the TCAR, *ps* < .05. Experimenter's assessment of the number of strengths was significantly positively correlated with Dialogue and the Total Collaboration Assessment, *ps* < .05. Total Collaboration Assessment was significantly related to every TCAR factor, *ps* < .05. Experimenter's assessment of quality of Evaluation was positive correlated with TCAR Decision-making and Action, *ps* < .05. Experimenter's assessment of quality of Action was positively correlated with TCAR Dialogue, Decision-making and Evaluation, ps < .05. Experimenter's assessment of quality of Decision-making was positively correlated with TCAR Dialogue, Action, and Evaluation, *ps* < .05.

Table 8 Relations Between Experimenter's TCAR Factor Assessments and Teacher Climate Survey Results

| | *r Stat* | SR_SC | TCAR_D | TCAR_DM | TCAR_A | TCAR_E | TCAR_TCA | TCAR_Str | TCAR_I |
|---|---|---|---|---|---|---|---|---|---|
| SR_SC | *r* | - | .730* | .709* | .585 | .631 | .724* | .812** | -.835** |
| | *p* | | .026 | .033 | .098 | .068 | .028 | .008 | .005 |
| TCAR_D | *r* | | - | .798** | .780* | .466 | .851** | .828** | -.821** |
| | *p* | | | .01 | .013 | .206 | .004 | .006 | .007 |
| TCAR_DM | *r* | | | - | .953** | .703* | .973** | .623 | -.807** |
| | *p* | | | | .000 | 0.034 | .000 | .073 | .009 |
| TCAR_A | *r* | | | | - | .745* | .977** | .573 | -.745* |
| | *p* | | | | | .021 | .000 | .107 | .021 |
| TCAR_E | *r* | | | | | - | .782* | .609 | -.713* |
| | *p* | | | | | | .013 | .081 | .031 |
| TCAR_TCA | *r* | | | | | | - | .709* | -.845** |
| | *p* | | | | | | | .032 | .004 |
| TCAR_Str | *r* | | | | | | | - | -.910** |
| | *p* | | | | | | | | .001 |

*Note.* Pearson correlation coefficient (Pearson *r*); *p*-value. SR_SC – Self-rated School Climate; TCAR_D – Dialogue; TCAR_DM -Decision-making; TCAR_A - Action; TCAR_E- Evaluation; TCR_TCA – Total Collaboration Assessment; TCAR_Str – Strengths; and TCR_I – Needed Improvements.

## Qualitative Findings

### Management of the Collection of Information

A Participant and Field Observation Tracking Table was created to record all activities throughout the six-week interview and field observation process. All field observations were conducted in teacher classrooms. On the table, each interview and field observation had an assigned school number and the participant or field observation number. In addition, the date of the field observation, the date and type of interview (face-to-face or by phone) were included. An "I" was used to label the interviews and an "O" identified the field observations. The high schools were grouped by their high/low self-rated school designation. The interviews and field observations were arbitrary, however, these events depended both on the participant's availability and the PLC's available meeting dates (See Appendix C).

**Recording the personal interviews.** The interviews were conducted at the school site, usually in a teacher's classroom. In some instances, the personal interviews were conducted through phone interviews. Instead of taking notes, a Zoom H1® digitally recorded all interviews, which supported a comfortable atmosphere that developed rich conversations. After the completion of each original recording, the audio file was uploaded to a secure desk-top CPU and encrypted flash drive. The audio file was then transcribed verbatim using the Express Scribe Transcription software. After the completion of each transcription, the word document was labeled and saved to a specific folder on the desk-top CPU and flash drive. The digital files were password protected.

**Field observations notes.** During the field observations, the PLC meetings were not electronically recorded in any way. The field observation notes included the comments in the strengths and needed improvements sections of TCAR. For clarity, all field notes were rewritten, and the originals were tacked to the rewritten notes then filed in a locked cabinet in a locked office only accessible to the researcher. An Informed Consent Form was secured for the face-to-face or phone interviews and for all PLC members present during the observation of each meeting.

**Sociogram.** The sociogram was embedded within the field observations notes and captured a graphic illustration of the social interactions and related communications that occurred in the PLC meeting. After all PLC members were seated, they were assigned an arbitrary letter on the sociogram, which reflected their seating placement for that particular PLC. For example, if the PLC seating arrangement created a circle then the sociogram reflected a circle. On the other hand, if the seating arrangement produced another arbitrary shape then the sociogram reflected that arbitrary shape. The symbols in the legend of the sociograms

represented specific actions or interactions that occurred during the PLC meeting (Deal, Purinton, & Waetjen, 2009; Owens & Valesky, 2015).

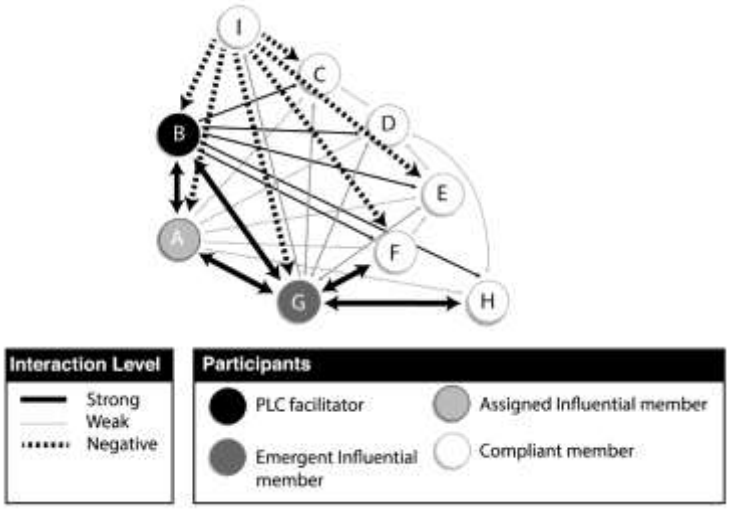


*Figure 5. Observation 1 - Low Self-rated School 5.*

Amidst this entire text collection process, a research journal promoted reflection that captured impressions and reactions to each interview and field observation (Auerbach & Silverstein, 2003). Furthermore, the work of Janesick (2004) encouraged the use of journal writing to promote deep self-awareness to perfect the researcher's ability to reflect, write, think, and communicate. For example, in the research journal, it was noted that during one of the observations for a High Self-rated school, three members of the PLC had their computers opened and not really engaged in the PLC discussion. When addressed, they dutifully reported out their classroom progress but did not address the concerns of other PLC members. These noted weak social interactions were consistent with the behaviors illustrated through the sociogram for this PLC, which supplied additional justification for the conclusion of this study.

## Analysis Procedures

To organize the plethora of qualitative information gathered, a combination of the qualitative coding procedures and the affective methods coding were employed for all text collection instruments. In the first phase, the relevant information of the qualitative coding procedure filtered out irrelevant text, which made the text more manageable and less overwhelming by working only with relevant information related to the research questions (Auerbach & Silverstein, 2003). Next the affective method coded categorized the text under emotion, value, or versus (conflict). After the text was categorized in this manner, repeated ideas were identified and further categorized by research concerns. Taking advantage of multiple coding methods in the initial stages of the text analysis, this increased the opportunity to capture concepts that might not have been detected in the massive amount of text (Auerbach & Silverstein, 2003; Saldana, 2013). As the relevant ideas were organized into repeated ideas, the common implicit ideas became tangible and themes emerged. To get a clear connection to research concerns, the same coding methods were used that organized themes into broader groups of theoretical constructs that were related to the theoretical framework of the Social Cognitive Theory (Auerbach & Silverstein, 2003; Saldana, 2013).

This method of coding worked within a continuum where one extreme did not utilize any prior research literature. On the other extreme of this continuum, new text elaborated, refined, or validated theories in the literature. In the middle, the text analysis used recognized theories in the literature and made sense of emergent themes. This study relied on the concepts of the Social Cognitive Theory to produce the theoretical constructs from the text analysis, which fell into the later part of the continuum that elaborated, refined, or validated theories in the literature (Auerbach & Silverstein, 2003).

**Findings of High Self-rated Schools**

The mechanics of coding procedures and the affective method coding were applied to the personal interviews, field observation, and sociogram results of High Self-rated schools. After the analysis of the personal interviews was completed, fifty-three repeated ideas exposed twenty-three themes (see Appendix D). The themes mostly focused on collaboration, what teachers' value, and conflict. The themes in High Self-rated schools were organized into boarder concepts where three theoretical constructs emerged (Table 9). As these theoretical constructs materialized, a trusting environment became the focal point.

Table 9 Theoretical Constructs from Interview of High Self-rated Schools

| *Theoretical Constructs from Interview Responses of High Self-rated Schools* |
|---|
| PLCs filled an emotional gap in teachers. |
| The trusting environment of PLCs breed respect, transparency, and continuous growth among PLC members. |
| The physical and emotional resistance to PLCs challenges the social context of this learning community. |

An investigation of the field observation results of High Self-rated schools uncovered one hundred and one repeated ideas from the field observations that exposed ten themes. The themes had a strong focus on deep discussions, expectations of PLC members, and different levels of member engagement. Similarly, information was gleaned from the High Self-rated schools' sociogram that produced sixty-six repeated ideas and disclosed six themes (see Appendix E). The themes within the sociogram results mostly focused on the impact of influential PLC members and weak interactions/one-way communication. The sixteen themes from both the field observation and sociogram results of High Self-rated schools were organized into boarder

concepts where three theoretical constructs became clear (Table 10). The role of collective efficacy in PLCs was the focus of many of the theoretical constructs.

Table 10 Theoretical Constructs from Field Observations and Sociogram of High Self-rated Schools

*Theoretical Constructs from Field Observation and Sociogram of High Self-rated Schools*

| |
|---|
| Emotional struggles occurred in PLCs, but members enjoyed the comradery. |
| Collective efficacy played a role in the mission of PLCs by fostering equity, affirmation, empowerment, and creativity. |
| The PLCs shared responsibility, engaged in dialogue to problem solve, and used consensus to make decisions. |

**Findings of the Low Self-rated Schools**

The previously described coding methods were again used to analyze Low Self-rated schools. An analysis of the results of the personal interviews reported two hundred and five repeated ideas that revealed forty themes (See Appendix F). Mostly, the themes focused on relationships and emotions, collaboration, and conflict. The forty themes in the analysis of the interviews of the Low Self-rated schools were organized into abstract concepts where eight theoretical constructs became clear (Table 11). This time the focus of the theoretical constructs was on an appreciation for the comradery and growth mindset opportunities of the PLC environment, but limitations existed from external influences that kept members from experiencing a fully functional PLC.

Table 11 Theoretical Constructs from Interviews of Low Self-rated Schools

| *Theoretical Constructs from Interview Responses of Low Self-rated Schools* |
| --- |
| Although PLC members appreciated the benefits of comradery in PLCs, they encountered stress, feeling overwhelmed, frustrated, and uncomfortable. |
| PLC members must have a growth mindset to be able to fully realize the power of the positive energy of a PLC. |
| When a forced artificial climate became status quo, the PLC members find PLCs a waste of time and stressful. |
| PLC members felt responsible for one another, especially new teachers. |
| Even with administrative support, PLC members found it challenging to meet and manage their time for deep discussion. |
| Resistance to the social concepts of the PLC philosophy barred PLC members from experiencing a fully functional PLC. |
| Micro-management by Administration stifled PLC progress leaving members feeling powerless, resulting in underperformance of PLCs. |
| Propaganda on PLCs led to misinformation and misunderstanding of the PLC philosophy, limiting teachers from fully appreciating the PLC experience. |

By probing the field observation results for Low Self-rated schools, sixty-six repeated ideas exposed seven themes. Through the scrutinization of information gleaned from sociogram of the Low Self-rated schools, thirty-two repeated ideas uncovered four themes (See Appendix G). The themes mostly concentrated on problem solving through deep discussion, and PLCs struggled with the challenges of minimal engagement, narrow focus, administrative directives, and excessive venting of members during PLC meetings. The themes within the sociogram results, showed the impact of one PLC member's strong emergent influence over other PLC members, and one PLC member because of their PLC or administrative position had a greater influence over other members of the PLC. Table 12 shows three theoretical constructs that became clear as eleven themes from both the field observation and sociogram results of Low

Self-rated schools were organized into boarder concepts. PLC members influenced their PLC based on knowledge or PLC facilitator or administrative position, and PLC members struggled with challenges that resulted in negative actions and interactions being highlighted.

Table 12 Theoretical Constructs from Field Observations and Sociograms of Low Self-rated Schools

*Theoretical Constructs from Field Observations and Sociograms of Low Self-rated Schools*

| |
|---|
| During deep discussions, PLC members used equity of voice to problem solve and reflect on possible solutions; however, minimal diversity among PLC members limited the PLC discussion. |
| Through strong interactions, PLC members established relationships, built enthusiasm, and received affirmation with some members, demonstrating more influence based on their knowledge and others based on facilitator or administrative positions. |
| PLC members struggled with narrow focus, and administrative directives, which resulted in negative emotions, minimal engagement, weak interactions, excessive venting, tardiness, and poor attendance. |

**Summary of Results**

The qualitative analysis disclosed that the High Self-rated schools brought to the forefront the appreciation PLC members had for the PLC philosophy, the comradery among PLC members, and the role collective efficacy played in the mission of a PLC. However, they further noted that they experienced emotional struggles, which sometimes challenged their PLC's success. The High Self-rated schools struggled with frustration as many different personalities clashed. With the awareness that ideas can be subjective, PLC members worked to be open-minded and flexible. The biggest concern for the High Self-rated school was attendance. PLC members often struggled to prioritize PLC time over other school duties and/or events.

Likewise, the theoretical constructs for the Low Self-rated schools uncovered the realization that PLC members must have a growth mindset to appreciate the benefits and

comradery PLCs offered. In addition, PLC members at the Low Self-rated schools also appreciated equity of voice, strong interactions, and the affirmation experienced in a PLC. In contrast, the theoretical constructs exposed an artificial PLC imposed through administrative directives that fostered undo stress and feelings of helplessness. These negative feelings were aggravated by mandated topics that limited the effectives and actual purpose of the PLC. These feelings of dissatisfaction were articulately stated during an interview with one of the PLC members from a Low Self-rated school: "There is nothing that the students are getting out of my PLC experience. It is a waste of time. I honestly don't feel like the school understands what a PLC is really supposed to be" (personal communication, October 11, 2018).

## Summary of Quantitative and Qualitative Analysis

### Research Question One:

**What are teachers' perceptions of the behaviors in high school PLCs?**

Members of a High Self-rated school found that PLCs supported an educator's passion for teaching. Within these PLCs, members had the opportunity to lead based on their personal strengths. Teachers valued PLCs as the only time they engaged in deep discussion to reflect on their instructional practices and brainstorm. For these reasons, **t**eachers fully acknowledged that PLCs filled emotional gaps in teachers. As a PLC member from the Low Self-rated school emphasized during their interview, "PLC means that my peers and I are doing what we can to make ourselves better teachers, which makes the students better" (personal communication, September 13, 2018).

The theoretical constructs revealed that PLC members from the Low Self-rated schools also believed that strong interactions within PLCs built enthusiasm. However, the text analysis found that even with these strong beliefs, PLC members were overwhelmed, frustrated, and uncomfortable. These feelings led to excessive venting considered an unfavorable behavior in

PLCs that displayed negative emotions. Furthermore, the role of the PLC facilitator became increasingly more difficult under these conditions. These overwhelming feelings were described in this manner by a PLC member: “When we are all there, tension exists. We are just overwhelmed” (personal communication, October 11, 2018).

**Research Question Two:**

**How are PLC members’ social-cognitive behaviors related to teachers’ perceptions of the effectiveness of high school PLCs?**

The qualitative analysis of the High Self-rated schools revealed the role collective efficacy played a in the mission of a PLC through shared responsibility and consensus in decision making. The PLC member at the High Self-rated school saw their PLCs as families. Within this sense of family, PLC members maintained that this trusting environment in PLCs bred mutual respect, transparency, and continuous growth in PLCs. A PLC member from a High Self-rated saw the social-cognitive behaviors of a PLC as an advantage by stating, “Teachers come prepared to discuss successes and things that maybe they have tried that did not work, but everyone is opened and shares” (personal communication, September 4, 2018).

At the same time, other theoretical constructs in the analysis of the High Self-rated school emphasized the apparent resistance within PLCs. The resistance was fueled by physical struggles over ample time to develop deep discussion and emotional hurdles over one person taking on too much responsibility. One PLC member stated, “One person is not going to carry the brunt of the load” (personal communication, September 4, 2018). Furthermore, the position of PLC facilitator sometimes created competitiveness among teachers because in some cases administrators assigned the position to a teacher. For example, a teacher from a High Self-rated school expressed her feelings on being asked to resign the position:

> I was team leader for a long time. The last couple of years, I did not want to do it because I was just tired of doing it. I had been doing it for too long. When they changed it, it was a happy day for me. (personal communication, October 3, 2018)

The qualitative analysis of the Low Self-rated schools uncovered social cognitive behaviors related to the effectiveness of PLCs, including how members felt responsible for one another, especially new teachers. This communicated equity of voice to problem solve and expressed affirmation for one another.

On the other hand, the analysis exposed the influence of the micro-management by administration and the misunderstanding of the PLC philosophy, which limited teachers from fully appreciating the PLC experience. The negative influence of the micro-management by administration was made apparent when it came to the PLC facilitator position. In the High Self-rated schools, some administrators assigned the PLC facilitator position, but it was more prevalent in the Low Self-rated schools. By administrators assigning the PLC facilitator position, it created a competition among teachers. A PLC member from a Low Self-rated school explained the following:

> The administration rotates the chair every year. This causes resentment among the other teachers. Other teachers feel resentment towards me. The twelfth grade PLC leader position has strained an otherwise good relationship that I shared with other twelfth grade teachers. (personal communication, October 11, 2018)

In addition, it unveiled that PLCs struggled to realize the benefits of the social cognitive interactions because of minimal engagement, weak interactions, tardiness, and poor attendance. For instance, a PLC member from a Low Self-rated school expressed frustration with these issues:

> You cannot choose who your PLC members are, so you got to learn how to get along with them. However, if somebody is not even willing to budge a little bit, you got to know your limitations; therefore, I spent the entire year just starring into space during a meeting. At the end of the year, it was not worth it. I did know that I was not going to do that another year. (personal communication, October 11, 2018)

**Research Question Three:**

**How are teacher's perceptions of effectiveness of high school PLCs related to the study's Teacher Collaboration Assessment Rubric (TCAR) assessment of collaborative efforts within the PLC?** The teachers' perception of this question was gleaned from the DDAE cycle of inquiry within the TCAR. The TCAR assessed the effectiveness of the collaborative efforts within their PLC. These results agreed with the outcomes of the qualitative analysis of this study. Specifically, the Low Self-rated schools found the implementation and sustainability of PLC more challenging than the High Self-rated schools. The DDAE rubrics of the High Self-rated schools had significantly higher score than the Low Self-rated schools. However, the Action rubric of High Self-rated schools and Low Self-rated schools both approached significance.

In addition to the relationships between the self-rated averages from the teacher school climate survey, the independent grouping variable, and the dependent continuous variable, measures of the rubrics in the TCAR were moderately strong and all showed a correlative significance. Consistent with the results of the independent t-tests, self-ratings of the quality of school climate were significantly positively correlated with experimenter's TCAR assessment, including total collaborative, dialogue, decision-making, and the number of strengths, *ps* < .05. Again, consistent with the results of the independent t-tests, self-ratings of quality of school

climate were significantly negatively correlated with experimenter's TCAR assessment, of number of needed improvements, $p = .005$.

**Summary of Qualitative Analysis**

The High Self-rated schools produced six theoretical constructs. The positive constructs outweigh the negative constructs in Table 13, thereby mirroring the results of the teacher school climate survey.

Table 13 Theoretical Constructs for High Self-rated Schools

*Theoretical Constructs for High Self-rated Schools*

| **Theoretical Construct that Fostered Positive Effects** | **Theoretical Construct that Fostered Negative Effects** |
|---|---|
| PLCs filled an emotional gap in teachers. | The physical and emotional resistance within PLCs challenged the social context of this learning community. |
| The trusting environment of PLCs bred respect, transparency, and continuous growth among PLC members. | |
| Collective efficacy played a role in the mission of PLCs by fostering equity, affirmation, empowerment, and creativity. | |
| The PLCs shared responsibility, engaged in dialogue to problem solve, and used consensus to make decisions. | |
| Emotional struggles occurred in PLCs, but members enjoyed the comradery. | |

Ten theoretical constructs rose from the qualitative breakdown of the Low Self-rated schools. Within these ten concepts, three had positive effects, two had either positive or negative

effects, and five had negative effects. The right side of Table 14 outweighed the left side of the table, which concurred with the teacher school climate survey.

Table 14 Theoretical Constructs for Low Self-rated High Schools

*Theoretical Constructs for Low Self-rated High Schools*

| **Theoretical Constructs that Fostered Positive Effects** | **Theoretical Constructs that Fostered Positive or Negative Effects** | **Theoretical Constructs that Fostered Negative Effects** |
|---|---|---|
| PLC members who had a growth mindset were fully able to realize the power of the positive energy of a PLC. | Although PLC members appreciated the benefits of comradery in PLCs, they encountered stress, felt overwhelmed, frustrated, and uncomfortable. | Micro-management by administration stifled PLC progress leaving members feeling powerless resulting in underperformance of PLCs |
| Through strong interactions PLC members established relationships, built enthusiasm, and received affirmation with some members demonstrating more influence based on their knowledge and others based on facilitator or administrative positions. | During deep discussions, PLC members used equity of voice to problem solve and reflect on possible solutions, however, minimal diversity among PLC members limited the PLC discussion. | Even with administrative support, PLC members found it challenging to meet and manage their time for deep discussion |
| PLC members felt responsible for one another, especially new teachers. | | PLC members struggled with narrow focus, and administrative directives, which resulted in negative emotions, minimal engagement, weak interactions, excessive venting, Tardiness, and poor attendance. |
| | | Resistance to the social concepts of the PLC philosophy barred PLC |

| Theoretical Constructs that Fostered Positive Effects | Theoretical Constructs that Fostered Positive or Negative Effects | Theoretical Constructs that Fostered Negative Effects |
|---|---|---|
| | | members from experiencing a fully functional PLC. |
| | | Propaganda on PLCs led to misinformation and misunderstanding of the PLC philosophy, limiting teachers from fully appreciating the PLC experience. |
| | | When a forced artificial climate became status quo, the PLC members found PLCs a waste of time and stressful. |

**Summary of Quantitative Results**

The quantitative results concurred with the qualitative analysis as independent samples t-test confirmed that the High Self-rated schools were significantly higher than Low Self-rated schools which reflected the self-rated averages of the teacher school climate survey. The relationship between the independent grouping variable—the self-rated averages of the teacher school climate survey—and the dependent continuous variable—measures of the DDAE cycle of inquiry rubrics in the TCAR—were moderately strong, and all show a correlation significance. (Hoy & Adams, 2016; Muijs, 2011).

## Limitations

The small sample size, one school district, and the self-selected participants limited and somewhat weakened the quality of the text and data collected; therefore, the findings may not be

generalized (Auerbach & Silverstein, 2003). Furthermore, a brief data collection period added to the limitations. Equally limiting was the small snapshot of the PLC experience that depended upon the conditions that existed during that period from late August to late October of 2018.

## Research Bias Must Be Considered

The bias of the researcher must be recognized in the analysis process, especially, in the qualitative aspect of the text collection and analysis. Furthermore, the ability to be embedded in a familiar high school environment had a definite influence on the production of both field observations notes and sociograms for each of the PLC meetings.

The awareness of this bias prompted the implementation of a research journal that addressed the subjectivity through reflection of the interactions observed during the PLC meetings and reactions to the comments made by the PLC members during the personal interviews, the triangulation, and the quantitative analysis of the TCAR. The time spent journaling established a place to work through the initial reactions and emotions that enabled the conclusions to be more objective (Hoy & Adams, 2016; Auerbach & Silverstein, 2003).

# CHAPTER FIVE: CONCLUSIONS

## Quantitative Calculations

The quantitative data analysis revealed through a series of independent sample t-tests revealed that the TCAR's Total Collaboration Assessments scores were significantly greater for both the High and Low Self-rated schools as measured by the following DDAE cycle of inquiry included in the TCAR: Quality of the Dialogue, Quality of the Decision-making process, Quality of the Evaluation process, and the number of strengths. On the other hand, the TCAR's Quality of the Action process of the DDAE cycle of inquiry, measured by the difference between the High and Low Self-rated schools, approached significance. In addition, the High Self-rated schools had significantly fewer needed improvements as measured by the TCAR compared to the Low Self-rated schools.

Furthermore, the results of the independent samples t-test where the independent grouping variable—the self-rating of the quality of the school climate—were significantly positively correlated with the TCAR assessments—the dependent continuous variable. This positive correlation revealed the predictive power of the teacher self-rated scores of the teacher climate survey on their actual performance results on the TCAR. The observations of the PLCs' effectiveness using the rubric were related in a meaningful way to the actual self-ratings provided by the teachers in the school climate survey. The relationship of the positive correlation between the quality of the school climate and the TCAR assessment further confirmed the work of Fullan (2016). Their research revealed the importance of having a school culture of coherence and cohesion which enabled faculty and administration to share a growth mind-set as well as a transparency in communication. In addition, the conclusions from this study further confirmed the predictive power of the teacher school climate survey in relation to the TCAR. Outcomes of

the qualitative analysis showed that the Low Self-rated schools had a more difficult task of implementing PLCs than the schools that had higher self-rating values.

## Qualitative Analysis

From the qualitative analysis, common theoretical constructs emerged from both High and Low Self-rated schools. During the conversations with PLC members from both High and Low Self-rated schools, they emphasized that strong interactions among PLC members established relationships. Through these relationships, the PLC membership exhibited mutual affirmation, displayed equity of voice, experienced creativity, and felt empowerment. In the same manner, one of the High Self-rated school's positive theoretical constructs included the important role collective efficacy played in the mission of PLCs. This was explicitly expressed during an interview with a PLC member from a High Self-rated school:

> PLCs help me to know that I am not alone when I feel that my kids are just not getting it. There is a gap that occurs when I feel this way. The PLC comes in and fills this gap. (personal communication, October 3, 2018)

PLC members from both the High and Low Self-rated schools expressed concerns about relationships between the retention of new teachers and efficient PLCs. The most compelling evidence of this concern came from a PLC member from a Low Self-rated school who asserted the following:

> Let's take care of our newbies. Do you know we lost like three brand new English/reading teachers in one year, like right off the bat? You have got to take care of these new people. They have got to feel supported and this is the job of the PLC (personal communication, October 11, 2018).

A PLC member from a High Self-rated school further emphasized the following:

> When new teachers come in a PLC, it gives us a good time to talk to those new teachers and find out how they are doing, especially where they are struggling and where their students are struggling. (personal communications, September 4, 2018)

An interview with a PLC member with three years of experience from a High Self-rated school expressed appreciation for their PLC:

> This is my third-year teaching, so the last two years my PLC experience has been awesome. I am completely new at all of this, so the PLC helped me feel a little bit more comfortable with the content, because it was something new to me. (personal communication, September 10, 2018)

The conclusions developed from these theoretical constructs that emphasized collective efficacy, strong establishments of relationship, and support for new teachers in PLCs confirmed the work of Fullan, Rincon-Gallardo and Hagreaves (2015). Their research focused on professional capital of teachers and school leaders. This concept can be seen in Figure 6 that illustrates a trusting environment in an effective PLC as the arrows displayed a strong interaction among PLC members at a High Self-rated school. Another theoretical construct from the High Self-rated schools characterized a trusting environment that bred respect, transparency,

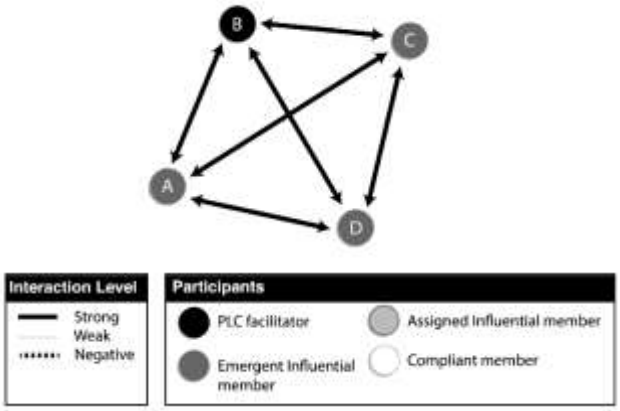


*Figure 6. Observation 3 - High Self-rated School 1.*

and continuous growth among PLC members as a benefit of a PLC. This construct agreed with the work of Lee et al. (2016) that highlighted the importance of group trust that facilitated open communication among members and elevated the group's willingness to take risks.

In the same way, the Low Self-rated schools highlighted professional capital of teachers in the theoretical construct that pointed out that only PLC members with a growth mindset realized the full power of the positive energy of a PLC. This concept was emphasized in interviews with two PLC members from different Low Self-rated schools where one PLC member conveyed, "It really is a fixed mindset, so a growth mindset is going to be our number one priority" (personal communication, September 9, 2018). The other PLC member asserted, "I have to admit in my first year of my PLC, I had to recognize a fixed-mindset as a barrier for PLCs. Once I did that, PLCs were so much more helpful to me" (personal communication, September 4,2018).

In addition to how effective PLCs would support new teachers, the sociograms from both the High and Low Self-rated schools exposed the effects of influential PLC members based either on their knowledge or on their facilitator or administrative position. For example, at times, the PLC facilitator and the emergent influential member worked together to foster the deep dialogue within the PLC. Figure 7 demonstrates where the strong interactions between the assigned and emergent influential member swayed other members in the PLC to engage in deep discussion. As shown in Figure 7, the influential member had to leave before the meeting came to an end due to another professional obligation, but this did not affect the influence they had already made on the PLC discussion. The findings of this study further confirmed the work of Fullan (2016) and Leana (2011) that asserted when teachers needed information or advice on how to best accomplish their job, they relied on one another.

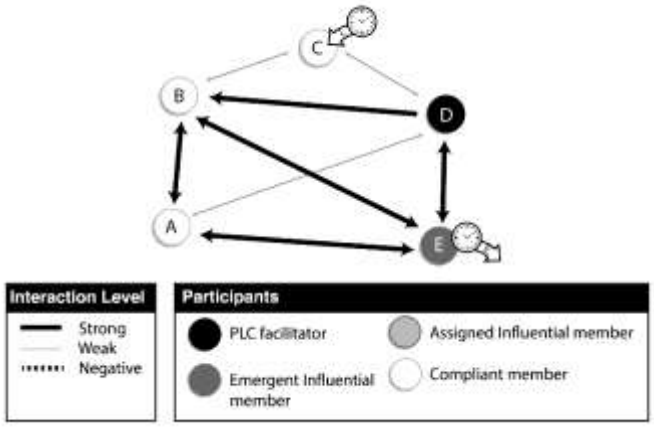


*Figure 7. Observation 2 - High Self-rated School 2.*

On the other hand, the rotation featured in Figure 8 had a negative effect on the PLC climate. The PLC facilitator rotated the role of the presenter (the assigned influential member). During this PLC meeting, the presenter had many weak interactions with other PLC members. The conclusion of this study did not concur with Hoffman, Dohman & Zierdt (2009), who viewed facilitators as knowledgeable nurturers. In their study, facilitators valued each PLC member

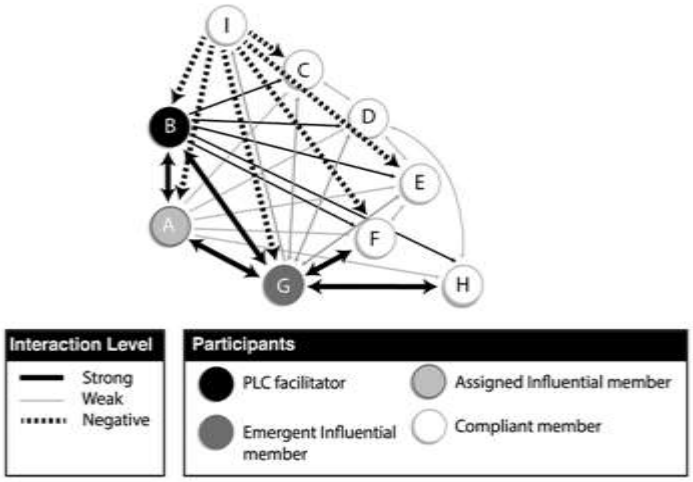


*Figure 8. Observation 1 - Low Self-rated School 5.*

and used their strengths to present to other PLC members. In this study, since PLC members did not acknowledge the PLC facilitator as a true leader, the PLC members were merely complying with the request to present. In addition, the presenters did not consider the relevance of their topic to other members. As a result, the other PLC members put little value into the information they received from the presenter. As one of the PLC members exclaimed in their interview, "There are little presentations that everyone gives. My expectation at the lower basic level is that people would engage and listen when I am sharing and when others are sharing, but people have not been doing that" (personal communication, October 11, 2018). The emergent influential member exhibited a greater impact on the PLC because members did value his relevant input.

As demonstrated in Figure 7, PLC members in this study recognized the importance of knowledge and camaraderie. For example, a theoretical construct from the High Self-rated schools spotlighted emotional struggles among PLC members, but they still enjoyed the camaraderie generated through PLCs as well as the knowledge shared. As seen in Figure 9, this High Self-rated school had several strong interactions; however, a few weak interactions still occurred.

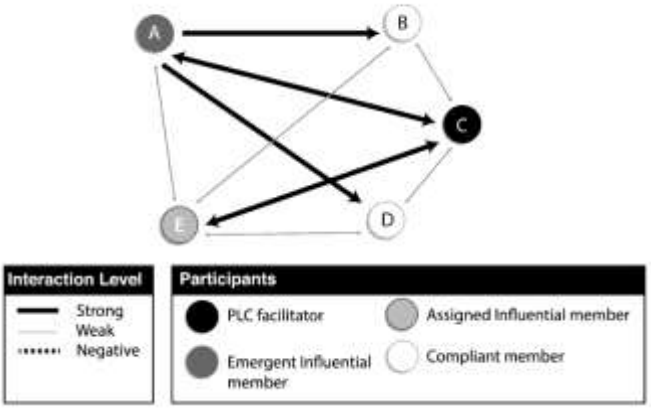


*Figure 9. Observation 1 - High Self-rated School 3.*

By the same token, a theoretical construct from the Low Self- rated schools brought out the importance of camaraderie among PLC members. In fact, the Low Self-rated schools highlighted that members appreciated the benefits of camaraderie in PLCs as they encountered stress, felt overwhelmed, and experienced frustrations. As Figure 10 illustrates, strong interactions in the dynamics of the group emerged as they struggled with negative interactions that limited the success of this PLC. The conclusions of this research were also consistent with

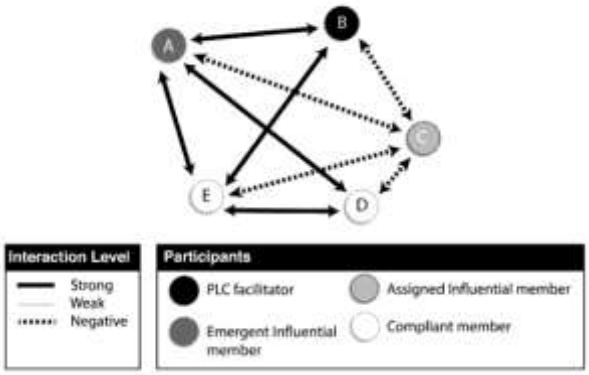


*Figure 10. Observation 1 - Low Self-rated School 6.*

the literature where Easton (2015) and McAlister (2016) asserted that throughout all PLC developmental stages, members embraced friendship.

Camaraderie became apparent in yet another theoretical construct: PLCs filled emotional gaps. This materialized in the qualitative analysis of the High Self-rated schools which concurred with the concepts discussed in the work of Lee et al. (2016). Their research highlighted the idea that teachers were more likely to take risks as they engaged in a supportive community setting. A participant in a Low Self-rated school emphasized in a comment during their personal interview: “PLCs were a very efficient tool to figure out what the teachers needed and what trainings they needed. In addition, what we could do better to reach the children” (Personal Communication, October 11,2018). Figure 11 demonstrates this supportive environment through

the many strong interactions that occurred among PLC members where only two members (one an assigned influential member) had weak communication. This safe environment concurred with the research of Leana (2011) where teachers would be twice as likely to turn to a trusted colleague than an outside expert.

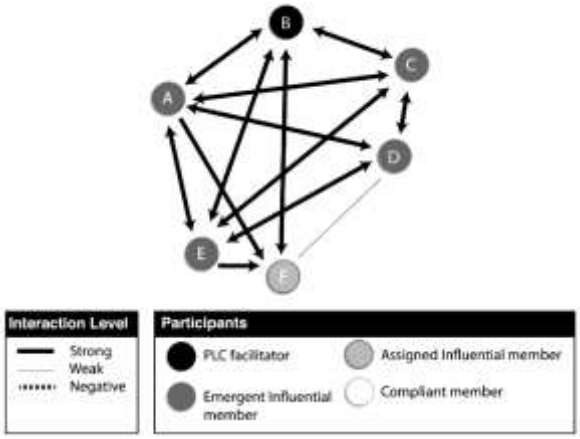


*Figure 11. Observation 2 - High Self-rated School 1.*

In this study, PLCs struggled with administrative directives that narrowed the focus for PLC discussions. The struggles of PLCs in this study confirmed what Sims and Penney (2014) saw as a distraction for PLC members when a single focus constricted PLC discussion that rendered the PLC ineffective. Fullan (2007) also warned that PLCs must not be a time for myopic interactions. Furthermore, the theoretical construct of this study pointed out that administrative directives produced negative emotions, minimal engagement, excessive venting, tardiness, and poor attendance. In Figure 12, the administrator (the assigned influential member) along with the PLC facilitator had mostly a negative or weak impact on this PLC's success.

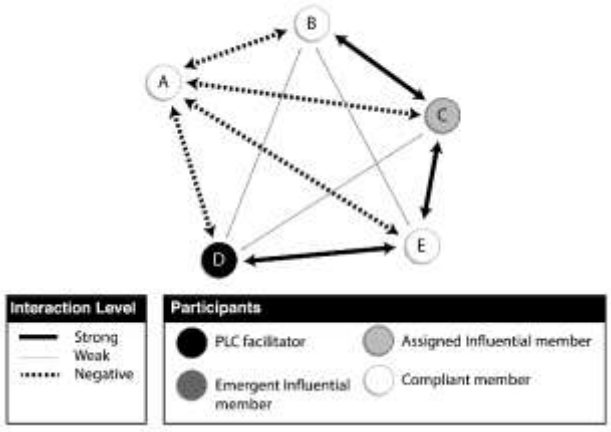


*Figure 12. Observation 1 - Low Self-rated School 4.*

Authoritative leadership developed a strong negative influence on the success of PLCs in the Low Self-rated schools. In addition, PLCs found it a challenge to meet and manage their time for deep discussion. This confirmed the findings of Zhang, Yuan & Yu (2016) that explained that teachers believed the shortage of time challenged the collaborative practices of PLCs. PLC members in both the High and Low Self-rated schools had difficulty carving out time from their day to meet and develop the deep discussions needed for an effective PLC. A PLC member from a Low Self-rated School was resolute in this notion by stating: "My thing is time. Everybody has their little pet peeve. I hate to waste time. I did not want it to be a time waster, but I found it is" (personal communication, September 18, 2018). From a High Self-rated school, a PLC member noted, "PLC members feel the time constraints, as they are pulled in many different directions with many responsibilities, challenging the effectiveness of PLC performance" (personal communication, October 1, 2018). Figure 13 shows the effect of time on a PLC meeting as PLC members needed to leave early or arrive late because of other personal or professional obligations.

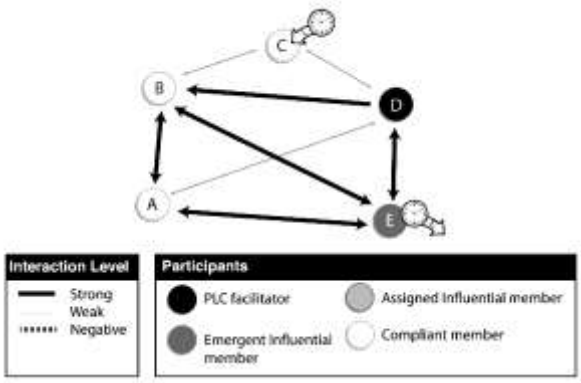


*Figure 13. Observation 2 - High Self-rated School 2.*

The challenge to meet and manage time was a bigger issue for the Low Self-rated schools. In an interview with a participant from a Low Self-rated school, the point was made that "I think that holding a PLC meeting the first thing in the morning as we just walk in the door is not a real good time, because my mind is not on that PLC. A better time might have been sometime after dismissal" (Personal Communication, September 23, 2018).

In the case of the Low Self-rated schools, one of the more interesting theoretical constructs drew attention to the concept that misinformation and misunderstanding of the PLC philosophy limited teachers' PLC experiences. The effect of minimal knowledge of the PLC philosophy was discussed in the work of Budworth (2011), Goddard (2001), and Tasa et al. (2007) where a PLC's performance improved when it consisted of mostly well-trained members. As they expressed concern about why their PLC was not successful, a participant from a Low Self-rated school clearly stated, "Some teachers may not have the correct professional development experience and/or understand the why" (Personal Communication, August 28, 2018).

## Problem Statement

The anxiety and stress of high-stakes testing, administrators ill-prepared to meet the professional development needs of their staff, and the competitive nature among faculty members on the participating high school campuses were no different from the results reported in DuFour's (2007) literature that showed PLCs offered a design that generated challenging work. The findings of this study agreed with the conclusions of Fullan (2006) and Oliver and Hoffman (2016) that some PLCs operated at a superficial level with compliance as their major objective. For instance, a PLC member from a Low Self-rated school emphasized, "There are certain activities that we must do to meet certain requirements" (personal communication, October 9, 2018). Another PLC member from the same Low Self-rated school was complacent when they stated, "We get done what needs to get done, but I don't always agree that what needs to be done, needs to be done" (personal communication, October 11, 2018). Again, the research in this study determined from the qualitative analysis that the professional relationship in most of the participating high schools did not evolve fully, so the members could not experience a meaningful collaborative discussion. As one PLC member from a Low Self-rated school expressed, "My initial beliefs were squashed. It is disappointing to me to have PLCs in the school district that are not productive. It felt like the district owned our PLC" (personal communication, September 18, 2018).

As William, Brien, & LeBlanc (2012) delineated in their literature, without the support of a collegial PLC, members did not have the opportunity to foster self-efficacy to build leadership capacity; therefore, PLC members felt ill-prepared to meet the needs of their high school students. One participant from the Low-Self-rated school underscored these complex trepidations in their personal interview where they explained that "If PLC members felt they were doing

something meaningful and made progress, they would have a sense of collegiality to express that we are in this together. And what can we improve?" (personal communication, October 11, 2018). This participant's statement acknowledged the concepts stated in the writings of Chen, Lee, Lin & Zhang's (2016) where they concluded these sentiments have a negative impact on learning and instruction. Again, this same participant stated the negative impact during their personal interview: "There is no collegiality in sitting there and just analyzing data. It becomes a burden, and nobody wants to be part of that" (personal communication, October 11, 2018). This highly intense environment, particularly in the Low Self-rated schools, exposed the necessity for PLC members to become well-versed in the practices of collective efficacy and collaboration because of the need to increase leadership capacity to meet the challenges on their high school campuses.

## Purpose

Relatively little research examines the individual factors of social behaviors that enhance collective efficacy of high school PLCs (Leithwood & Louis, 1998; Nehring & Fitzsimmons, 2011, Palmer, 1993; Wang, 2016). This study's mixed-methods approach supported a deep exploration of those behaviors from the perspectives of high school PLC members within the framework of the Social Cognitive Theory (Bandura, 1986; Owen & Valesky, 2015). Reforms in professional development through PLCs centered around the concept of collective efficacy (Seidman, 2013). Theoretical constructs that emerged from the mixed-methods analysis confirmed the work of Blanton & Perez (2011), Pepper (2015), and Zhang, Yuan, and Yu (2017), emphasizing PLCs significantly reduced teacher isolation and decreased achievement gaps. For example, the theoretical construct that evolved from the High Self-rated schools clearly stated that PLCs filled emotional gaps in teachers. In the same manner, the Low Self-rated schools

recognized that PLC members who possessed a growth mindset were able to fully realize the power of the positive energy of PLCs. Furthermore, the High Self-rated schools asserted that collective efficacy played a role in the mission of their PLCs by fostering equity, affirmation, empowerment, and creativity which agreed with other research studies on collective efficacy. As seen in the work of Budworth (2011), group interventions emphasized a positive relationship between teacher efficacy and essential educational outcomes. This was particularly true for one of the Low Self-rated schools where PLC members felt responsible for one another, especially new teachers. One of the PLC members from the Low Self-rated schools articulated this sentiment well:

> Let's talk about stuff that will make a difference. Let's take care of our newbies. Do you know that we lost like three brand new English/reading teachers in one year? They have got to feel supported and that is the job of the PLC. It is really everybody's job! (personal communication, October 11, 2018)

This was a concern for the Low Self-rated schools. However, the High Self-rated schools shared these concerns, too. Again, a conversation with a PLC member from a High Self-rated school noted, "When new teachers come into PLCs, it gives us a good time to talk to those new teachers and find out how they are doing, especially, when they are struggling and where they are struggling" (personal communication, October 1, 2018.)

## Methodology

### Mixed-Methods

The Social Cognitive Theory as the theoretical framework required an analysis method that looked deeply into the participants' responses and enabled participants to feel respected by giving them a voice to express what they valued in a PLCs (Fassinger & Morrow, 2013). The

combination of quantitative and qualitative research added to the breadth, depth, and analytical rigor and led to strong conclusions. The text collected through the mixed-methods approach (generated from the personal interviews and the observations of PLC members) provided an understanding of the role they played in their PLCs. This qualitative inquiry reached the core of the research questions concerned with the behaviors of PLC members within the social context of the PLC. In addition, the quantitative technique, utilized in the TCAR, supplied a different source to collect data to address the research questions, which again deepened the quality of the conclusions. Furthermore, the mixed-methods process validated the findings of the text and data collected as each method reinforced findings for the other methods, producing a triangulation that buttressed the final conclusions (Green & Thorogood, 2004).

## Significance of the Study

From the seminal work of Palmer (1998) to the more recent work of Wang (2016), the literature captured the value of the concept of PLCs and how elevated levels of collaboration positively affected collective efficacy. In addition, the complexity of the high school classroom and the expressed awareness of isolation among high school educators, as reported by McLaughlin & Talbert (2001), warranted further investigation from the perspective of high school PLC members. In this study, isolation was mentioned by teachers in four interviews from the Low Self-rated schools. For these reasons, this study purposefully concentrated on the perspectives of the participants' value of the collective efficacy within the study's theoretical framework, Bandura's Social Cognitive Theory (1986). The viewpoints of the participants, coupled with the thorough examination of their behaviors and opinions, revealed theoretical constructs. In fact, the High-Self-rated schools embraced the idea that PLCs shared responsibility, engaged in dialogue to problem-solve, and used consensus to make decisions.

Even though members enjoyed the camaraderie of the PLCs, emotional struggles occurred. By the same token, similar theoretical constructs emerged from the Low Self-rated schools which noted that equity of voice was used in discussions to problem solve. Consequently, these constructs implied that the caring professional relationship nature of PLCs existed, making it possible for some PLC members to experience collective efficacy at some level. This exploration into productive collaboration increased collective efficacy, teacher empowerment, and leadership capacity that added to the body of knowledge as noted in the work of Fullan (2005), Carpenter (2014), and Chen et al. (2016).

Other components of this study that added to its significance included the utilization of Bandura's (1986) work on the Social Cognitive Theory as it enabled a deep analysis and valued the participants' voice and the employment of the TCAR as an innovative evaluation and quantitative analysis tool. The sociogram that gave a graphic illustration of the interactions and interconnections among PLC member during the observed meetings also increased the significance to this study.

## Research Questions

The conclusions from this study answered the research questions that sought a deeper understanding of the effects of the social interactions within the high school PLC using the framework of Social Cognitive Theory from the perspective of the high school PLC members. Responses were collected through the personal interviews and the field observations along with the sociograms that focused specifically on the two research questions that targeted behaviors and social-cognitive behaviors in PLCs. These conclusions were fortified by the quantitative research that utilized the TCAR as an assessment of the collaborative efforts among PLC members.

1. What are teachers' perceptions of the behaviors in high school PLCs?
2. How are PLC members' social-cognitive behaviors related to teachers' perceptions of the effectiveness of high school PLCs?
3. How are teachers' perceptions of effectiveness of high school PLCs related to the study's Teacher Collaboration Assessment Rubric (TCAR) assessment of collaborative efforts within the PLC?

**Research Question One:**

**What are teachers' perceptions of the behaviors in high school PLCs?**

From the teachers' point of view, both the High and Low Self-rated schools reported behaviors that recognized the negative and positive emotional factors within PLCs. For instance, the High Self-rated schools expressed that PLCs filled emotional gaps in teachers. A PLC member from a High Self-rated school eloquently expressed, "One person is not going to carry the brunt of the load" (personal communication, September 4, 2018). Another PLC member from a High Self-rated school also expressed supportive behaviors from their PLC member: "After the emotional dumping, we get down to our deeper discussion" (personal communication, October 3, 2018). Low Self-rated schools also noted that PLC members experienced strong interactions in PLCs that built enthusiasm. To illustrate this point, two PLC members from a Low Self-rated school expressed in their interviews that they received clarification through PLC discussion. In one of those interviews, the PLC member explained the following:

> In PLCs, we get some answers. Schools talk a lot in acronyms. They don't realize that people that are from outside don't know what they are talking about, so I get lost. In PLCs, I get to say, 'What does that mean?' It is a place where I could get clarification. (personal communication, September 23, 2018)

In the other interview, the PLC member further asserted, “It was fantastic. When I brought my concerns, everyone listened. I got responses, feedback, and support. I really like the fact that they were able to clarify things for me” (personal communication (October 11, 2018).

On the other hand, both the High and Low Self-rated schools expressed that they battled with negative behaviors. The physical and emotional struggles within PLCs were major hurdles that challenged the social context and barred some from experiencing a fully functional PLC. These conclusions were consistent with the research of Chen et al. (2016) and Wang (2016) that recognized that struggles existed among high school faculties, especially when unfamiliar with collaboration. Furthermore, Zhang’s (2016) work noted this same unsatisfactory collaboration when negative social behaviors kept PLC members from being authentically present. For example, Figure 14 illustrates almost an equal number of strong, weak, and negative interactions in a High Self-rated PLC. Here, the negative social behaviors and conflicts in relationships kept the PLC from realizing its full potential.

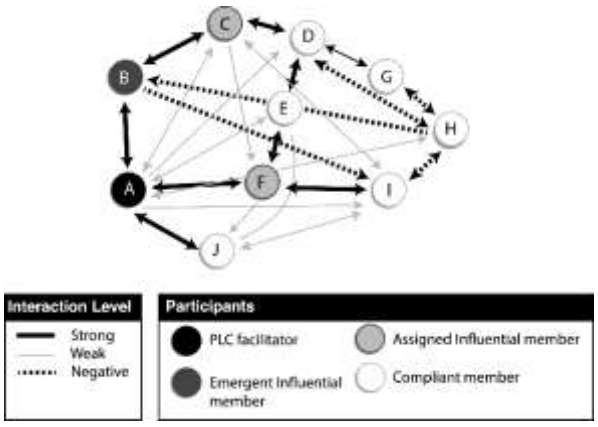


*Figure 14. Observation 1 - High Self-rated School 1.*

From these findings, it became apparent that both the High and Low Self-rated schools expressed positive behaviors in their PLCs but also struggled with negative behaviors at some level. Low

Self-rated schools struggled even more with negative behaviors and had to work harder to sustain their PLCs.

**Research Question Two:**

**How are PLC members' social-cognitive behaviors related to teachers' perceptions of the effectiveness of high school PLCs?**

The theoretical constructs revealed that PLC members found that positive social-cognitive behaviors did increase the effectiveness of their PLC. The study found that the High Self-rated schools experienced collective efficacy, and both the High and Low self-rated schools appreciated the benefits of camaraderie within their PLC. The theoretical constructs from the Low Self-rated schools pointed out that they too experienced affirmation from social interactions within their PLCs. Furthermore, both the High and Low Self-rated schools valued the effectiveness of deep discussion, consensus, equity of voice, and reflection to problem solve; however, they both struggled with these discussion concepts at different levels in their PLCs. Figure 15 demonstrates these struggles in a PLC at a High Self-rated school.

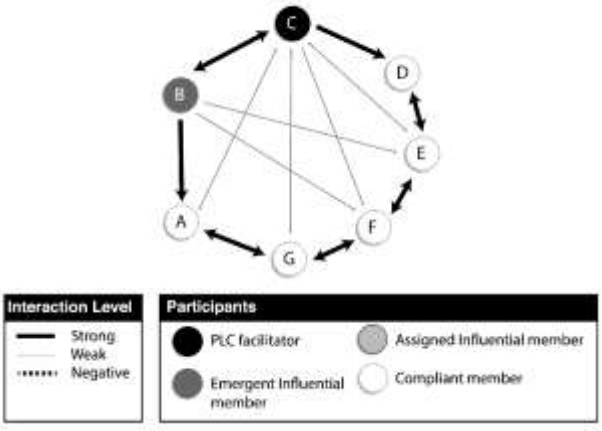


*Figure 15. Observation 1 - High Self-rated School 2.*

If these struggles become extreme, the PLC can be considered not operational. One of the Low Self-rated schools experienced this struggle. A participant from that Low Self-rated

school affirmed this in a statement during their personal interview: “Most of the time I feel like there is a lot of effort to build artificial relations and climate within the PLC. There seems to be no authentic interest. Nothing occurs organically” (Personal Communication, October 11, 2018). The findings of this theoretical construct agreed with the work of Woodland (2016) that stated when PLC members exhibited passivity and modest engagement, PLCs remained underdeveloped.

From the finding of this study, the most influential deterrent to a PLC experiencing collective efficacy was the negative affect of authoritative leadership. The results of this study did not find authoritative leadership as a concern for the High Self-rated schools. These schools, even under strictures, were still fueled by student concerns. On the other hand, the PLCs at the Low Self-rated schools felt that authoritative leadership stifled their progress. This school culture left PLC members feeling powerless which resulted in the underperformance of these of PLCs. This same sentiment was noted in the work of Chester (2015), where research also concluded that micromanagement by authoritative leadership sucked the passion out of PLCs.

**Research Question Three:**

**How are teachers’ perceptions of effectiveness of high school PLCs related to the study’s Teacher Collaboration Assessment Rubric (TCAR) assessment of collaborative efforts within the PLC?**

The conclusions that answer question three were gleaned through quantitative calculations of the TCAR that assessed teachers’ behaviors in PLCs. For example, the rubrics included in the TCAR that encompassed the DDAE cycle of inquiry buttressed the conclusions of the qualitative analysis that focused on the observed actions of the PLCs. Both the observation field notes of the collaboration efforts of PLCs and the Total Collaboration Assessment of the

TCAR rubrics supported that the PLC members of the High Self-rated Schools collaborated with higher competency. These schools had significantly higher scores than PLCs in the Low Self-rated schools in all qualities of the discussion process except the Quality of Action. Both the High and Low Self-rated schools approached significance but did not accomplish it. When compared to the Low Self-rated schools, the High Self-rated schools had significantly fewer needed improvements as measured by the TCAR.

Theoretical constructs emergent from the qualitative analysis agreed with the results of the Action rubric of the TCAR. Both the High and Low Self-rated schools worked to improve the actions of their PLCs as noted in the constructs that arose from the field observation notes and sociograms. For example, the constructs revealed that the High Self-rated schools attempted to use consensus to make decisions, and the Low Self-rated schools tried to employ equity of voice to problem solve. Furthermore, the relationship between the self-rated averages from the teacher school climate survey (the independent variable) and the measures of the rubrics in the TCAR (the dependent continuous variable) were moderately strong and significantly positively correlated. The importance of this correlation can be seen in the influence it has in the High Self-rated schools. For instance, the High Self-rated schools felt more supported by their administration than the Low Self-rated schools which enabled a higher level of sustainability in their PLCs. This study discovered that the teacher climate survey alongside the TCAR accurately measured the temperature of the school climate. The verified usability of currently accessible measures increases the likelihood that administrations will be able to clearly assess the areas of their school which need improvement. Once administrators can see where they need to fortify their school climate, they can more efficiently support continued growth of PLCs at their school site.

## Implications

The implications from this research revealed that PLC members from both the High and Low Self-rated schools valued the benefits they derived from their participation in their PLCs. However, the PLC members in this study struggled to meet those challenges, which concurred with the work of DuFour (2015) that emphasized that PLCs presented challenging work. They lacked the knowledge to experience a proficient PLC. The conclusions of this research further emphasized the work of Budworth (2011), Goddard (2001), and Tasa et al. (2007) which pointed out that a PLC's performance improved when it consisted of mostly well-trained members.

Since the positive correlation between the teacher climate survey and the outcomes of the TCAR were viewed as a powerful predictor of the school culture, it further emphasized the importance of a supportive school culture. Subsequently, principals needed to be more aware of how they cultivated their school culture. In addition, as this study found that the most influential deterrent to effective PLCs was authoritative leadership, the research implied administrators needed further education in distributive leadership. For example, as indicated in this study, administrative directives had an adverse effect on PLC goals. As a PLC member from a Low Self-rated school clearly expressed, "My biggest thing is that it can work. It really can. I don't mean a checklist from administration" (personal communication, October 11, 2018).

Since the study found PLC members had a great deal of misinformation about the PLC concept, it became apparent that all PLC members needed further education in distributive leadership and to be given the opportunity to accept the responsibility for leadership roles. Most importantly, all PLC members and administrators needed to be well-versed in the PLC philosophy. At the same time, principals needed to give PLC members the time to develop relationships and reflect. As the study found, the most important aspect was the school climate.

This is where principals invested their efforts in trust so that teachers could effectively collaborate, thereby increasing collective efficacy in PLCs.

## Recommendations

The findings in this study recommend that high school principals must assume the role of instructional leader, becoming more facilitatory rather than authoritative and managerial. As instructional leaders, principals need to provide authentic opportunities for PLC members to accept leadership roles. Principals need to have a growth mindset and support a growth mindset among their faculty members. They must be in sync with the leadership tendencies of their teachers. They must foster these leadership skills that support collaboration and deep discussions among their PLC members. In the same manner, administrators must take advantage of the opportunities PLCs offer to embed further professional development through team building, reflection, and decision-making. Since the study found the DDAE cycle of inquiry in the TCAR as a powerful measure of the interactions within a PLC, the TCAR would be a useful instrument in the hands of trained PLC members. These recommendations foster the empowerment of PLC members by allowing time for the relationships to develop resulting in collective efficacy growth.

### Future Research

Further research is warranted in the areas of teacher education in the PLC philosophy, distributive leadership, and the quality of time for PLCs to fully develop. As the research found, a deterrent to successful PLCs was the misinformation that PLC members had about the PLC philosophy. Since this study and other research studies cited in the literature review stressed adult learning element of PLCs, additional research needs to occur in the area of embedded professional development within PLCs. Furthermore, this research has demonstrated the

powerful influence of distributive leadership on the successful implementation and sustainability of PLCs. The conclusions provided a purpose for additional research in this area so that PLCs would have a better environment in which to fully develop. Finally, further research in the area of time management for PLCs will offer principals the information they need to effectively support PLCs at their school site. All these points require additional research in the PLC process for administrators as well as educators to create best practices for PLC members to employ in their transformation toward proficient PLCs.

## Concluding Thoughts

While many findings from this research were consistent with the previous studies, the in-depth exploration of collective efficacy in high school PLCs from teachers' perspectives revealed subtleties that further defined what makes PLCs effective. These subtleties indicated that teachers found PLCs to be beneficial and built camaraderie among PLC members. The study further found that PLCs were effective when provided adequate time to develop relationships and trust. However, PLCs were challenged by collective efficacy as PLC members struggled through the PLC process. Sadly, these struggles produced feelings of frustration in PLC members, but with further education on the PLC philosophy, an increase in PLC effectiveness might be realized.

More importantly, these struggles were exacerbated as administrators were unable to fully embrace distributive leadership and were reluctant to trust their teachers to do what was best for their students, a phenomenon that was prevalent in the Low Self-rated schools. The conclusions of this study on the influence of social capital in PLCs made it apparent that PLCs flourish in supportive and collaborative school cultures. Equally important to the influence of social capital was distributive leadership where the administrators, including assistant principals

and department heads, transformed into instructional leaders to develop leadership in a now-untapped resource. In this way, administrators promoted relationships within PLCs that naturally evolved though the progressive levels of collective efficacy.

At the conclusion of this study, the hope of the writer is that the reader will be able to bring this message to others: the complex problems on a high school campus need the collaborative effort of all stakeholders to produce a workable solution. The dedicated members of PLCs who maximized their individual capabilities enabled their weaknesses to vanish beneath the collective strengths of their PLC members in pursuit of a common goal to do what is best for their students.

The expedition team story can now be clearly understood as the appropriate metaphor for empowerment in PLCs. As the findings of this research have demonstrated, the most proficient PLCs establish strong relationships and express faith in the collective strength of their members. This research further found collective efficacy equal to the trust that administrators have in their faculty to achieve this level of empowerment. The most important lesson shared through this research hinges on all stakeholders valuing their colleagues as resources. This mindset will catalyze the essential transformations of today's classrooms.

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APPENDICES

## Appendix A – TCAR



### Teacher Collaboration Assessment Rubric (TCAR)

Name of Team/Group: _____

Team Members: _____

Date: _____

Group/Person Completing the Assessment: _____

**DIRECTIONS:**
1. Choose a process(es) for administering the TCAR (see below).
2. Review the criteria for *Dialogue, Decision-Making, Action* and *Evaluation* on the following pages.
3. Circle one response per row that most accurately reflects the current quality/attributes of team functioning.
4. Total the scores for each section and summarize results on the cover page.
5. Use findings for developmental and/or formative assessment purposes and for resource allocation.

**Process Used for Administering the TCAR: (check all that apply):**

| | |
|---|---|
| ☐ recollection and reflection by a team member<br>☐ observation of team meeting(s) (via video)<br>☐ observation of team meeting(s) (in person)<br>☐ review of meeting agendas/plans | ☐ review of meeting running record/minutes<br>☐ administrator consultation with team member(s)<br>☐ other _____ |

| Team - Collaboration Assessment Scores | |
|---|---|
| I. Dialogue | ~~15~~ 21 |
| II. Decision-making | ~~15~~ 21 |
| III. Action | ~~12~~ 18 |
| IV. Evaluation | ~~12~~ 18 |
| Total | ~~52~~ 78 |

**Areas of Strength:**

**Areas for Improvement:**

**Resources Needed:**

**Figure 2.** The Teacher Collaboration Assessment Rubric.

| DIALOGUE<br>Circle one box per row | | | |
|---|---|---|---|
| | 3 | 2 | 1 |
| a | An agenda for team dialogue is pre-planned and accessible to all in advance of every team meeting. | A written agenda for group dialogue is provided for most team meetings. | There is no pre-planned agenda for group dialogue/team meetings. |
| b | The team meets regularly and all meetings are attended by all members | The team meets with some regularity and most meetings are attended by all members. | The team meets sporadically, or full attendance at team meetings is rare. |
| c | Team meetings are always structured. Protocols are used to facilitate and guide team dialogue. | Team meetings are somewhat structured. Occasionally protocols are used to facilitate, and guide team dialogue. | Team dialogue/meetings are generally improvisational, unstructured, and not purposefully facilitated |
| d | Team dialogue consistently addresses essential questions of practice, instructional quality, and student learning. | Team dialogue occasionally addresses essential questions of practice, instructional quality, and student learning. | Team dialogue does not address essential questions of practice, instructional quality and student learning |
| e | Inter-professional disagreements about issues of practice are typical - these disagreements are expected, openly examined and thoughtfully discussed. | Inter-professional disagreements about important issues are not typical, often go unexamined, or remain addressed. | The group avoids conflict, tends to confirm present practices, or inter-professional disagreements are said not to exist. |
| f | Team members participate equally in group dialogue; there are no hibernators or dominators. | Most team members contribute to the dialogue, but there are some hibernators and dominators. | Team members contribute unequally to the dialogue; there are regular dominators and hibernators. |
| g | An accurate record of team dialogue, decisions, and subsequent actions is recorded and accessible to all members. | A record of team dialogue, decisions, and intended actions exists. | No accurate or accessible record of team dialogue, decisions, and subsequent actions exists. |
| | **Dialogue Total** | 21 | |

| DECISION MAKING<br>Circle one box per row | | | |
|---|---|---|---|
| | 3 | 2 | 1 |
| a | Team members regularly identify and determine specific actions that they will take to improve instructional practice and student learning. | Team members occasionally identify and determine actions that they will take to improve instructional practice and student learning. | Team members do not identify or determine specific actions that they will take to improve instructional practice and student learning |
| b | The team uses a specific process for every decision it makes (e.g. consensus, majority, or some other decision-making structure). | The team occasionally uses a process for making decisions (e.g. by consensus, majority, or some other decision-making structure) | The team does not use specific processes for making decisions. |
| c | Decisions made by the team are clearly and directly related to the improvement of instructional practice and student learning. | Decisions made by the team are occasionally related to the improvement of instructional practice and student learning. | Teams decisions are not related to the improvement of instructional practice and student learning. |
| d | The team regularly makes decisions about what specific instructional practices it will initiate, maintain, change and discontinue. | The team occasionally makes decisions about what specific instructional practices it will initiate, maintain, change or discontinue. | The team does not make decisions about instructional practices to initiate, maintain, change and/or discontinue. |
| e | All team decisions are informed by full group dialogue. | Most team decisions are informed by some level of group dialogue. | Team decisions are not informed by group dialogue. |
| f | All team decision-making is transparent; each member knows what the decisions are/were and how and why they were made. | Decision-making is somewhat transparent; members are aware of team decisions and how they were were made. | Group decision-making is not transparent; members are not aware of how group decisions were made. |
| g | The team regularly determines what specific instructional practice and student learning information it intends to obtain and analyze. | The team occasionally decides what specific instructional practice and student learning information it needs to obtain and analyze. | The team does not determine instructional practice and student learning information it needs to obtain and analyze |
| | **Decision-Making Total** | 21 | |

**Figure 2.** (continued)

| ACTION - Circle one box per row | | | |
|---|---|---|---|
| | 3 | 2 | 1 |
| a | Team members know the specific individual actions that they should take as a result of group dialogue and decision-making. | Most team members know the specific individual actions that they should take as a result of group dialogue and decision-making. | Team members are unaware of specific actions that they should take as a result of group dialogue and decision-making. |
| b | Intended actions to be taken by team members are high leverage (i.e. team members believe their actions will directly improve instructional practice). | Intended actions are somewhat high leverage (i.e. team members believe their actions could contribute to the improvement of instructional practice). | Intended actions are not high leverage (i.e. team members don't know how or if their actions will improve instructional practice). |
| c | Team members actions are specific and measurable/observable. | Team members actions are specific or measurable/observable. | Team members actions are not specific, nor measurable/observable. |
| d | Team member actions are coordinated and interdependent. | Team member actions are coordinated or interdependent | Individual team member actions are independent and coordinated with one another. |
| e | Action-taking is equitable among members (i.e. every member acts to improve individual instructional practice and group performance as a result of team decision-making.) | Action-taking is somewhat equitable (i.e., most members regularly take steps to improve individual instructional practice and group performance.) | Action-taking is not equitable (i.e., some members take most of the action, some take very little or none.) |
| f | The group has clear, continuous, and accessible documentation of the instructional practices that they have stopped, started and/or changed over time. | The group has some documentation of the instructional practices they have stopped, started and/or changed over time. | Little, if any, documentation exists of the practices that the group has stopped, started and/or changed over time. |
| | Action Total | | 18 |

| EVALUATION Circle one box per row | | | |
|---|---|---|---|
| | 3 | 2 | 1 |
| a | Team members collect/have access to data about the quality of their instructional practices and their students' learning. | Team members collect some/have some access to data about their instructional practices and their students' learning. | The team does not have access to data about quality of their instructional practices and/or student learning. |
| b | The team regularly analyzes the quality of their students' actual work (i.e. work completed by their students in response to their instruction). | The team infrequently examines the quality of their students' actual work (i.e. work completed by their students in response to their instruction). | The team does not examine the quality of their students' actual work (i.e. work completed by their students in response to their instruction). |
| c | The team regularly analyzes the quality of their classroom-based instructional practice. | On occasion the team will analyze the quality of their classroom-based instructional practice. | The team does not analyze the quality of their classroom-based instructional practice. |
| d | Team members regularly observe each other's classroom instructional practices, either in person or indirectly via technological means. | Team members occasionally observe each other's classroom instructional practices, either in person or indirectly via technological means. | Team members do not observe each other's classroom instructional practices, either in person or indirectly via technological means. |
| e | The team consistently generates targeted, specific, and timely feedback for team members about how to improve instructional practice and student learning. | The team occasionally generates some ideas for how team members might improve quality of instructional practice and student learning. | The team does not generate targeted, specific, and timely feedback about quality of instructional practice and student learning. |
| f | The group has clear, continuous, and accessible documentation and substantiation of how their instructional practice affects their student's learning. | The group has some documentation of how their instructional practice affects their student's learning. | The team does not document or substantiate the effects of their actions on student learning. |
| | Evaluation Total | | 18 |

**Figure 2.** (continued)

## Appendix B – Questions Posted on School Site Survey

1. I am presently a member of a high school PLC
2. I actively participate in a high school PLC;
3. I would like to participate in a study on the topic of collective efficacy in high school PLCs by engaging an interview process of 20 to 30 minutes
4. I am willing to be observed in my PLC.
5. If you answered yes to questions 3 and/or 4, please provide the contact information below:

   Name:

   Personal email address:

   Telephone number:

## Appendix C – Participant and Field Observation Tracking Table

**Participant and Field Observation Tracking Table**

| Participating High School | Interview Participant's ID # | Date and type of Interview | OB # | CDOF |
|---|---|---|---|---|
| School ID #1 | (I)1-1 | 9/4 (face-to-face Interview) | (O)1-1 | 10/1 |
| High Self-rated Average | (I)1-2 | 9/13 (face-to-face Interview) | (O)1-2 | 10/4 |
| | (I)1-3 | 10/1 (face-to-face Interview) | O)1-3 | 10/11 |
| | (I)1-4 | 10/2 (face-to-face Interview) | | |
| | (I)1-5 | 10/3 (face-to-face Interview) | | |
| School ID # 2 | (I)2-2 | 8/24 (face-to-face Interview) | (O)2-1 | 9/6 |
| High Self-rated Average | (I)2-1 | 8/24 (face-to-face Interview) | (O)2-2 | 9/7 |
| | (I)2-3 | 8/30 (face-to-face Interview) | | |
| | (I)2-4 | 9/10(face-to-face Interview) | | |
| School ID# 3 | (I)3-1 | 9/4 (face-to-face Interview) | (O)3-1 | 9/4 |
| High Self-rated Average | (I)3-2 | 9/5 (face-to-face Interview) | | |
| | (I)3-3 | 9/10 (face-to-face Interview) | | |
| | (I)3-4 | 9/24 (face-to-face Interview) | | |
| School ID # 4 | (I)4-1 | 9/18 (face-to-face Interview) | (O)4-1 | 9/11 |
| Low Self-rated Average | (I)4-2 | 9/21 (face-to-face Interview) | | |
| | (I)4-3 | 9/23 (phone Interview) | | |
| School ID # 5 | (I)5-1 | 8/28 (face-to-face Interview) | (O)5-1 | 10/8 |
| Low Self-rated Average | (I)5-2 | 9/9 (phone Interview) | | |
| | (I)5-3 | 10/9 (face-to-face Interview) | | |
| | (I)5-4 | 10/11 (phone interview) | | |
| | (I)5-5 | 10/11 (phone interview) | | |
| School ID # 6 | (I)6-1 | 9/6 (face-to-face Interview) | (O)6-1 | 10/16 |
| Low Self-rated Average | (I)6-2 | 9/4 (phone Interview) | | |
| | (I)6-4 | 10/11 (face-to-face Interview) | | |
| | (I)6-3 | 10/11(face-to-face Interview) | | |

# Appendix D – Personal Interview Questions

## Personal Interview Questions

- Tell me about your PLC experience?
- How are the PLCs organized at your school?
- Do you feel supported by your administration? Why or Why not?
- What was your initial belief about participating in your PLC and has that changed over time?
- How does participating in your PLC make you feel?
- What are your expectations of each PLC member and do they actually fulfil your expectation? Why or Why not?
- How are your PLC positions chosen?
- Do members of your PLC share their ideas/teaching methods?
- How do members of your PLC get along?
- What type of conflict(s), if any, exists in your PLC?
- Do you feel your PLC is a productive group? Why or Why not?

**Appendix E – Interview Themes with Repeated Statements for High Self Rated Schools**

| Interview Themes with Repeated Statements for High Self-Rated Schools | |
|---|---|
| **Theme** | **Repeated Statements** |
| ➢ PLCs fill an emotional gap in teachers.<br>➢ PLCs create a sense of family that support educators' passion for teaching. | • enjoyment of participation in PLCs<br>• authenticity keeps PLC in-tune<br>• teachers see one another as a caring family<br>• comradery & friendship keeps it personal relationship extend beyond school hours<br>• emotional reassurance<br>• enthusiasm & positive attitude<br>• community<br>• commitment |
| ➢ A trusting environment in PLCs breeds respect, transparency, and continuous growth.<br>➢ A trusting environment in PLCs enable acceptance, flexibility, and equity of voice among its members. | • safe & respectful environment to talk about gaps and fixes<br>• flexibility and acceptance of others point of views<br>• transparency<br>• equity of voice<br>• an explanation of the why<br>• expressed disagreement<br>• continuous growth<br>• productivity<br>• alleviate awkwardness and rigidity |
| ➢ PLCs use the collaboration tool to problem solve, find equity of voice, and to support the creativity and innovation in instruction practices<br>➢ Collaboration in PLCs enable consensus among a diverse PLC membership. | • highlight ideas<br>• support of colleagues<br>• interventions for hard to reach low performing students<br>• opportunities to meet<br>• hear what others have to say<br>• shared burden of planning<br>• cycle through and repeat<br>• voice is heard<br>• looking for trends in data analysis<br>• always powwowing<br>• all flexible, some more than others<br>• accommodating<br>• service student needs |

| | |
|---|---|
| | • brainstorming<br>• school-wide initiative focused on best practices<br>• diversity<br>• problem solving<br>• consensus<br>• everybody is opened and shares<br>• prepared to discuss successes and challenges<br>• innovations through consensus |
| ➢ Shared leadership in PLCs offer the opportunity to lead based on personal strengths to lighten the load for all PLC members, and to have an investment in the PLC.<br><br>➢ Shared leadership in PLCs allow PLC leaders to be the engine that pushes the PLC forward. | • depends on the individual group and how they want to run their PLC<br>• tired of being a PLC leader<br>• roles based on personalities of PLC members<br>• six roles that need to be rotated each nine weeks<br>• PLC leader organizes and leads the group<br>• presenter rotates with each PLC member introducing a new strategy at each PLC meeting<br>• establish strict norms of PLC behavior<br>• supports ownership and accountability<br>• spotlight leader brings a successful instructional practice or something with which they are struggling<br>• all have different strengths, and everybody leads with what they can<br>• we dictate what we need and service the needs the way that we best see fit for kids<br>• PLC leaders are the engine which is pushing us forward<br>• PLC chooses their focus based on interest<br>• everybody has an investment in the PLC<br>• all have different strengths and weaknesses<br>• consensus=ownership |

| | |
|---|---|
| | • ownership and shared responsibility to lighten the load |
| ➢ When administrators utilize shared leadership through PLCs, they encourage school-wide collaboration, foster respect, enable autonomy, and support a positive school climate. | • teachers choose PLC based on interest<br>• stress the importance of PLCs<br>• encouragement and support to collaborate and share notes school-wide<br>• positive attitude<br>• respect for the faculty and given autonomy<br>• ask for faculty input on implementation of PLCs |
| ➢ Teaches value PLCs as a resource to address their needs, give clear guidance, and supply innovational instruction practices.<br><br>➢ Teachers value PLCs as the only time they can engage in discussion, reflect with peers, grow professionally resulting in making students better students.<br><br>➢ PLCs appreciate diversity in experience and attitudes.<br><br>➢ Teachers value PLCs that are well attended, organized, and time efficient. | • how PLCs impact our teaching and student learning<br>• PLCs are about the only time when we get with our peers to talk, and brainstorm by bouncing ideas off each other<br>• proponent of getting all these diverse attitudes in reflections together<br>• always important because there are just many good ideas out there<br>• doing what we can to make ourselves better teachers resulting in making students better students<br>• more useful when you are talking with your colleagues about where your kids are at, what you are seeing, what you can do differently<br>• more comfortable so we will do a better job at having more important talks<br>• without productive communication, I do not think anybody would do very well.<br>• PLCs have always been necessary<br>• identify the problems and as resource for our classroom<br>• PLCs have become a useful and contributed to our professional development |

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| | • a good mix of teachers that bring a lot of different experiences and ideas on how to reach students based on the experience<br>• make PLCs priority<br>• organized roles, enough time to plan, meet with 100% attendance, they would be wonderful and beneficial<br>• I don't have time, if I don't know what the value is<br>• not that it does not have any value at all, but it just not what I really need<br>• We must value what we are doing. When we don't, it causes frustration and conflict.<br>• I felt like there was a clear distinct result every time you came out of a PLC<br>• prioritization of PLC attendance<br>• guidance and productive discussion increase effective use of time<br>• no teaching experience—PLC helped a great deal |
| ➢ New teachers to the content area or school sites value the PLC as a strong support system. | • PLCs are a good time to talk to new teachers<br>• new teachers get acquainted with cross-curriculum PLCs – put names to faces<br>• PLC helped me feel a little bit more comfortable with the content because it was something new to me.<br>• PLC members are always there to give me resources or ideas for activities that I can do, so they were like my saving grace<br><br>• PLCs are a cold towel on my brow. It helps me catch my breath. It gives me my pulse back.<br>• It was good for me to have a PLC because I was not familiar with the curriculum. It was good especially for new teachers to have a PLC. |

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| ➢ PLCs must recognize the many the different personalities by being open-minded and flexible with the realization that ideas can be subjective.<br><br>➢ PLC must accept that sometimes members just need a place to vent, and disagreements are part of the journey to professional development.<br><br>➢ Attendance in a PLC seems to be the biggest concern and must take a priority over other school duties and events.<br><br>➢ Animosities, condescension, a fixed mindset, cliques, avoidance, and frequent faculty turnover can be detrimental to PLC effectiveness | • disagreements part of the journey<br>• different personalities make up a PLC<br>• ok to questions someone because you disagree<br>• animosities, but still professional<br>• difference of opinion<br>• ideas can be subjective<br>• other school events and duties prioritize over attending PLCs<br>• condescension among PLC members<br>• PLCs sometimes have very different ideas about how we are going to be successful<br>• agree upon strategy or instructional practice must fit each of us because we are not identical cookie cutter teachers<br>• fixed mindset<br>• the big thing: be there and participate<br>• cliques in PLCs<br>• lot of turn overs in PLCs are not beneficial<br>• development problems because of pedagogical differences<br>• a lot of hens and the hens just pecked each other<br>• PLC members left behind<br>• avoidance<br>• address hurts of the past as a PLC<br>• talk no action |
| ➢ PLC members feel the time constrains as they are pulled in many different directions with many responsibilities challenging the effectiveness of PLC performance. | • never enough time<br>• collecting data and pouring over data takes time<br>• when the meeting is being held a big hump that teachers are trying to get over<br>• time constrains, and time is precious<br>• the time restrictions make things impossible<br>• people are pulled into many different places with too many different things on their plate |

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| ➢ Administrations strict adherence to PLC structure sometimes gets in the way of PLC effectiveness. | • no disillusions-politics= frustration<br>• administration dictates what and how to implement PLCs<br>• impossible to execute expectations<br>• compliance with administrative expectations<br>• administration does to expect all faculty to attend PLCs<br>• must do PLC even if you are not trained to implement PLCs<br>• PLCs are required. If you opt out, you must supply a reason I am not here.<br>• administration checking for fidelity to SIP goals<br>• administration micro manages and commandeers everything in PLCs |
| ➢ PLC members accept false concepts of PLC ideology as truth. | • compliance is productive<br>• only focusing on data is productive<br>• productivity is what we are physically doing<br>• PLCs always based in subject area<br>• grouping content PLCs for effectiveness |
| ➢ PLC member know they are not experiencing an authentic PLC. | • meeting just to meet is not a valuable use of our time<br>• not even planning. It was just a calendar meeting<br>• we do not really understand the value of what we are doing<br>• not going to participate<br>• students not valuable<br>• a venting session<br>• PLCs start out stronger than they end<br>• lack of communication<br>• don’t know the value |

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| ➢ PLC member express a deep understanding of PLC concepts. | • meeting to help us with instruction<br>• meeting to understand where the deficiencies are in our students<br>• more of that Plan-Do-Check-Act model<br>• whole point of this is to do it for your students, and to get better at teaching students<br>• the attitude to do better for your students<br>• come back to the entire school community and share the best practices they researched<br>• talk about how we were going to use the planning in our classroom<br>• PLC decides what would work for their group |

**Appendix F – Interview Theoretical Constructs with Themes for High Self-rated Schools**

| Interview Theoretical Constructs with Themes for High Self-rated Schools | |
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| **Theoretical Construct** | **Themes** |
| ▸ PLCs fill an emotional gap in teachers | • PLCs fill an emotional gap in teachers.<br>• PLCs create a sense of family that support educators' passion for teaching.<br>• A trusting environment in PLCs enable acceptance, flexibility, and equity of voice among its members.<br>• PLCs use the collaboration tool to problem solve, find equity of voice, and to support the creativity and innovation in instruction practices<br>• Shared leadership in PLCs offer the opportunity to lead based on personal strengths to lighten the load for all PLC members, and to have an investment in the PLC.<br>• Shared leadership in PLCs allow PLC leaders to be the engine that pushes the PLC forward.<br>• New teachers to the content area or school sites value the PLC as a strong support system.<br>• PLC must accept that sometimes members just need a place to vent, and disagreements are part of the journey to professional development. |
| ▸ A trusting environment in PLCs breeds respect, transparency, and continuous growth. | • A trusting environment in PLCs breeds respect, transparency, and continuous growth.<br>• Collaboration in PLCs enable consensus among a diverse PLC membership.<br>• When administrators utilize shared leadership through PLCs, they encourage school-wide collaboration, foster respect, enable autonomy, and support a positive school climate. |

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| | • PLCs appreciate diversity in experience and attitudes.<br>• Teachers value PLCs that are well attended, organized, and time efficient.<br>• Attendance in a PLC seems to be the biggest concern and must take a priority over other school duties and events.<br>• PLC member know they are not experiencing an authentic PLC.<br>• PLC member express a deep understanding of PLC concepts.<br>• Teaches value PLCs as a resource to address their needs, give clear guidance, and supply innovational instruction practices.<br>• Teachers value PLCs as the only time they can engage in discussion, reflect with peers, grow professionally resulting in making students better students. |
| ➢ The Physical and emotional resistance of PLCs challenges the social context of this learning community. | • Turnover can be detrimental to PLC effectiveness<br>• PLC members feel the time constrains as they are pulled in many different directions with many responsibilities challenging the effectiveness of PLC performance.<br>• Administrations strict adherence to PLC structure sometimes gets in the way of PLC effectiveness.<br>• PLC members accept false concepts of PLC ideology as truth. |

**Appendix G – Field Observations & Sociogram Results for High Self-rated Schools**

| Field Observations & Sociogram Results for High Self-rated Schools | |
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| **Field Observation Themes** | **Field Observations Repeated Statements** |
| ➢ Emotional struggles occur in PLC, but members enjoy the comradery | • enjoyment and love expressed<br>• laughter<br>• enthusiasm<br>• friendly<br>• encouragement<br>• confusion<br>• comradery<br>• emotional struggles |
| ➢ PLCs foster equity, affirmation, empowerment, and creativity | • sharing<br>• approval<br>• empowerment<br>• sharing<br>• grassroots new PLC<br>• affirmed one another by acknowledging good ideas and effort<br>• reflection<br>• agree to try<br>• teambuilder activity<br>• equity<br>• affirmation<br>• connections |
| ➢ Collective efficacy plays role in the mission of a PLC | • PLC were created based on personal interest connected to SIP goals<br>• PLC members want to keep it simple<br>• try and take the pressure off students<br>• PLC members on a mission to try<br>• believe in one another (collective efficacy) |
| ➢ Collaboration in a PLC has a positive impact on the quality of academic PLC conversations | • PLC members opened to feedback from other members<br>• engaged in collaboration noting that PLC members that share students noticed that their teachers knew what was happening in one another's classes |

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| | • positive impact through discussion<br>• equity of voice<br>• free communication<br>• use of academic language in PLC conversations<br>• redirection of conversation<br>• consensus<br>• shared metacognitive concepts (unconscious competency, conscious competency)<br>• deep discussion<br>• PCL members conferencing with one another<br>• all PLC members faced one another in somewhat a circle with only teacher, participant F was on quite in the circle as she was a guest to this observed PLC meeting<br>• PLC members faced one another in a circle |
| ➢ Deep discussion within a PLC has a positive impact on instructional practices affecting support for student learning. | • discussion instructional strategies that worked and what did not<br>• respond to the better use of instructional strategies<br>• revision of instructional practices<br>• discussion revision of instructional practices based on student test data<br>• how do we change our instructional practices?<br>• modify instructional practices based on PLC recommendations<br>• discussion of the classroom uses of rubrics<br>• discussion of pictures to support inference<br>• discussion of how to get students to a better place by repeating concepts until they get it<br>• discussion to look at common mistakes in writing that students make and create a bookmark to support student leaning to be utilized in all their classes<br>• discussion of cognitive loading |

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| | • deep discussion<br>• discussion<br>• teachers talk about student progress<br>• discussion<br>• discussion of cognitive loading |
| ▸ PLCs have expectation which include shared responsibility, engage in dialogue to share ideas, strategies, and reflect to make decisions resulting in the implementation of intervention and instructional practices. | • expectations<br>• share strategies<br>• free dialogue<br>• share strategies<br>• PLC members share<br>• identify students that PLC members share<br>• interventions<br>• agreed to try<br>• decision making<br>• shared conclusion and reflections<br>• shared responsibility<br>• shared classroom experiences<br>• shared how each member will implement gradual release model<br>• PLC members find research article on chosen topic and focus on student data<br>• cooperative effort for data analysis<br>• PLC agreed to increase communication and organization with students by doing weekly data chats |
| ▸ PLC members use consensus to problem solve and support one another | • Participant B asked for advice on how to handle independent reading<br>• PLC members shared struggles with student writing<br>• PLC member address participants request for help with independent reading by suggesting a reading log<br>• productive discourse on how to teach voice in writing<br>• consensus on instructional practice, gradual release model, but not all members have to implement in the same way<br>• PLC members as for professional advice from other PLC members “Let me know what you all think about |

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| ➢ PLCs sometime use their PLC time to vent and take care of housekeeping issues, but it does not dominate the meeting. | • not focused on instructional practices—housekeeping – discussion about projectors<br>• most of the meeting focused on housekeeping issues<br>• a portion of PLC meeting focused on fire drill procedures<br>• mostly focus on housekeeping and implementation of assessments—how to administer and score baseline writing<br>• housekeeping not the focus, but embed within the discussions focused on instructional practices |
| ➢ PLC demonstrate different levels of member engagement. | • general comments – some members were reserved in the PLC discussion<br>• facilitator had to prompt other member to engage them in the discussion<br>• not all members fully engaged<br>• one member responded one and only when prompted<br>• participants G, H, and I mostly spectators making one or two comments only<br>• participants D, E and F only reported out to PLC facilitator in response to her prompt<br>• PLC in developmental stage<br>• PLC focus on curriculum and data only<br>• PLC focused mostly on writing data<br>• one PLC member presented an instructional strategy<br>• one PLC member presented instructional strategy with no intended purpose<br>• PLC meeting mostly procedural and focused on compliance<br>• mostly surface discussion<br>• surface level discussion<br>• participant D, E, and F not fully engaged |
| ➢ The greatest challenge for PLC members included PLC regular attendance, | • most members did not attend<br>• participant D arrived ten minutes late |

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| tardiness, and leaving before the PLC meeting is completed. | • one PLC member arrived ten minutes late and another left fifteen minutes into the PLC meeting for morning duty<br>• members arrived late and left early<br>• participant D arrived ten minutes late to PLC meeting and missed discussion |

| **Sociogram Themes** | **Sociogram Repeated Ideas** |
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| ➢ One or two PLC members engage in strong interactions with all PLC members | • (O) 1-2 participant A- emergent influential member and participant B- PLC Facilitator had strong interactions with all the other PLC members<br>• (O) 1-1 Participant A - PLC Facilitator had strong interactions with all the PLC members<br>• (O) 1-3 participant A- emergent influential member strongly interacted with all PLC members<br>• (O) 1-3 participant B -PLC Facilitator strongly interacted with all PLC members<br>• (O) 1-3 participant C - emergent influential member strongly interacted with all PLC members<br>• (O) 1-3 participant D -emergent influential member strongly interacted with all PLC members, even though he arrived ten mins. late<br>• (O) 1-2 participant E - emergent influential member arrived late but became immediately engaged |
| ➢ One PLC member engage in strong interactions with two to four other PLC members. | • (O) 1-2 participant F - assigned influential member strongly interacted with participant A & E both emergent influential members<br>• (O) 1-2 participant C - emergent influential member strongly interacted with participant B, D, & A all emergent influential members<br>• (O) 1-2 participant D emergent influential member strongly interacted |

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| | with participants D, A, E – all emergent influential members & F- assigned influential member<br>• (O) 1-1 participant B emergent influential member had strong interactions with participants C – assigned influential member and A PLC facilitator<br>• (O) 1-1 participant C – assigned influential member had strong interactions with participant A – PLC Facilitator and F-assigned influential member<br>• (O) 1-1 participant E – compliant members had strong interactions with F – assigned influential member,<br>• (O) 1-1 participant F – assigned influential member had strong interactions with participant C – assigned influential member, and A-PLC facilitator, E – compliant member, I – compliant member,<br>• (O) 1-1 participant J – assigned influential member had strong interactions with participant A – PLC Facilitator,<br>• (O) 1-1 participant I compliant member had strong interactions with participant F – assigned influential member<br>• (O) 2-1 participant B – emergent influential member had one-way strong interactions with participant A<br>• (O) 2-1 participant B had a strong interaction with C – PLC facilitator<br>• (O) 2-2 participant E emergent influential member had strong interactions with participants D- PLC facilitator, A- compliant member, B - compliant member<br>• (O) 3-1 Participant A emergent influential member had strong interactions with participants C- PLC facilitator<br>• (O) 3-1 participant C- PLC facilitator had strong interactions with participants A - |

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| | emergent influential member, & E- assigned influential member<br>• (O) 3-1 participant D – compliant member had weak interactions with participants E- assigned influential member, A emergent influential member, & C – PLC facilitator<br>• (O) 3-1 participant E – assigned influential member had strong interactions with participants A- emergent influential members, C- PLC facilitator & D- compliant member. |
| ▸ One PLC member has strong interaction with certain other PLC member, but a one-way communication or weak interactions with other others. | • (O) 2-1 participant G – compliant member had weak interactions with participant F and A- compliant member<br>• (O) 2-1 participant B emergent influential member had strong interactions with participant A compliant member, & C – PLC facilitator but a one-way communication with participant F- compliant member & E compliant member<br>• (O) 2-1 participant C PLC facilitator had strong interactions with B -emergent influential member & G but only one-way communication with participant D, E & F<br>• (O) 2-1 participant C PLC facilitator had weak interactions participant G and a one-way communication with participant D, E, F all compliant members<br>• (O) 1-1 PLC member create an inner circle of members with three outliers to the right of the inner circle—those three PLC members not engaged – only respond to prompts<br>• (O) 1-1 Some PLC members have weak interactions with other members or not interaction at all.<br>• (O) 2-1 participant D – compliant member had a weak interaction with participants C PLC facilitator, & E compliant member, and no interactions with other members |

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| | • (O) 2-1 participant E had a weak interaction with participants C- PLC facilitator, D- compliant member & F- compliant member and no interaction with the rest of the PLC members<br>• (O) 2-1 participant F had a weak interaction with participants G & E and no interaction with the rest of the PLC members |
| ▸ PLC members respect other members because of their depth of knowledge and their willingness to share that knowledge, which makes them influential to the PLC | • (O) 1-2 respect from other PLC members made participants A an influential member because of the knowledge shared<br>• (O) 1-3 respect from other PLC members made participants D an influential member because of the knowledge shared<br>• (O) 2-1 respect from other PLC members made participant B an influential member because of the knowledge shared<br>• (O) 2-2 respect from other PLC members made participant E an influential member because of the knowledge shared<br>• (O) 3-1 respect from other PLC members made participant A an influential member because of the knowledge shared |
| ▸ PLC members respect the role of PLC facilitator, which makes that person influential to the PLC. | • (O) 1-3 respect for the PLC facilitator position from other PLC members made participant B an influential member<br>• (O) 1-2 respect for the PLC facilitator position from other PLC members made participant B an influential member<br>• (O) 1-1 respect for the PLC facilitator position from other PLC members made participant A an influential member<br>• (O) 2-1 respect for the PLC facilitator position from other PLC members made participant C an influential member<br>• O) 2-2 respect for the PLC facilitator position from other PLC members made participant D an influential member |

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| | • (O) 3-1 respect for the PLC facilitator position from other PLC members made participant C an influential member |
| ▸ One PLC member has weak interactions or one-way communication where they are only sending or receiving information with one or more PLC members | • (O) 1-2 participant F -assigned influential member had a weak interaction with participant D – emergent influential member<br>• (O) 1-1 participant C- assigned influential member had a weak interaction with participant I<br>• (O) 1-1 participant F- assigned influential member had a weak interaction with participant J – complaint member<br>• (O) 1-1 participant H- compliant member had a weak interaction with participant I<br>• (O) 1-1 participant E- compliant member had a weak interaction with participant D – compliant member<br>• (O) 2-1 participants D, E, F & G all had weak interactions with one another<br>• (O) 1-2 participant F- assigned influential member only received information from participant B- PLC facilitator<br>• (O) 2-1 participant D -complaint member had only a weak communication with participant E- compliant member<br>• (O) 2-1 participant E-complaint member had a weak one-way communication with participant B emergent influential member by only receiving information<br>• (O) 2-2 participant D- PLC facilitator had a one-way communication with participant B- compliant member<br>• (O) 2-2 participant B- compliant member had a weak one-way communication with participant C – compliant member<br>• (O) 2-1 several one-way communications<br>• (O) 3-1 participant E – assigned influential member had weak interactions with B – compliant member |

- (O) 3-1 participant B-compliant member had weak interactions with participants A assigned influential member C & E assigned influential member
- (O) 3-1 Participant A emergent influential member had one- way interaction with D- compliant member
- (O) 3-1 Participant A emergent influential member had a weak interaction with E – assigned influential member
- (O) 1-1 participant F – assigned influential member had weak interactions with participant, and J – compliant member
- (O) 1-1 participant D compliant member had weak interactions with participants A – PLC facilitator, H – compliant member, G – compliant member, and E compliant member.
- (O) 1-1 participant G complaint member had weak interactions with participants A – PLC facilitator, and H compliant member
- (O) 1-1 participant H – compliant member had weak interactions with participant A PLC facilitator, and D – compliant member
- (O) 1-1 participant H – compliant member had a negative interaction with G- compliant member
- (O) 1-1 participant E – compliant members had weak interactions with participant D – compliant member, J – compliant member, and A – PLC facilitator

**Appendix H – Field Observation & Sociogram Results for High Self-rated Schools**

| Field Observation & Sociogram Results for High Self-rated Schools | |
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| **Theoretical Constructs** | **Themes** |
| ▸ Emotional struggles occurred in PLC, but members enjoyed the comradery | • Emotional struggles occur in PLC, but members enjoy the comradery<br>• PLCs sometime use their PLC time to vent and take care of housekeeping issues, but it does not dominate the meeting.<br>• PLC demonstrate different levels of member engagement.<br>• The greatest challenge for PLC members included PLC regular attendance, tardiness, and leaving before the PLC meeting is completed.<br>• One PLC member has weak interactions or one-way communication where they are only sending or receiving information with one or more PLC members<br>• One PLC member has strong interaction with certain other PLC member, but a one-way communication with other others.<br>• One PLC member has weak interactions or one-way communication where they are only sending or receiving information with one or more PLC members |
| ▸ Collective efficacy played a role in the mission of a PLC by fostering equity, affirmation, empowerment and creativity. | • PLCs foster equity, affirmation, empowerment, and creativity<br>• Collective efficacy plays role in the mission of a PLC<br>• Collaboration in a PLC has a positive impact on the quality of academic PLC conversations<br>• Deep discussion within a PLC has a positive impact on instructional practices affecting support for student learning. |

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| | • One or two PLC members engage in strong interactions with all PLC members<br>• One PLC member engage in strong interactions with two to four other PLC members.<br>• PLC members respect other members because of their depth of knowledge and their willingness to share that knowledge, which makes them influential to the PLC<br>• PLC members respect the role of PLC facilitator, which makes that person influential to the PLC. |
| ▸ Theoretical Constructs: The PLCs shared responsibility, engaged in dialogue to problem solve, and used consensus to make decisions. | • PLCs have expectation which include shared responsibility, engaged in dialogue to share ideas, strategies, and reflect to make decisions resulting in the implementation of intervention and instructional practices<br>• PLC members use consensus to problem solve and support one another |

## Appendix I – Interview Text Analysis for Low Self-rated Schools

**Interview Text Analysis for Low Self-rated Schools**

| Theme | Repeated Statements |
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| ➢ Although some PLC members feel the benefit of comradery, most feel overwhelmed, frustrated, uncomfortable, and stressed.<br>➢ Some PLC members feel unconnected, distracted, burned out, and threatened.<br>➢ PLC members realize that they must have growth mindset to be able to fully appreciate the power of positive energy of a PLC.<br>➢ PLC members need to feel reassurance from their PLC<br>➢ New PLC member express confusion when they first join a PLC but become acclimated and feel more comfortable as the connect to other members. | • fixed mindset vs. growth mindset<br>• comradery benefits the group<br>• frustrating<br>• more social, but nobody is really interested<br>• lot of confusion first<br>• beneficial<br>• Intense top down pressure<br>• not so intimidating<br>• happy<br>• hard<br>• helpful<br>• overwhelmed<br>• uncomfortable<br>• become acclimated and feel much more comfortable.<br>• awkward<br>• venting<br>• anger<br>• good impression or to feel a little bit better about themselves<br>• teachers cry like babies.<br>• Failure<br>• first started, it is great<br>• threatened<br>• need to be heard<br>• nails on a chalk board<br>• burned-out<br>• get emotions out.<br>• having a hard time<br>• opened minded<br>• PLCs- very data driven -result in – resentment, complaining, negative feelings<br>• not take PLCs very seriously<br>• sure whatever” attitude<br>• recognize this mindset as a barrier, and I was able to adjust |

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| | • refreshing |
| ➢ PLC is a safe place where teachers can be honest, show their vulnerabilities, and can depend on other members.<br>➢ Responsible PLC members discover support, comfort, and reassurance in the authentic climate of a PLC | • safe place<br>• transparent<br>• Show vulnerabilities<br>• Respect<br>• honest and vulnerable<br>• supported<br>• comfortable<br>• responsibility<br>• depends on PLC members<br>• reassurance<br>• authentic |
| ➢ PLC members see the PLC as a resource appreciating the group discussion and sharing with their colleagues as they always learn something new that was not even in their perspective to improve their teaching experience.<br>➢ PLC members feel that it is ok not to always agree.<br>➢ PLC members find cross-curriculum PLCs most effective | • PLC members can pull out something out of the data you never saw<br>• I like most about the PLC experience is that PLC members are really sharing and collaborating with each other.<br>• I still get new stuff from other teachers<br>• another resource<br>• talk to people and everyone shares things<br>• PLC members did not agree with me, it was ok.<br>• improve that teachers experience<br>• monitor interventions for specific students.<br>• each PLC would collaborate on a section of the SIP<br>• the most effective PLC we had was the year that it was cross content<br>• I like hearing from other teachers and what they are doing.<br>• commonality in PLCs that everybody shares their own teaching methods<br>• present to the group and they talk about strategies on how to make it better<br>• we talk about what content we are teaching that week |

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| | • interaction and bouncing off the ideas and digging.<br>• I did learn something new and I ended up changing what I am doing my class because of it<br>• I shared my ideas with them, and they were opened to me<br>• when it clicks, and everybody is there, it can be great<br>• we have control over how we teach it, so let us talk about what works with this class as opposed to this class<br>• the most remarkable take away was in that discussion nobody was complaining<br>• I think that is us trying to be authentic to what we think it should be<br>• patient with the presenter<br>• meeting as a larger more mixed group<br>• share a strategy<br>• teachers feel comfortable talking to each other in PLCs and that is important to make sure that we keep all our teachers |
| ➢ An artificial PLC climate becomes apparent when the PLC leader implements forced presenter rotations.<br><br>➢ An artificial PLC climate becomes apparent when the PLC leader forces socialization among members and feels that it is their duty to develop relationships and trust in the PLC.<br><br>➢ An artificial PLC climate becomes apparent when the PLC leader does all the work in a PLC and feels the stress of accountability. | • PLC leaders are rotated engaged because they are the leader<br>• it is leadership and how it is run<br>• PLC leader would like us to be more social<br>• develop trust and relationship with my individual teachers<br>• PLC leader sometimes brings me down because it requires me to be accountable to my peers.<br>• PLC members to attend and contribute at least one thing. I should not have to coordinate everything.<br>• initiate agenda items and not to be arrogant |

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| | • everything that happens deals with leadership--need one person who can keep everybody on track and send out the same set of notes, so that everything is consistent |
| ➢ PLCs welcome diversity as members see each other as experts in their fields as each member brings a different perspective and that is just fine.<br><br>➢ PLC members feel responsible for one another, especially the new teachers.<br><br>➢ Different PLC members regularly rotate the presenter's role as it encourages leadership and give a specific focus for PLC meetings. | • ESE teachers bring into the PLC is that we have experience and knowledge to modify the curriculum and make accommodation for the students.<br>• we can encourage each other and work with our small groups<br>• the presenter facilitates the meeting<br>• every person sitting there is an expert in the field. They just have a different perspective than I do, and that is fine.<br>• ESE teachers should PLC with content areas<br>• they might go to the PLC leader, or to other PLC members<br>• I like the rotation because I came in and I knew I had a purpose<br>• when I was PLC leader, the best way I could describe it the new people were my responsibility. |
| ➢ Most administration support school site PLCs by scheduling PLCs during the school day. | • PLCs are standard and built into our scheduled school time<br>• the administration purposefully gave us common planning time<br>• that would allow us the freedom in our schedule to be able to get together |
| ➢ PLCs have been in the corporate world for eyes, they focus on research and problem solving. | • learning groups<br>• depends discussion<br>• people from different parts of the organization or individuals from the same department solve a problem<br>• in corporate we worked on things that impacted the whole organization |

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| | • dig-find the problem-solve it<br>• most people who understand PLCs are people who have been outside of education because they have a broader vision |
| ➢ PLCs are not a waste of time because in the end I have more time because we have that experience.<br><br>➢ PLC members express that their PLC is having the discussion that makes the difference, and sometimes share the same student, which makes discussion and outcomes much more valuable. | • it is not a waste of time because in the end I have more time because we have that experience<br>• get valuable input from them, as you may share the same students<br>• you know over the years as I have gained more experience, I realized the value and that you need to dig in<br>• discussion that makes a difference |
| ➢ It is the PLC's job to care for new teachers/teacher new to the content, and they appreciated the support where they can be heard and get clarification. | • PLCs help new teachers who are struggling. I think PLCs are a place where new teachers can come, share, and get support.<br>• PLCs are making a difference when it comes down to new teachers.<br>• in PLCs we could get clarification<br>• when I brought of my concerns everyone listened and I got responses, feedback and support<br>• tons of resources and tons of where to go for questions<br>• the newbies have got to feel supported and that is the job of the PLC<br>• I find PLCs very helpful and informative especially coming into the VE English<br>• gives me a lot of resources.<br>• very much informative |
| ➢ PLC members indicate challenges, especially regular attendance, the views of new teachers vs. old teachers, punctuality, increased role of the PLC leader, too much venting and competitiveness. | • regular attendance<br>• colossal waste of time<br>• venting session<br>• authoritative leadership of PLC leader and PLC members<br>• isolation is common in cross-curriculum PLC-- I would now like |

- PLC member find PLC a waste of time when they are forced to comply with regulation and not address the authentic needs of students.
- The diversity in personalities in PLC can cause friction within PLC limiting the opportunity for PLC members to experience a functional PLC.
- The lack of trust, organization, and enthusiasm within a PLC barricades member from collaborating.
- PLC member emphasize no equity of voice to show respect for all members, especially new teachers.

some time to work on my own curriculum

- PLC leader is doing it all
- new teachers vs. old teachers
- competitiveness - you are going to try and kiss somebodies butt
- more complying than valuing what we do in the PLC.
- don't show up to the PLCs
- never really experienced a fully functioning PLC
- teachers are not willing to accept initiatives
- no equity of voice
- I think there are like factions in our PLC. There are those PLC members who don't like the PLC leader
- lot more of a positive experience, if my co-workers shared the same level of enthusiasm
- no organization
- no trust between PLC members
- push back—PLC member resist sharing ideas
- veteran teacher feel they have nothing to learn and gain
- some PLC members do not pay attention or participate much
- noticeable tension between PLC members--not going to be addressed
- several personal/professional disagreements or issues that exist in the PLC
- PLC members mask their true state creating a stressful PLC climate
- PLC fell apart – no focus - disorganized
- PLC leader doesn't start the PLC effectively and move it along like it should be
- having trouble getting people to show up on time.

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| | • conflict with PLC leader<br>• big conflict - punctuality<br>• cancelled the meeting<br>• negative attitude – feeling defeated<br>• personality conflicts<br>• no shows - hard to articulate what that conversation was about<br>• no respect-- treat him like he is useless<br>• I don't want to feel like the guy that holds everyone accountable |
| ➢ Authoritative leadership stifles PLC progress resulting in most PLCs just complying with directives from administration<br>➢ Authoritative leadership fosters resentment, and frustration resulting in low productivity in PLCs.<br>➢ PLC members feel powerless when authoritative leadership from administration take hold.<br>➢ Authoritative leadership demonstrates a weakness in trust and expresses no respect for the faculty on campus.<br>➢ Authoritative leadership create stress for PLC leaders to the extent that some PLC leader feel intimidated resulting in underperformance.<br>➢ PLC members wish administration would trust PLCs to manage their time wisely to affect the best results. | • AP and department heads monitor PLC on regular basis<br>• administration monitors PLC attendance<br>• another thing that the district is doing<br>• must submit PLC log to administration<br>• administration brings everyone on board, they make sure that they are ok with the PLC process and they understand that it is the part of the school culture.<br>• mandate that for 45 mins we would be at PLCs for two times a week<br>• they just want to see what the teachers are doing<br>• got to answer to somebody<br>• not actively seeking feedback<br>• she has someone she has to report to for accountability<br>• department head designate PLC leaders<br>• no respect for teachers-- The department head doesn't give you the courtesy of a phone call to tell you.<br>• I mean they get frustrated with administration. For example, during our PLC time announcements keep getting made |

- I do not necessary feel supported by them constant supervision-- very authoritative type of leadership.
- always feel like there is a trick
- I don't have a positive feeling. At this point, I am going through the motions of getting it done, and no support.
- compliance - meet just to meet and put a little check to say that we meet this month because if we didn't have anything to talk about.
- I just don't feel that there is any input, or I have any control or say so on what happens in the PLC. They give us the time to do it.
- The thing at this school is that they like to rotate the chair every year. They don't like to keep the same person for chair each year. This causes resentment among the other teachers.
- PLC in the school district that was not productive, the District felt like they owned it.
- we get done what needs to get done, but I don't always agree that what needs to be done needs to be done.
- you would be told
- the administration wants PLCs to submit this form, so what am I typing on this paper
- the task it seems to be a redundant process
- to say they are supporting us… we are not really asking for anything. It is more like we are producing for them
- Of course, administrators endorse PLCs. They need to check off the "yes, my teachers are doing it."

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| | • The more regulated it gets, the more data driven it is, the less effective it is<br>• The administrator has too much control.<br>• The administrators are assigned to us, but the one assigned to us has not come by at this point and didn't come by last year because they got overwhelmed. We had to talk about the required student engagement topic, so we could not talk about the topic which really needed to be addressed.<br>• I was intimidated. Especially, when I was subject area leader, I feel there was a lot of pressure--Like I had to set up the notes and getting it submitted.<br>• Protect the time. Give us our time and don't keep interrupting our meetings.<br>• You should be trusted to manage your time wisely |
| ➢ PLC member find the when, where to meet for PLCs to be a challenge; furthermore, enough time for deep discussion sometimes causing low performance of PLC decisions and actions. | • I did not want it to be a time waster, but I found it is<br>• the morning, when you just walk in the door, is not a real good time |
| ➢ Teachers believe that a PLC must be focused on curriculum to be productive.<br>➢ Teachers believe that a PLC must always analyze data to be productive. | • there is not a value system because everybody teachers a different way.<br>• I don't like the idea of having a chair for PLC. I think that takes away from the collegiality.<br>• the school are organized through content area and I hear they are much more effective.<br>• the whole point of PLCs was to look at data and make teaching more effective for both the teacher and the student.<br>• As time went on and as we got more guidance. We learned it is a |

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| | very data driven meeting to best support our students. |
| ➢ PLC member acknowledge that their PLC are not productive, when run inefficiently.<br>➢ PLC member acknowledge that the administrations understanding of a PLC is crucial to the successful school-wide implementation of PLCs. | • A PLC is a Professional Learning Community, people who don't think they have anything to learn, then it is a failure. It is not working.<br>• a very effective tool, and over time is now a completely useless tool. I honestly don't feel like the school understands what a PLC is really supposed to be<br>• not even a PLC it is just a meeting<br>• if we are meeting and we don't really have a focus, it is a waste of time.<br>• if they don't get a sense of collegiality and they don't get a sense that "we are in this together and what can we improve?"<br>• the more important the data became with the district the less effective I felt PLCs became<br>• some teachers may not have had the correct professional development experience and/or understanding of why?<br>• A PLC is only effective if it is a tool and if it is not being used as a tool it is not effective |
| ➢ PLC member acknowledge that a PLC is a collegiate institution.<br>➢ PLC members express their awareness of the meaningful and continuous progress of PLC admonishing the compliant and the authoritative leadership style. | • goes back to the collegiality. If there was this sense of progress and we are doing something meaningful here<br>• PLCs should really be everybody coming in contributing. It should not be a presentation where we are sharing information and we will take your feedback<br>• My biggest thing is that it can work. It really can. When I say it must be structured? I don't mean a check list from administration of all the things. |

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| ➢ Teachers acknowledge that training in the PLC concept will make the implementation of PLC easier resulting in a higher success rate and increase teacher buy-in. | • very efficient tool to figure out what the teachers needed and what trainings they needed.<br>• PLC member need to all be trained in PLCs<br>• now that we have learned what to do with it, it has become easier.<br>• some department would benefit from more PD and a little bit more buy in. |

## Appendix J – Interview Text Analysis for Low Self-rated Schools

| Interview Text Analysis for Low Self-rated Schools | |
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| **Theoretical Construct** | **Themes** |
| ▸ Although PLC members appreciate the benefits of comradery in PLCs, they encountered stress, feeling overwhelmed, frustrated, and uncomfortable. | • Although some PLC members feel the benefit of comradery, most feel overwhelmed, frustrated, uncomfortable, and stressed.<br>• Some PLC members feel unconnected, distracted, burned out, and threatened.<br>• New PLC member express confusion when they first join a PLC but become acclimated and feel more comfortable as the connect to other members. |
| ▸ PLC members must have a growth mindset to be able to fully realize the power of the positive energy of a PLC. | • PLC members realize that they must have growth mindset to be able to fully appreciate the power of positive energy of a PLC.<br>• PLC members need to feel reassurance from their PLC<br>• PLC is a safe place where teachers can be honest, show their vulnerabilities, and can depend on other members.<br>• Responsible PLC members discover support, comfort, and reassurance in the authentic climate of a PLC<br>• PLC members see the PLC as a resource appreciating the group discussion and sharing with their colleagues as they always learn something new that was not even in their perspective to improve their teaching experience.<br>• PLC members feel that it is ok not to always agree.<br>• PLC members find cross-curriculum PLCs most effective<br>• PLCs welcome diversity as members see each other as experts in their fields as each member brings a different perspective and that is just fine. |

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| | • PLCs are not a waste of time because in the end I have more time because we have that experience.<br>• PLC members express that their PLC is having the discussion that makes the difference, and sometimes share the same student, which makes discussion and outcomes much more valuable.<br>• It is the PLC's job to care for new teachers/teacher new to the content, and they appreciated the support where they can be heard and get clarification.<br>• PLC member acknowledge that a PLC is a collegiate institution.<br>• Teachers acknowledge that training in the PLC concept will make the implementation of PLC easier resulting in a higher success rate and increase teacher buy-in.<br>• PLC members express their awareness of the meaningful and continuous progress of PLC admonishing the compliant and the authoritative leadership style.<br>• PLCs have been in the corporate world for eyes, they focus on research and problem solving. |
| ▸ When a forced artificial climate becomes status quo, the PLC members find PLCs a waste of time and stressful. | • An artificial PLC climate becomes apparent when the PLC leader implements forced presenter rotations.<br>• An artificial PLC climate becomes apparent when the PLC leader forces socialization among members and feels that it is their duty to develop relationships and trust in the PLC.<br>• An artificial PLC climate becomes apparent when the PLC leader does all the work in a PLC and feels the stress of accountability.<br>• PLC member find PLC a waste of time when they are forced to comply with regulation and not address the authentic needs of students. |

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| ➢ PLC members feel responsible for one another, especially new teachers. | • PLC members feel responsible for one another, especially the new teachers.<br>• Different PLC members regularly rotate the presenter's role as it encourages leadership and give a specific focus for PLC meetings.<br>• PLC member emphasize equity of voice to show respect for all members, especially new teachers. |
| ➢ Even with administrative support, PLC members still find it challenging to meet and mage their time for deep discussion. | • Most administration support school site PLCs by scheduling PLCs during the school day.<br>• PLC member find the when, where to meet for PLCs to be a challenge<br>• not enough time for deep discussion sometimes causing low performance of PLC decisions and actions. |
| ➢ Resistance to the social concepts of the PLC philosophy bars PLC members from experiencing a fully functional PLC. | • The diversity in personalities in PLC can cause friction within PLC limiting the opportunity for PLC members to experience a functional PLC.<br>• The lack of trust, organization, and enthusiasm within a PLC barricades member from collaborating.<br>• PLC member acknowledge that their PLC are not productive, when run inefficiently.<br>• PLC members indicate challenges, especially regular attendance, the views of new teachers vs. old teachers, punctuality, increased role of the PLC leader, too much venting and competitiveness. |
| ➢ Authoritative leadership stifles PLC progress leaving members feeling powerless resulting in underperformance of PLCs | • Authoritative leadership stifles PLC progress resulting in most PLCs just complying with directives from administration<br>• Authoritative leadership fosters resentment, and frustration resulting in low productivity in PLCs. |

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| | • PLC members feel powerless when authoritative leadership from administration take hold.<br>• Authoritative leadership demonstrates a weakness in trust and expresses no respect for the faculty on campus.<br>• Authoritative leadership create stress for PLC leaders to the extent that some PLC leader feel intimidated resulting in underperformance.<br>• PLC member acknowledge that the administrations understanding of a PLC is crucial to the successful school-wide implementation of PLCs.<br>• PLC members wish administration would trust PLCs to manage their time wisely to affect the best results. |
| ➢ Propaganda on PLCs lead to misinformation and misunderstanding of the PLC philosophy, limiting teachers from fully appreciating the PLC experience. | • Teachers believe that a PLC must be focused on curriculum to be productive.<br>• Teachers believe that a PLC must always analyze data to be productive. |

**Appendix K – Field Observations and Sociogram Results for Low Self-rated Schools**

| Field Observations and Sociogram Results for Low Self-rated Schools | |
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| **Field Observations Themes** | **Field Observation Repeated Actions & Interactions** |
| ➢ PLC members use equity of voice to create deep discussions to share ideas and reflect on personal and professional successes and frustrations. | • attempt at creative conversations<br>• open conversation<br>• personal sharing of ups and downs<br>• reflections<br>• sharing<br>• PLC facilitator does not take over the meeting |
| ➢ PLC members establish relationships to build enthusiasm and create a good atmosphere in PLCs to support and affirm one another especially for new teachers. | • support<br>• enthusiasm<br>• affirmation<br>• good atmosphere<br>• established relationships<br>• support of new teacher<br>• new teacher receive support from other PLC members |
| ➢ PLC members struggle with frustration, resentment, and competition as they satisfy compliance and listen politely to one another | • frustration<br>• politeness<br>• resentment<br>• short responses<br>• compliance<br>• take over conversation<br>• politely listened<br>• venting |
| ➢ PLC members employed problem solving and deep discussion of instructional practices to address concerns sharing and reflecting on possible solutions. | • problem solving<br>• address concerns of PLC members<br>• reflection on PLC decisions<br>• sharing possible solution options<br>• asked clarifying questions<br>• ask for advice to solve a problem from other PLC members<br>• problem solving discussion – how do we get students to read? |

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| | • shared strategies from Edcamp<br>• shared discussion<br>• shared technology<br>• deep discussion on instructional practices<br>• academic deep discussions based on writing baseline data<br>• shared instructional practices<br>• PLC discusses instructional practices regarding curriculum – “How are you all going to approach to Kill a Mocking Bird” and Pacing for writing<br>• Shared leadership<br>• PLC in a circle |
| ➢ PLC members struggle with poor attendance and tardiness to PLC meetings | • poor attendance<br>• participant A that does not regularly attend came to the observed PLC, arrived late, made only two comments one when prompted (pushed) by PLC facilitated and the other to participant B and D<br>• participant E arrived fifteen minutes late to the observed PLC meeting<br>• Participant H late arrival and just compliance<br>• participant I arrived twenty-five minutes late, made two comments when prompted by PLC facilitator, got a snack and ate it, no interaction with other PLC members<br>• regular poor attendance |
| ➢ PLCs struggle with the challenge of minimal engagement, narrow focus, administrative directive, and excessive venting of members during PLC meetings. | • structured protocols<br>• members just reporting out information while others politely listened<br>• most PLC members did not seem to care<br>• surface conversation<br>• structured protocols<br>• members just reporting out information while others politely listened<br>• most PLC members did not seem to care<br>• little discussion on topic presented |

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| | • participant A reported out to rest of PLC members<br>• housekeeping – procedures for field trips<br>• housekeeping<br>• venting<br>• focus on pacing<br>• no real focus of meeting<br>• interjection from department head changes the flow of deep discussion in the PLC meeting – department head questions the discussion among members – first Eng 9th grade PLC that the department head attended.<br>• ILT focus of discussion<br>• specific administrative directive to PLC<br>• Participant H late arrival and just compliance<br>• participants H and I were outliers in the circle |
| ➢ Minimal diversity among PLC member limits PLC discussion*.* | • no diversity among attending PLC members<br>• no diversity among PLC members present at observed PLC all under ten years of experience of the four PLC members that attended. |

| **Sociogram Themes** | **Sociogram Repeated Actions & Interactions** |
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| ➢ One PLC member experiences strong interactions with other specific PLC members. | • (O) 4-1 participant D- PLC Facilitator has strong interactions with participants B- compliant member, C- assigned influential member & E - compliant<br>• (O) 4-1 participant B- compliant member had strong interactions with participants E- compliant member, D- PLC facilitator & C- assigned influential member<br>• (O) 4-1 participant C -assigned influential member-had strong interactions with participants D- PLC |

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| | | facilitator, B- compliant member & E- compliant member<br>• (O) 4-1 participants E- compliant member had strong interactions with participants C- assigned influential member, D – PLC facilitator. & B- compliant member<br>• (O) 5-1 participant A- assigned influential member had strong interactions with participants C- complaint member & G emergent influential member<br>• (O) 5-1 participant B- PLC facilitator had strong interactions with participants G emergent influential member & A- assigned influential member<br>• (O) 5-1 participant G- emergent influential member has strong interactions with participants A- assigned influential member and B – PLC facilitator<br>• (O) 6-1 participant E compliant member had strong interactions with participants A, B, & D, all emergent influential members<br>• (O) 6-1 participant A-emergent influential member had strong interactions with participants C- assigned influential member, B- PLC facilitator & D- compliant member<br>• (O) 6-1 participant B- PLC facilitator had strong interactions with participants A- emergent influential member, E- compliant member, C assigned influential member, & D- compliant member<br>• (O) 6-1 participant D- compliant member had strong interactions with participants E compliant member, A emergent influential member, B- PLC facilitator, & C- assigned influential member |

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| ➢ One PLC member because of their PLC or administrative position can have a great negative or positive influence over other members of the PLC. | • (O) 4-1 Participant C's presence demonstrated support for PLC members<br>• (O) 6-1 participant C's presence demonstrated support for PLC members<br>• (O) 4-1 respect for the PLC facilitator position from other PLC members made participant D an influential member<br>• (O) 6-1 respect for the PLC facilitator position from other PLC members made participant B an influential member<br>• (O) 4-1 participant C- assigned influential member had a strong influence on PLC as an assigned influential administrator.<br>• (O) 5-1 the PLC facilitator authoritative assigned influential member's position made participant B an influential member<br>• (O) 6-1 participant C – assigned influential member had a negative strong interaction with participants E- compliant member, A- emergent influential member, B- PLC facilitator & D- compliant member |
| ➢ One PLC member that demonstrates great knowledge and experience has an influence of over other PLC members. | • (O) 5-1 participant A presenter for the observed PLC meeting made him an influential member for that meeting<br>• (O) 5-1 respect from other PLC members made participant G an influential member because of the knowledge shared and enthusiasm<br>• (O) 6-1 respect from other PLC members made participant A an influential member because of the knowledge shared |
| ➢ PLC members demonstrated a weak interaction or one-way communication with several other members. | • (O) 4-1 participant A- compliant member had weak interactions with participants D- PLC facilitator, C- assigned influential member, B- |

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| | compliant member & E – compliant member<br>• (O) 5-1 participant I had negative interactions with participants B- PLC facilitator, C-compliant member, A assigned influential member, E compliant member, F compliant member, & G emergent influential member<br>• (O) 5-1 participant E- compliant member had weak interactions with participant A – assigned influential member & F- compliant member<br>• (O) 5-1 participant A had a one-way communication with participants C-compliant member, D – compliant member & E compliant member and a negative one-way communication with participant H- compliant<br>• (O) 5-1 participant H- compliant member & I – compliant member were outliers in the circle<br>• (O) 5-1 participant C-compliant member had weak interactions with participants D-compliant member & B-PLC facilitator<br>• (O) 5-1 participant D- compliant member had weak interactions with participants C – compliant member & B- PLC facilitator<br>• (O) 5-1 participant E- compliant member had weak interactions with participants B- PLC facilitator & G-emergent influential member<br>• (O) 5-1 participant F had weak interactions with participants B- PLC facilitator & G- emergent influential member<br>• (O) 5-1 participant H- compliant member had weak interactions with participants G emergent influential member & B- PLC facilitator<br>• (O) 6-1 participant C- assigned influential member had negative interactions with participants B- PLC |

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| | facilitator, A- emergent influential member, E- compliant member & D- compliant member |

**Appendix L–Field Observation and Sociogram Results Theoretical Constructs for Low Self-rated Schools**

| Field Observation and Sociogram results Theoretical Constructs for Low Self-rated Schools | |
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| **Theoretical Constructs** | **Themes** |
| ➢ During deep discussions, PLC members used equity of voice to problem solve and reflect on possible solution, however minimal diversity among PLC members limited the PLC discussion. | • PLC members use equity of voice to create deep discussions to share ideas and reflect on personal and professional successes and frustrations.<br>• PLC members employed problem solving and deep discussion of instructional practices to address concerns sharing and reflecting on possible solutions.<br>• Minimal diversity among PLC member limits PLC discussion. |
| ➢ Through strong interactions, PLC member established relationships, built enthusiasm, and receive affirmation with some members demonstrating more influence based on their knowledge and others based on facilitator or administrative position. | • One PLC member experiences strong interactions with other specific PLC members.<br>• PLC members establish relationships to build enthusiasm and create a good atmosphere in PLCs to support and affirm one another especially for new teachers.<br>• One PLC member that demonstrates great knowledge and experience has an influence of over other PLC members.<br>• One PLC member because of their PLC or administrative position can have a great negative or positive influence over other members of the PLC. |
| ➢ PLC members struggled with narrow focus, and administrative directives, which resulted in negative emotions, minimal engagement, weak interactions, excessive venting, tardiness and poor attendance. | • PLC members struggle with frustration, resentment, and competition as they satisfy compliance and listen politely to one another<br>• PLC members struggle with poor attendance and tardiness to PLC meetings<br>• PLCs struggle with the challenge of minimal engagement, narrow focus, |

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| | administrative directive, and excessive venting of members during PLC meetings.<br>• PLC members demonstrated a weak interaction or one-way communication with several other members. |