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Development of Trust and Collaboration Between Teachers in PLC Teams: The Roles of Teachers, Principals and Different Facets of Trust

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Development of Trust and Collaboration Between Teachers in PLC Teams:
The Roles of Teachers, Principals and Different Facets of Trust

Henry “Hank” Ryan Smith

A dissertation submitted to the faculty of
Brigham Young University
in partial fulfillment of the requirements for the degree of

Doctor of Philosophy

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ABSTRACT

Development of Trust and Collaboration Between Teachers in PLC Teams: The Roles of Teachers, Principals and Different Facets of Trust

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Doctor of Philosophy

Professional learning communities (PLCs) are being recognized as a leading strategy to improve student achievement. Trust is critical in effectively implementing the PLC model, and the school principal is best positioned to influence school trust levels. Using Hoy and Tschannen-Moran’s (1999) five facets of trust, this research sought to clarify the impact of trust among PLC teachers on their team’s collaborative practices. Focus group data were collected from 12 collaborative teams in 4 schools. Six of the teams were from one school that was struggling to implement the PLC model; the other six teams were from three schools that were implementing the model successfully. This research utilized a matched cases case study to understand the relationship between trust and collaboration in PLC teams. Findings suggested the teams in successful PLCs built trust through treating one another with patience and kindness, fulfilling personal responsibilities, and sharing personal information. Additionally, the principal influenced team members’ trust by allowing autonomy and team formation input. Perceived benevolence and competence led to teachers sharing teaching strategies, being more open with student data, and teaching one another’s students. Also successful and non-successful PLCs emphasized different facets of trust in describing development of trust, the principal’s role in building trust, and the role of trust in collaboration. These findings can inform school leaders how to more effectively build and preserve trust among members of collaborative teams such as PLCs.

keywords: trust, professional learning community, collaboration, principal, teachers, elementary schools, intermediate schools

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INTRODUCTION OF STRUCTURE AND CONTENT

The Professional Learning Community (PLC) model was created as a means to facilitate and support high quality teaching. Effective implementation of the PLC model requires the collaborative efforts of all involved in the school. Trust is an important factor influencing how successful a school will be in developing the culture necessary for the PLC model to thrive. As teachers seek to work together on collaborative teams, trust influences their interactions and decisions (Tschannen-Moran, 2001).

This research sought to better understand

- How is trust developed specifically in PLC teams?
- What is the role of the principal in facilitating trust among teachers in PLC teams?
- In what ways does trust facilitate teacher collaboration within PLC teams?

We used a matched cases case study to examine and analyze data collected through purposive sampling in one intermediate school and three elementary schools from two separate districts in a U.S. western state. Each school represented a case in the study. Twelve focus groups, six at the intermediate school and two at each of the three elementary schools, were conducted, recorded, and transcribed. Six of the focus groups were with fifth grade teacher teams and six were with sixth grade teacher teams. Analysis of the data employed continual comparison within and across cases. Several important findings may provide insight to school administrators seeking to develop trust between teachers on collaborative teams and thus improve the teams' collaborative efforts.

Our findings suggest that trust is developed on collaborative teams through team members fulfilling their individual assignments and responsibilities and through team members exhibiting patience with other team members. Additionally, a principal impacts trust on

collaborative teams through allowing teachers assigned to a collaborative team to be part of selecting and hiring new members of the team and by not micromanaging the teams, but allowing the teams autonomy to direct their own collaborative efforts. Finally, our findings suggest that trust enables the teachers on collaborative teams to share their students' achievement data and other information that they would not likely share in a low trust setting. Trust also enables the teachers on collaborative teams to share teaching ideas that help the other members of the team with classroom instruction. Lastly, trust impacts whether teachers deprivatize their practice by rotating their students to different teachers for various subjects.

The hybrid dissertation is one of several formats supported in Brigham Young University's McKay School of Education. Unlike a traditional "five chapter" format, the hybrid dissertation focuses on producing a journal-ready manuscript. Consequently, the final dissertation product has fewer chapters than the traditional format and focuses on the presentation of the scholarly manuscript as the centerpiece. Following the manuscript are the manuscript's reference section and the appendices, which include an extended review of literature, a methodological section, and a reference section sufficient for the requirements of the institutional review board.

The targeted journal for this article is the *Educational Administration Quarterly (EAQ)*. *EAQ* is sponsored and published by the University Council for Educational Administration (UCEA), which is the primary professional organization for educational leadership in the United States. The Department of Educational Leadership and Foundations (EDLF) at Brigham Young University is a full institutional member of UCEA, and EDLF faculty members attend the national conference annually to present research and participate in plenary and business meetings of the organization. Articles submitted to the *EAQ* are blind reviewed. The manuscript length for

submission is 25 to 40 pages. The target audience for the *EAQ* is composed of both academics and practitioners in educational leadership.

TEXT OF ARTICLE

Development of Trust and Collaboration Between Teachers in PLC Teams:
The Roles of Teachers, Principals and Different Facets of Trust

Abstract

Professional learning communities (PLCs) are being recognized as a leading strategy to improve student achievement. Trust is critical in effectively implementing the PLC model, and the school principal is best positioned to influence school trust levels. Using Hoy and Tschannen-Moran's (1999) five facets of trust, this research sought to clarify the impact of trust among PLC teachers on their team's collaborative practices. Focus group data were collected from twelve collaborative teams in four schools. Six of the teams were from one school that was struggling to implement the PLC model; the other six teams were from three schools that were implementing the model successfully. This research utilized a matched cases case study to understand the relationship between trust and collaboration in PLC teams. Findings suggested the teams in successful PLCs built trust through treating one another with patience and kindness, fulfilling personal responsibilities, and sharing personal information. Additionally, the principal influenced team members' trust by allowing autonomy and team formation input. Perceived benevolence and competence led to teachers sharing teaching strategies, being more open with student data, and teaching one another's students. Also successful and non-successful PLCs emphasized different facets of trust in describing development of trust, the principal's role in building trust, and the role of trust in collaboration. These findings can inform school leaders how to more effectively build and preserve trust among members of collaborative teams such as PLCs.

Background

Schools leaders and faculties are likely to succeed when they make creating and supporting high quality teaching their utmost priority. High quality teaching has been specifically linked to student achievement (Darling-Hammond, 1999; Harris & Sass, 2011; Kukla-Acevedo, 2009). Professional learning communities have been acknowledged as successful entities for improving the quality of teaching and, therefore, sustainable progress in student learning (Harris & Jones, 2010; Lomos, Hofman, & Bosker, 2011; Stoll, Bolam, McMahon, Wallace, & Thomas, 2006; Vescio, Ross, & Adams, 2008). An effective PLC requires the collaborative efforts of administrators and teams of teachers in their efforts to help all students learn (Cranston, 2009). The degree of trust among all school participants significantly impacts school performance (Bryk & Schneider, 2004; Forsyth, Barnes, & Adams, 2006). Trust could likewise significantly impact PLC effectiveness.

Professional Learning Community Teams

In implementing the PLC model, school leaders divide teachers into collaborative teams, generally made up of teachers in the same department, content area, or grade level. In their PLC function, these teams analyze data generated by administering common assessments to students. These data are used to develop instructional practices and specific intervention strategies. Trust may be a precondition for developing these types of successful collaborative practices among a team of teachers (Tschannen-Moran, 2001). High trust schools with effective collaborative practices have shown increased student achievement (Goddard, Goddard, & Tschannen-Moran, 2007; Louis, 2006; Saunders, Goldenberg, & Gallimore, 2009). Successful collaborative teams have been shown to correlate with improved teacher performance (Darling-Hammond &

Bransford, 2007; DuFour, Eaker, & DuFour, 2005; Elmore, 2004; Gallimore, Ermeling, Saunders, & Goldenberg, 2009; Harris & Jones, 2010; Tschannen-Moran, 2001).

A successful PLC team operates through both informal and formal collaborative functions. Teachers often visit in the hallways or in the teachers' lounge, sharing what they are doing with their classes, which students have difficulties, and what is happening in their personal lives. They also trade ideas and teaching methods. This type of informal collaboration likely occurs with every faculty to some degree, as an important aspect of every school culture (Jarzabkowski, 2002; Mawhinney, 2010). However, well-developed PLCs engage not only in informal collaboration, but also in a more formal type of collaboration focused on results. Effective PLC teams are able to set goals and articulate their outcomes and future action in terms of data that indicate student learning.

Teachers can more fully understand how well their students are performing by comparing them to similar students who have been given the same assessments. To do this, teachers must share student achievement data and teaching practices with their collaborative team, which is likely to give them a sense of vulnerability. Without a high degree of trust for the other members of the team, they are not likely to share this critical information, thus limiting their growth as teachers and impairing the team's effectiveness (Cosner, 2011; Goddard et al., 2007; Harris & Jones, 2010; Tschannen-Moran, 2001).

When teachers are open to group sharing and reflection and to taking the risks necessary to change, they are more successful in their collaborative efforts (Harris & Jones, 2010; Vescio et al., 2008). A culture of information sharing requires participants to allow themselves to be vulnerable to each other (Mayer, Davis, & Schoorman, 1995). Thus the culture needed for

effective PLCs will inevitably thrive or wither depending on the degree of trust in collaborative teams and throughout school systems.

Trust

Education research has been expanding a view of trust within schools from a seemingly simple construct to a currently complex phenomenon. Some definitions of trust are quite commonly cited. A definition from the research of Hoy and Tschannen-Moran (1999) stated that trust is “one party’s willingness to be vulnerable to another party based on the confidence that the latter party is (a) benevolent, (b) reliable, (c) competent, (d) honest, and (e) open” (p. 204) (see Table 1). These authors held that building trust takes patience and time, requiring effort and risks by everyone involved.

Table 1

Five Facets of Trust (Tschannen-Moran, 2004, p. 34)

Benevolence

Caring, extending good will, having positive intentions, supporting teachers, expressing appreciation, being fair, guarding confidential information

Honesty

Having integrity, telling the truth, keeping promises, honoring agreements, having authenticity, accepting responsibility, avoiding manipulation, being true to oneself

Openness

Engaging in open communication, sharing important information, delegating, sharing decision making, sharing power

Reliability

Having consistency, being dependable, demonstrating commitment, having dedication, being diligent

Competence

Setting an example, engaging in problem solving, fostering conflict resolution, working hard, pressing for results, setting standards, handling difficult situations, being flexible

Trust among all school participants is at the heart of strong relationships that help children learn (Goddard, Tschannen-Moran, & Hoy, 2001). Research has positively related trust to school effectiveness (Bryk & Schneider, 2004) and shown that even the best and the brightest teachers cannot accomplish high quality teaching in school environments that lack trust (Bryk & Schneider, 2004). Moye, Henkin, and Egley (2005) referred to trust as the most important component of well-functioning organizations. Similarly, Forsyth et al. (2006) wrote, “The centrality of trust in school organizations seems unassailable” (p. 138).

The literature shows trust to be essential for a school to become an effective PLC (Harris & Jones, 2010; Vescio et al., 2008). A lack of trust within a collaborative team could interfere with the team’s ability to meet important goals (Cranston, 2009), increasing teacher vulnerability and behavior that can impede communication, inhibit shared understanding, and stifle student learning (Cosner, 2011; Tschannen-Moran & Hoy, 2000).

The Principal

Research directly linking principal behavior to student achievement is relatively weak (Marzano, Waters, & McNulty, 2005). Most studies indicate that principals indirectly affect student achievement through their influence on school organizational conditions, teacher working conditions, instruction quality, and school culture (Hurren, 2006; Supovitz, Sirinides, & May, 2010; Wahlstrom & Louis, 2008; Youngs & King, 2002). However, Robinson, Lloyd, and Rowe (2008) found significant differences between the leadership of otherwise similar high and low performing schools—differences affecting student achievement. Leithwood, Harris, and Hopkins (2008) boldly stated that as far as they were aware “there is not a single documented case of a school successfully turning around its pupil achievement trajectory in the absence of talented leadership” (p. 29).

Principals are in the best position of any school actor to positively alter the level of trust within a school (Bryk & Schneider, 2004; Bryk, Bender Sebring, Allensworth, Luppescu, & Easton, 2010; Moye et al., 2005). A school principal's behavior has been shown to influence teacher motivation, teacher job satisfaction, teacher learning, and school-wide collaboration—all of which are linked to trust among all school participants (Blase & Blase, 2002; Hurren, 2006; Leithwood et al., 2008; Tschannen-Moran, 2001; Youngs & King, 2002). Hallam, Boren, Hite, Hite, and Mugimu (2012) found that principals who spent more time engaging with teachers in social and unscheduled interaction improved trust within the school. Similarly, trust is impacted through teachers' perceived influence, leadership success, and professionalism—all of which are influenced by principal behavior (Hoy, Hoy, & Kurz, 2008; Hoy, Tarter, & Hoy, 2006; Moye et al., 2005; Tschannen-Moran, 2009). If trust is to flourish, the principal must be concerned as much with values and relationships as with resources and policies, as teachers are interested not only in what leaders do, but in how leaders make them feel (Duke, 1986).

The principal has a crucial role in initiating and building trust among all actors in the school, including collaborative team members. Teacher trust in the principal is positively related to teacher trust in colleagues (Hoy, 1992; Kochanek, 2005). When principals distribute influence over school decisions, they can increase trust among team members and enhance the team's collective responsibility for student learning (Bryk & Schneider, 2004; Spillane, Halverson, & Diamond, 2001).

Significance of Research

A better understanding of the relationship of trust to PLC functions would be beneficial to principals and teachers in a school seeking to develop effective PLCs. Where trust is present, cooperative behaviors such as engaging personally, sharing information, and relying on other

team members are more likely to emerge (Costa & Anderson, 2011; Louis, 2007). The collaboration needed to become truly oriented toward results is fostered in schools with high trust (Tschannen-Moran, 2001). When distrust prevails, each teacher is motivated to minimize his or her vulnerability to other teachers and to the principal. The result is self-protection and increased disengagement from the education process (Tschannen-Moran, 2004).

It is important to understand this connection between trust and collaboration in schools (Stoll et al., 2006; Tschannen-Moran, 2001). When school administrators, team leaders, and teachers better understand how trust develops in a PLC team and how it affects collaboration, they will be better prepared to recognize and reinforce trust. Increased efforts toward developing trust in collaborative teams and sustaining trust throughout the school culture will enable the school to better educate all students (Bryk & Schneider, 2004). The purpose of this research was to build upon and expand the existing research linking trust among teachers to collaboration in PLCs. Without high levels of trust, collaborative teams will find difficulty in helping each teacher improve pedagogical knowledge and skills (Louis, 2006; Tschannen-Moran, 2001). This study examined trust development among individual team members, along with the principal's impact on that development. This study also examined how trust is related to collaborative practices. Figure 1 is the conceptual framework designed specifically to guide this study.

Research Questions

To better understand the trust among members of collaborative teams, this study examined the following research questions in the contexts of 12 collaborative teams of teachers.

- How is trust developed specifically in PLC teams?
- What is the role of the principal in facilitating trust among teachers in PLC teams?
- In what ways does trust facilitate teacher collaboration in PLC teams?

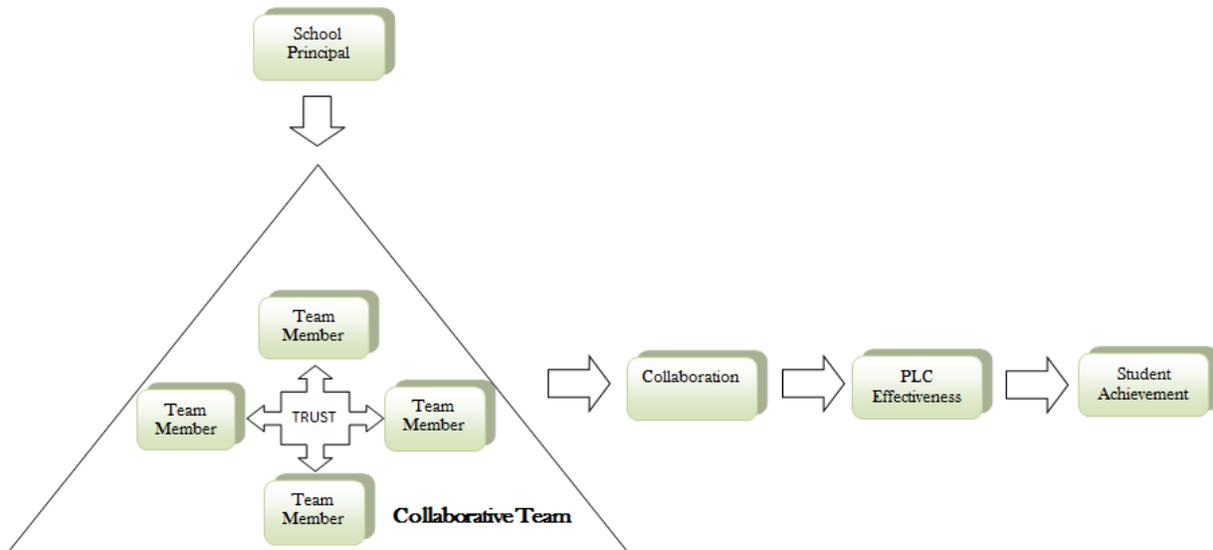


Figure 1. How trust influences PLC effectiveness

Methods

Qualitative methods were used to study the proposed research questions via a matched cases case study. Because trust is a social phenomenon, qualitative research methods, especially case studies, are effective in studying its development and its role in facilitating teacher collaboration (Eisenhardt, 1989; Yin, 2009).

Sampling and Data Collection

Using purposive sampling (Creswell & Creswell, 2005), we developed two cases through a selection of four schools from the population of elementary and intermediate schools in a U.S. western state. This sampling strategy was useful because we required information from particular examples (Pettigrew, 1990). In Case 1, one school was failing to effectively implement the PLC model; in Case 2 three schools were experiencing successful implementation.

Our first case began with Timber Intermediate School (*pseudonym*), a school including only fifth and sixth grade students, which was identified by district leaders as failing to implement the PLC model. A similar school that was successfully implementing the PLC model

would have been chosen for comparison, but no other schools with Timber's grade configuration existed in the state.

To create a case comparable to Timber, the research team developed a list of schools from a different school district that had been implementing the PLC model successfully, according to the results of a merit pay system created by the district. From this list, three schools that included fifth and sixth grade students were chosen. Study criteria included similarity of school demographics to those of Timber, allowing us to rule out some alternative reasons for either Timber's failure or the others' success in implementing the PLC model. Schools more than 10% below Timber in their percentage of minority students, students with low socioeconomic status, English language learners, and students with disabilities were excluded from being part of the sample. The three elementary schools chosen were Center Elementary, Vine Grove Elementary, and Fox Canyon (*all pseudonyms*). Additional criteria for school choice were principal and teachers' willingness to participate and their relative accessibility. To best match the data obtained at Timber, only members of the fifth and sixth grade teacher teams at these schools were interviewed in focus groups. Thus the second case was comprised of six teams: a fifth and a sixth grade teacher team from each of the three schools. Table 2 outlines the demographics of the four schools. The largest of the teams had six members; the smallest had three. All of the teams were made up of predominately female teachers.

Across both cases, twelve focus groups were conducted, six at Timber in Case 1 and six total at the other three elementary schools in Case 2. Six of the focus groups were with fifth grade teams, and six were with sixth grade teams. The transcriptions of the twelve focus groups resulted in over 400 pages of qualitative data. Four demographically similar schools, all attempting to implement the PLC model, created a reasonable environment to study the impact

Table 2

Demographic Information for Timber, Center, Vine Grove, and Fox Canyon

	Case 1:	Case 2:		
	Low performing PLC	High performing PLCs		
	Timber Intermediate	Center Elementary	Vine Grove Elementary	Fox Canyon Elementary
Total number of students	793	523	640	1110
Students in fifth & sixth grade	793	141	160	288
Minority students	17%	17%	29%	11%
Economically disadvantaged students (percentage of students on free or reduced price lunch)	41%	51%	56%	32%
English language learners	9%	7%	10%	4%
Students with disabilities	18%	12%	11%	12%

of trust on PLC teams' ability to collaborate. Table 3 shows the size and gender distribution of the teachers on the interviewed teams.

Data Analysis

To address the research questions in the contexts of high and low performing PLCs, the data obtained from the two cases were compared. Our analysis of the data employed continual comparison within and across cases (Eisenhardt, 1989). Open coding, axial coding, and selective coding allowed the data to be taken apart and reconstructed in order to portray each team's experiences and then aggregate the team experiences to each case (Marshall & Rossman, 2010). During the coding, various themes and patterns emerging from the data were identified as they met the threshold criteria of 67% representation for both cases: meaning a theme was represented by at least four of the six teams, a majority of the focus groups in a case. For example, if a particular topic was evident in four of the six teams (67%) in Case 1 (Timber), the threshold was met and the theme was considered in the study. Similarly, if a particular topic or insight was

Table 3

Detailed Structure of Collaborative Teams Interviewed

	Case 1: Low performing PLC		Case 2: High performing PLCs	
	Timber Intermediate	Center Elementary	Vine Grove Elementary	Fox Canyon Elementary
Fifth grade teams	#1: 6 Teachers (5 female, 1 male)	#1: 3 Teachers (2 female, 1 male)	#1: 3 Teachers (3 female)	#1: 4 Teachers (3 female, 1 male)
	#2: 5 Teachers (4 female, 1 male)			
	#5: 5 Teachers (5 female)			
Sixth grade teams	#3: 6 Teachers: (4 female, 2 male)	#2: 3 Teachers (2 female, 1 male)	#2: 3 Teachers (2 female, 1 male)	#2: 4 Teachers (3 female, 1 male)
	#4: 4 Teachers (2 female, 2 male)			
	#6: 5 Teachers (4 female, 1 male)			

repeatedly referred to by four of the six teams in Case 2, irrespective of which school(s), then the threshold was met for the theme to be part of the study.

Findings

We thoroughly analyzed the cases individually according to the research questions and then compared them in order to understand their similarities and differences (Baxter & Jack, 2008). Thus we were able to describe and explain how the high performing PLCs compared to the low performing PLCs (Yin, 2009).

Within-Case Findings

Case 1: Timber Intermediate School. Timber, recently transformed from elementary to middle school, which included only fifth and sixth grades. This new arrangement combined teachers who had been functioning in a junior high school setting with teachers from an

elementary school setting. After the first year, a new principal, Donna (*pseudonym*), was transferred to Timber from her assignment as an elementary school principal. The sixth grade teachers had difficulty relating to Donna because she had no experience at the secondary level.

The teachers at Timber described the development of trust among the members of their respective collaborative teams as being a product of sharing personal information and fulfilling their individual assignments—indicating both openness and reliability. They believed trust on the team allowed them to be more open with student scores and other information that required them to make themselves vulnerable, enabling them to be open with teaching ideas, which helped them all become better teachers. They felt their principal did not show competence, as she micromanaged the teams too much; they indicated that she would help them be more effective if she offered them more autonomy. Tables 4, 5, and 6 offer a more detailed summary of the data obtained at Timber according to the research questions.

Case 2: Center, Vine Grove, and Fox Hollow Elementary Schools. Center, Vine Grove, and Fox Hollow Elementary Schools were identified as successful PLCs, based on both test scores and reputation with district administration. With student body demographics similar to those of Timber, these three schools provided data that fairly compared to the data obtained in Case 1. The majority of the students at both Center and Vine Grove and over a third of the students at Fox Hollow were designated as economically disadvantaged. The principals— Nicki at Center, Olivia at Vine Grove, and Darrell at Fox Hollow (*all pseudonyms*)—had been transferred by the district to their current positions after successfully serving as principal at other schools. When we arrived at Center, Vine Grove, and Fox Hollow, test scores were higher than at any recent time period. Most to all of the teachers at each school expressed positive feelings toward their principal and toward each other.

Table 4

Case 1: How Trust Developed within Timber’s PLC Teams

Emergent themes / behaviors that influence trust	Definition	Facet of trust emphasized in theme	% of teams identifying theme	Responses from focus groups
Fulfilling responsibilities	Trust was developed when teachers fulfilled their team assignments and responsibilities.	Reliability	83%	<p>“I think when everyone comes to the team meetings and is prepared and has done their jobs, trust is just there” (T:T3-TE)¹.</p> <p>“We make sure we follow through. We live up to what we said we would do. If I am going to come and share a lesson, I make sure I have that lesson read” (T:T6-TD).</p> <p>“Trust comes with being accountable and if you’re supposed to do a certain thing and come prepared” (T: T4-TA).</p> <p>“Trust is there when you’re all giving your all, you’re working hard on tasks, and you’re there all the time (T: T5-TD).</p>
Sharing personal information	Trust was developed through sharing personal information.	Openness	67%	<p>“The fact that other teachers are willing to share . . . builds your trust. They are willing to share, so I’m willing to share” (T:T1-TD).</p> <p>“When you are willing to share not only your successes but the things that you’re struggling with, that is a sign of trust” (T:T5-TB).</p> <p>“Trust builds when you are willing to be open, to expose yourself a little bit” (T:T2-TA).</p>
Treating team members with patience and kindness ²	Team members built trust through being patient and kind with one another.	Benevolence	33%	<p>“In groups we don’t say it’s my way or the highway. It’s a respect issue as well” (T:T1-TA).</p> <p>“We are easy going. No one is judgmental” (T:T1-TD).</p>

¹ Teacher quotations are cited by school, team number, and teacher (by letter). Thus this statement was taken from Timber, Team 3, Teacher E.

² Although this theme did not meet the threshold in Case 1, it did meet the threshold in Case 2 and was listed here for comparison. This guideline is followed through the rest of the findings.

Table 5

Case 1: The Role of the Principal in Facilitating Trust Among Teachers within Timber’s PLC Teams

Emergent themes / behaviors that influence trust	Definition	Facet of trust emphasized in theme	% of teams identifying theme	Responses from focus groups
Inhibiting trust with micro-management.	Principal imposes goals on teams and limits autonomy.	Competence	67%	<p>“I’ve been doing this for 23 years, and now you don’t trust me? Twenty-three years in front of the classroom, and now you’re telling me how to teach and what to teach... that’s incredibly frustrating” (T:T6-TC).</p> <p>“If she looked at all that she said she’s requiring, she would be surprised. Just because not everyone does it, doesn’t mean that she didn’t say that it was supposed to be done.” (T:T3-TA)</p>
Including teachers in team formation.	Principal discusses team formation with current team members and allows them to be involved in hiring.	Openness	33%	<p>“More than one of us asked her if we could stay together” (T:T1-TC).</p> <p>“I refused to work with one of the people from my team last year, so she moved that person and now they’re on a new team (T:T3-TA).</p>
Giving teams autonomy.	Principal gives teams autonomy to set goals and make decisions	Competence	0%	

Table 6

Case 1: Ways That Trust Facilitated Teacher Collaboration within Timber’s PLC Teams

Facet of trust leading to theme	Emergent themes / behaviors brought about by trust	Definition	% of teams identifying theme	Responses from focus groups
Competence	Sharing teaching strategies	Teachers ask for help and are open with teaching ideas and strategies to help one another with classroom instruction.	83%	<p>“If you don’t trust someone, it’s very hard to open up and say, ‘Can you help me with this strategy or this student?’ or ‘What am I doing wrong?’” (T:T4-TB)</p> <p>“We try to bring different ideas to the table and try to improve our teaching. If someone didn't get how to teach something, we help each other and get different ideas” (T:T5-TA).</p> <p>“Trust is the willingness to share with the expectation that it will be respected” (T:T2-TB).</p> <p>“If any of my team members went and told someone else about my scores, that would be devastating to me. If they were to spread it around the school or the community, I wouldn’t want to share any more” (T:T1-TA).</p>
Benevolence	Sharing student data	Teachers feel safe to share student data resulting from common assessments.	83%	<p>“I think there should be some comradery there; you know you’re excited about who you are spending your time with and sharing your data with because you know they’re going to do good things with it” (T:T3-TD).</p> <p>“If you don't have trust, you're not as willing to reveal your weaknesses, inabilities, and needs” (T:T4-TA).</p>
Competence	Teaching each other’s students	Students rotate though the teachers on the team for various subjects.	0%	

The teams in Case 2 reported building trust through being patient and kind with one another, fulfilling their individual assignments, and sharing information about their personal lives (families, hobbies, etc.). These findings indicate that benevolence, reliability, and openness were all important in establishing trust. Teachers praised their respective principals for being competent enough to avoid micromanaging the teams and being open enough to involve team members in team formation. They felt that trust enabled them to be open with information and feelings they probably would not share in a low trust setting and allowed them to help one another become better teachers by sharing teaching ideas and strategies. They also said that perceiving competence in one another gave them the confidence to share one another's students without worry. Tables 7, 8, and 9 offer expanded summaries of the data obtained for Case 2.

Across-Case Findings

After thoroughly analyzing each case individually, we compared the two cases in the context of each research question. We compared the themes which met the set threshold (67%) in at least one of the two cases.

Development of trust within collaborative teams. For our first research question, we found two similarities and one difference between the cases. In both cases trust within the teams was developed when team members fulfilled their personal responsibilities and assignments and when team members shared personal information with one another. In Case 2 trust was developed among the teachers when team members treated one another with kindness and patience (see Table 10).

Table 7

Case 2: How Trust Developed within PLC Teams

Emergent themes / behaviors that influence trust	Definition	Facet of trust emphasized in theme	% of teams identifying Theme	Responses from focus groups
Treating team members with patience and kindness	Team members built trust through being patient and kind with one another.	Benevolence	100%	<p>“We’re nice to each other and encouraging too. All of us have so many plates in the air. Sometimes a plate falls” (C:T1-TA).</p> <p>“Everyone is trying to do her best and everyone has bad days” (V:T2-TB).</p> <p>“Trust is built through listening to everybody’s complete thoughts—not jumping in the middle of them and disagreeing, but listening, truly being a good listener” (F:T2-TD).</p> <p>“Just a simple ‘hello’ and smile down the hall really makes a big difference” (F:T1-TC).</p>
Fulfilling responsibilities	Trust was developed when teachers fulfilled their team assignments and responsibilities.	Reliability	67%	<p>“If we didn’t get everything finished [in collaboration meeting], we’re in each other’s rooms the next morning finishing where we left off and talking through it” (C:T2-TA).</p> <p>“We have to rely on each other, and I feel like we’re all really good about doing our assignments” (C:T1-TB).</p> <p>“If everyone’s not willing to put the same effort in . . . it’s really hard to trust each other” (F: T2-TA).</p> <p>“Trust is all about follow through.” (V:T2-TA)</p>
Sharing personal information	Trust was developed through sharing personal information.	Openness	67%	<p>“Trust is built through a willingness to admit failure and willingness to admit successes and be proud of those” (C:T2-TA).</p> <p>“Trust is built when I feel safe saying, ‘I don’t understand this’ or ‘I need help with this’ or ‘This is my idea, what do you think?’” (V:T1-TA)</p>

Table 8

Case 2: The Role of the Principal in Facilitating Trust Among Teachers within PLC Teams

Emergent themes / behaviors that influence trust	Definition	Facet of trust emphasized in theme	% of teams identifying theme	Responses from focus groups
Giving teams autonomy	Principal gives teams autonomy to set goals and make decisions.	Competence	67%	<p>“She trusts teachers. People blossom when they have a little freedom to be who they are” (C:T1-TA).</p> <p>“She trusts us to do our job. We’ve experienced principals who have been like that, and I feel like I can do more when I know my principal trusts me” (C:T2-TA).</p> <p>“He’s not one to say, ‘You have to do it this way’” (F:T2-TA).</p>
Including teachers in team formation.	Principal discusses team formation with current team members and allows them to be involved in hiring.	Openness	67%	<p>“You get hired because you were the one who we thought was going to be the best. We trust you automatically” (C:T2-TC).</p> <p>“Some that we interviewed weren’t bad teachers, but that they weren’t going to be able to work with how we work. Certain personalities work well together, and certain others don’t. Somebody who is really rigid might struggle working with us because we’re not that way” (F:T2-TB).</p> <p>“The responsibility is now on us. So like we can’t go complain to her about collaboration or about who’s on our team because it was our choice” (C:T1-TB).</p>
Inhibiting trust with micro-management.	Principal imposes goals on teams and limits autonomy.	Competence	17%	<p>“We’ve already made those decisions ourselves, but then we’re always at the mercy of someone else saying, ‘This is what we’re going to do.’ I feel frustrated with that” (V:T1-TB).</p>

Table 9

Case 2: Ways That Trust Facilitated Teacher Collaboration within PLC Teams

Facet of trust leading to theme	Emergent themes / behaviors brought about by trust	Definition	% of teams identifying theme	Responses from focus groups
Competence	Sharing teaching strategies	Teachers ask for help and are open with teaching ideas and strategies to help one another with classroom instruction.	83%	<p>“We’ve had times where we’ve had to speak real honest to each other and we’ve not seen eye to eye, but because we have a good relationship we plow through until we understand the perspective the other person is coming” (F:T2-TB).</p> <p>“It takes a team to be successful. If I have a team to get ideas from, I’m going to be a better teacher” (F:T1-TC).</p> <p>“I love when they share with me what they’ve already found works. It saves me a lot of time and it saves my students a lot of confusion” (V:T1-TA)</p> <p>“I can show my team members my teaching scores and they aren’t going to pass judgment. We’re looking at how to help each other improve” (V:T1-TB).</p>
Benevolence	Sharing student data	Teachers feel safe to share student data resulting from common assessments.	83%	<p>“Your teammates might share information you give them around the school. It can be scary that way” (F:T1-TD).</p> <p>“We are not afraid to let the others know we failed. If I totally bombed something, I’m not afraid to bring that up to our team and say, ‘I really screwed up and I need help’” (C:T1-TC).</p> <p>“You can’t get better at something and look good at the same time. We’re never going to improve if aren’t willing to look bad. I think we’re all willing to look bad in front of each other” (C:T2-TB).</p>
Competence	Teaching each other’s students	Students rotate though the teachers on the team for various subjects.	67%	<p>“If I don’t trust them, I’m not going to give them my kids because my reputation and name are on the line” (C:T2-TA).</p> <p>“They’re not my kids anymore, they’re our kids” (C:T2-TB).</p> <p>“We start to get to know everybody’s kids better. We rotate to try to make it our kids instead of their kids.” (F:T2-TB)</p>

Table 10

Across-Case: How Trust Developed within the PLC Teams

Emergent themes / behaviors that influence trust	Facet of trust	Case 1	Case 2
Sharing personal information	Openness	67%	67%
Fulfilling responsibilities	Reliability	83%	67%
Treating team members with patience and kindness	Benevolence	33%	100%

Sharing personal information and fulfilling responsibilities. We found that in both cases sharing personal information and fulfilling assigned responsibilities were important to the development of trust. For the teachers, the process of increasing openness was gradual. They began by offering basic personal information about family, hobbies, and other aspects of their lives outside of work. Eventually, with consistent positive interaction, the relationships developed so teachers began divulging what might be more vulnerable information, such as fears and classroom struggles. This finding is consistent with previous research (Kochenek, 2005; Tschannen-Moran, 2001)

Similarly, we found that trust developed within the team when all members showed reliability by fulfilling the responsibilities they were given as the team worked together. The teachers in both cases frequently mentioned that all members of the team must pull their own weight and come through because the team was relying on them. This is similar to Bryk and Schneider's (2004) claim that "trust atrophies when individuals perceive that others are not acting in ways that are consistent with their understanding of the other's role obligations" (p. 51).

Treating one another with patience and kindness. While similar themes emerged from this research question from the teams in both cases, there was one stark difference. All of the teams in Case 2 indicated that showing benevolence, by maintaining patience and kindness

among team members, was important in developing trust, but only two of the six teams at Timber felt this way. Why would the majority of the teams at Timber not find patience and kindness with one another to be crucial to trust development?

Many of the teachers at Timber felt lack of respect, trust, caring, and personal regard from their principal and district leaders. The way the school was created, as a middle school converted from an elementary school, seemed to promote an environment of escalating distrust. Most of the sixth grade teachers had little positive regard for or trust in any fifth grade teams at the school, in the principal, or in the district leaders. They felt that the district had betrayed them by moving them out of their junior high school positions to teach at Timber. One sixth grade teacher said, “Before the split ever happened we voiced our concerns, and we received absolutely no credence whatsoever. Any kind of relationship with the district was totally gone” (T:T6-T3). Many of the sixth grade teachers felt that having the fifth and sixth grade students together was detrimental for students. One of them said, “The school board should go back and study child development” (T:T4-T2).

After the split, district officials who arrived to offer assistance with PLC implementation were met with resistance from the sixth grade teachers. For example, “I’ve decided for my sanity that I’m going to be insubordinate. I can’t have someone behind a desk telling me how to do my job” (T:T4-T3). The sixth grade teachers strongly distrusted district leaders, and many of them seemed to want the school to fail in order to justify their argument that the school never should have been created in the first place. Some even described hating their jobs. Three years after the school was created, negative feelings remained strong. The absence of patience and kindness with the administration seemed to spill over into the relationships among team members. If trust

was built through patience and kindness with team members, the data suggests the teams at Timber were not aware of it or did not view it as critical as other factors.

Role of the principal in facilitating trust. The data derived from the cases showed two themes common among the groups concerning the role of the principal in facilitating trust among members of the collaborative teams. First, our findings suggest principals influence trust on collaborative teams by not micromanaging the teams, but rather allowing the teams autonomy to direct their own collaborative efforts within the goals of the PLC model. The teachers considered this theme to be anchored in the principal's competence. Second, we found that principals influenced trust through their handling of the process of team formation (see Table 11).

Table 11

Across-Case: Role of the Principal in Facilitating Trust Among Teachers within the PLC Teams

Emergent themes / behaviors that influence trust	Facets of Trust	Case 1	Case 2
Inhibiting trust with micromanagement	Competence	67%	17%
Giving teams autonomy	Competence	0%	67%
Including teachers in team formation	Openness	33%	67%

Micromanaging versus giving autonomy. Major differences were found between the cases when teachers discussed their experiences with their respective principals concerning the development of trust within the teams. In Case 1, the teams expressed frustration with micromanagement by the principal and the district. They felt they did not have autonomy to set goals or make decisions for their teams. In the high functioning PLCs that made up Case 2, most of the teams indicated that their principal allowed the teams autonomy to make decisions and direct their own collaborative efforts. Teams often willingly sought guidance and direction from their principals.

This finding bolsters Tschannen-Moran's (2009) finding that principals can foster greater trust as part of relationships among teachers by creating organizational conditions in which teachers can exercise greater discretion in using their professional judgment to respond to the needs of students. A teacher at Center Elementary remarked, "It's just the atmosphere that our principal creates. She always presents us with where we need to go and then she lets us figure it out on our own" (C:T2-TB). This comment reflects the findings of both Datnow (2011) and Gallimore et al. (2009), who wrote that principals need to offer teachers supportive structures and cultures in which to collaborate, but also enough autonomy to make decisions and take action on the basis of their analyses. In addition, our findings have been similar to Kochanek's (2005) claim that principals should develop their staff to be continuous learners who share in the governance of the school.

Sharing the responsibility of team formation. In both cases, the teams discussed their roles in forming the teams. The teams in Case 1 indicated they had minor to no involvement in team formation from year to year as new teachers were hired or teams were rearranged. The resulting frustration may have impacted the patience and kindness they showed other team members. In Case 2, the teachers enthusiastically emphasized how their principals would ask the teachers on a team with a vacancy to be part of the process of finding, or even hiring, a new team member. The teachers stressed that their presence in hiring interviews was not superficial. One sixth grade teacher at Center recalled, "Once the interview was over, our principal looked at both of us and said, 'What do you think?' We both said what we thought, and she said, 'That's what I think too'" (C:T2-TC). This finding parallels Tschannen-Moran's (2009) statement, "Principals who are to lead their schools into becoming PLCs would do well to treat teachers as professionals" (p. 242).

In explaining why being part of the hiring process was so effective, one teacher at Center said, “The responsibility is now on us. We can't go complain to her about collaboration or about who's on our team because we picked them” (C:T1-TB). The newest member of a team at Center remembered feeling a sense of obligation to the team members when she was hired; she said, “When I spoke to my husband about it, I said, ‘They hired me, I don’t want to let them down.’ I didn’t say, ‘The principal hired me.’ I said, ‘They hired me’” (C:T2-TA).

The ability to aptly and effectively involve the teachers in team formation and to allow a collaborative team the appropriate amount of autonomy to direct their own efforts both indicate the principal’s openness and competence. Tschannen-Moran (2004) indicated that good intentions are not enough. Our findings agree with Tschannen-Moran: Teachers need a sense of confidence that the school is being managed effectively.

Impact of trust on teacher collaboration. With examination of the data, three central themes emerged concerning ways in which trust facilitates collaboration within the teams. First, trust in the principal’s competence enabled the teachers to feel free to ask for help and to share teaching ideas that would improve classroom instruction. Second, benevolence enabled the teachers to feel safe in sharing their students’ achievement data and other information they likely would not share in different conditions. Third, teachers in Case 2 perceived competence in other team members, leading them to rotate students for instruction in various subjects (see Table 12).

Table 12

Across-Case: Ways That Trust Facilitated Teacher Collaboration within the PLC Teams

Facet of trust leading to theme	Emergent themes / behaviors brought about by trust	Case 1	Case 2
Competence	Sharing teaching strategies	83%	100%
Benevolence	Sharing student data	83%	100%
Competence	Teaching each other’s students	0%	67%

Sharing teaching strategies. Bryk and Schneider (2004) found that trust made cooperative efforts easier to initiate and sustain. In both cases in our study, the teachers indicated that trusting each other enabled them to share and exchange ideas for more effective classroom instruction. Many teachers from both cases indicated their team members had shared more ideas than they could possibly use. In a low trust setting, sharing many ideas for classroom instruction could be seen to indicate that a teacher did not consider another teacher intelligent enough to come up with his own ideas, or withholding ideas might be interpreted as a teacher considering another teacher's improvement to be a threat. Similarly, some teachers indicated they would not use teaching ideas and strategies from team members they did not regard as competent. In the absence of trust, people are reluctant to work closely together, and collaboration becomes more difficult (Tschannen-Moran, 2001).

However, in high trust PLCs teachers considered free sharing of teaching ideas to be benevolent (Hoy & Tschannen-Moran, 1999). This type of sharing is not limited to collaboration meetings. A teacher at Fox Canyon stated, "If I see there's something my kids aren't getting and I don't quite understand, I'll run to one of [my team members'] classrooms and say, 'Okay, go over this again.' I think collaboration is all day long. It's an environment" (F:T2-TD). Such open communication of ideas can provide a strategic advantage for schools.

Sharing student data. Cosner (2011) suggested that sharing student achievement data created new and unexplored vulnerabilities for teachers and that certain levels of trust are required to support such exchanges. Hoy et al., (2006) found that teachers in high trust environments were more likely to share information that made them vulnerable. In both cases in our study, the teams indicated that trust was critical in their willingness to share student

achievement scores and other information that might make them feel vulnerable in a setting of less trust.

The teachers indicated that they would never share feelings of failure, frustration, or anger with team members they did not trust. One teacher at Vine Grove said, “I feel safe saying, ‘I don’t understand this’ or ‘I need help with this’” (V:T1-TA). Teachers also indicated that if they did not trust the benevolence and competence of team members, they would not share areas or issues where they feared they lacked sufficient knowledge or classroom skills. This finding supports Tschannen-Moran’s (2004) claim that trust is crucial to fostering the kind of support teachers need if they are to take risks and grow professionally. Bryk and Schneider (2004) found that trust moderated the sense of uncertainty felt by teachers as they tried to meet the demands of their employment.

Teaching one another’s students. In both case studies, higher trust led to increased collaboration. The teams brought up many features typical of high functioning PLC teams. The teachers described the responsibility they felt to help all of their students learn (Stoll et al., 2006). They were creating products together, not merely sharing materials they had developed individually (Dufour, 2004). However, in Case 2 the collaboration extended to a trust level at which the teachers freely taught one another’s students, or observed each other teach, commonly called deprivatizing their practice (Kruse, Louis, & Bryk, 1994). Rather than “*my* students,” “*his* students,” or “*her* students,” they referred to *our* students (Stoll et al., 2006).

Five Facets of Trust. As we expected in our model, our findings correlate with Hoy and Tschannen-Moran’s (1999) five trust facets: benevolence, honesty, openness, reliability, and competence. However, we found that teachers from both successful and non-successful PLCs

emphasized different facets when they described trust development, the principal's role in building trust on the team, and the role of trust in collaboration (see Table 13).

Table 13

Facets of Trust Aligned by Research Question and Case

Research Question	Themes	Case 1	Case 2
How is trust developed specifically within collaborative teams of teachers?	Treating team members with patience and kindness		Benevolence
	Fulfilling responsibilities	Reliability	Reliability
	Sharing personal information	Openness	Openness
What is the role of the principal in facilitating trust between teachers within professional learning community collaborative teams?	Inhibiting trust with micromanagement	Competence	
	Giving teams autonomy		Competence
	Including teachers in team formation		Openness
What is the role of trust in facilitating teacher collaboration within professional learning community collaborative teams?	Sharing teaching strategies	Competence	Competence
	Sharing student data	Benevolence	Benevolence
	Teaching one another's students		Competence

The majority of teachers' comments and experiences regarding development of trust with other members of their team related primarily to benevolence, reliability, and openness more than to honesty and competence. The teachers in these focus groups did not comment on honesty to a notable degree. To trust one another, the teachers indicated they needed to sense

caring intentions from the other team members and see their commitment to the team.

Benevolence and openness assured them group members would not exploit the vulnerability of the others or use shared information for personal gain. Reliability signaled a commitment to helping the team achieve their goals.

The development of trust through benevolence, reliability, and openness facilitated team collaboration by increasing communication, sharing, and perceived competence. By being benevolent and open, teachers seemed to induce others to do the same. As team members got to know one another, trust increased until they were able to engage in more risky exchanges, such as sharing their students' scores. By being reliable, team members increased perceptions of competence in one another such that they felt comfortable asking for help, sharing teaching ideas, and in Case 2 teaching one another's students.

When the teams in Case 2 described trust development, they seemed to balance benevolence and reliability. A teacher at Center said, "If you have a person you feel isn't doing very much, have a little bit of compassion. Maybe she has something going on at home; maybe she is having a hard year" (C:T1-TA). Similarly, a teacher at Fox Canyon commented, "My teammates are doing the best they can. We all make mistakes, and we all have bad days. I just assume goodwill" (F:T1-TC). Perhaps members of high functioning collaborative teams had already proven themselves to be reliable, and their team members saw them as deserving more patience.

Although our findings indicate that benevolence, reliability, and openness are crucial in developing trust among team members, competence and openness seem to be the facets teachers perceived as most important in the principal's role in facilitating team trust. When the principal demonstrated enough competence and openness to create organizational conditions allowing

teachers to use their professional judgment to set their own goals, take action, and influence team formation decisions, greater trust was fostered among individual team participants. Hallam, Hite, Hite, and Mugimu (2009) found that Ugandan headteachers develop competency-based trust first and relation-based trust second, but U.S. principals develop relation-based trust first and competency-based trust second. This research found that principals can facilitate trust among team members through team members' perceptions of their competence. These findings suggest that the facets of trust may be ordered differently depending on the school setting and context. Similarly, the facets of trust may be ordered differently among teachers than between teachers and principals because a different power structure is involved.

Discussion

The results of this case study show how trust developed among members of collaborative teams and how principals influenced its development. Our results also demonstrate ways in which trust facilitated collaboration within these teams in schools seeking to implement the PLC model (see Figure 2). Our findings support much of the previous research, adding depth to current understanding of trust development and school leadership, particularly ways in which trust enables collaboration in such aspects as sharing teaching strategies, sharing student data, and, for highly trusting teams, teaching one another's students. Although our findings are delimited to the teams we interviewed and are not generalizable, they provide meaningful theoretical understanding, and school leaders may find they support useful practical applications.

Trust Development

Confirming the findings of previous research (Bryk & Schneider, 2004; Kochanek, 2005), this research found that trust is developed among members of collaborative teams when

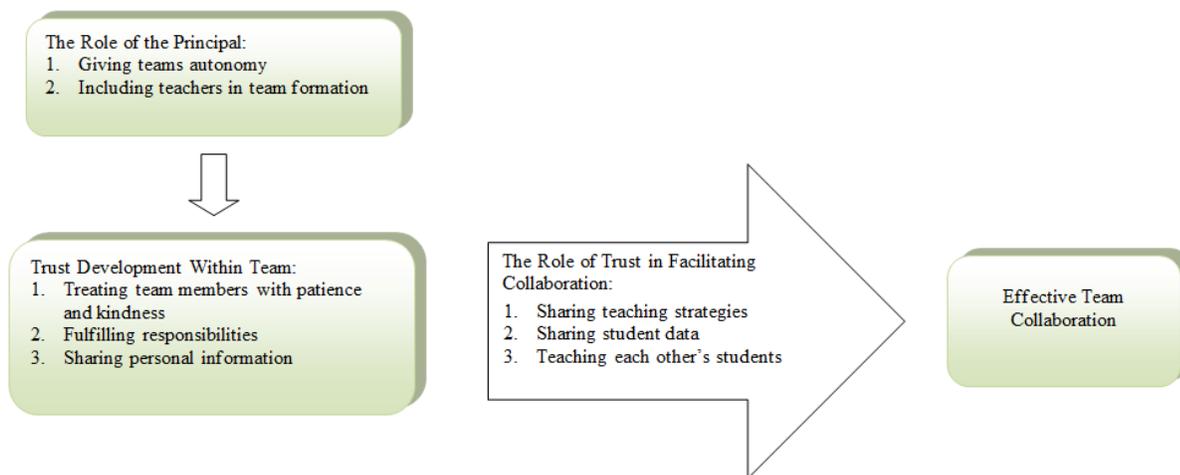


Figure 2. How teachers and principals influence trust and collaboration

the participants fulfill their individual assignments and responsibilities and when they exhibit kindness and patience with other team members. The teachers in this study described a balance between holding each team member accountable for responsibilities and being patient and understanding with each individual's situation. When the team members fulfilled their assignments and responsibilities, they were seen as reliable and competent (Tschannen-Moran, 2001). Yet in some circumstances team members failed to do what they said they would. When team members displayed benevolence through patience and understanding in those situations, they helped create a safer environment in which the team members were able to learn from mistakes (Tschannen-Moran, 2001).

Our findings extend Cosner's (2011) counsel to school participants to support collaboration by assessing trust and increasing purposeful actions to cultivate trust within the teams of teachers. These findings offer teachers a place to start when they enter newly formed collaborative teams and begin to cultivate trust or when they try to build trust among members of existing teams. Teachers should pay special attention to fulfilling their personal assignments and responsibilities and should encourage their team members to do the same. Teachers in newly

formed teams should exhibit benevolence through being kind and patient with one another. These actions were shown to plant seeds of trust within the team.

Principal Support

Our research suggests that the participating principals influenced the trust among members of their collaborative teams by involving team members in the process of hiring new team members and allowing teams autonomy to set goals and act in accordance with those goals. Our findings are relevant to other research that indicates that distributed influence and shared decisions affect trust among teachers, create and sustain a positive school culture, and affect how teachers view school decision making (Louis, 2007; Marshall, 2005; Rhodes, Stevens, & Hemmings, 2011; Youngs & King, 2002). These findings provide two additional insights into how principal behavior influences trust among teachers through competent leadership.

First, we propose that principals should avoid top-down micromanagement. Tschannen-Moran (2009) advised principals who want their schools to function effectively as PLCs to resist adopting a bureaucratic orientation with its inherent distrust, even if such rigid procedures would seem to be more efficient in the short run. A long-term approach requires a competent leader. The teams in Case 2 described performing better when principals avoided heavy-handed approaches. Teachers felt they were more motivated when they chose their own goals and worked toward them. Many of the teachers in Case 1 indicated they wanted to respond to their students' needs, but did not have the autonomy to do so.

Second, we propose that principals should emphasize trust by being deliberately open with team formation. Louis (2007) claimed teachers who felt more influential in school decisions tended to see school decision making as sound. She also found that teachers in low trust settings saw their involvement in decisions as a rubber stamp on decisions that had already been made,

and they usually reacted by withdrawing trust. This research builds upon those findings by suggesting that involving current team members in re-forming or adding members to teams allows them to assess whether a potential new member would be a good fit for the team. In Case 2, current team members' participation in adding a new team member seemed to increase trust in the new member from the outset, as the current members had already perceived she was trustworthy. The current teachers felt they were more likely to invest time and effort into helping the new member because they had chosen her.

Trust-Based Collaboration

This research examined the role of trust in facilitating team collaboration. Similar to Nelson's (2009) work, this research found that trust facilitates collaboration by enabling teachers to be open with students' tests scores and other information that might make them feel vulnerable. Additionally, we found trust enables teachers to share teaching ideas freely and even to teach one another's students. Our findings parallel those of Tschannen-Moran (2001) and Hoy, Gage, and Tarter (2006) that a culture of trust can provide a setting in which people are not afraid to openly admit errors, take risks, and share ideas.

This research also contributes to understanding how and why collaborative teams of teachers who trust one another are more likely to collaborate effectively and why trust in team members is particularly important to teachers. We found that teachers need to feel safe in order to be open with sensitive information and to share their own ideas and strategies. Many of the teachers expressed fear of having their student scores or teaching difficulties known outside of the team; thus they would not share this information without seeing benevolence in their team members. They did not feel judged by their team, but understood that the team's purpose was to help every member succeed. The teachers also indicated they would not use teaching strategies

suggested by teachers they saw as incompetent. Thus teachers should seek to be kind and patient with other team members and reliable in fulfilling their responsibilities, understanding that these actions would build trust and eventually lead to increased collaboration. Without sharing sensitive information along with teaching ideas and strategies, a team's collaborative efforts are likely to be superficial and ineffectual.

Limitations and Future Research

The nature of case study research does not allow causal inferences from findings. While case studies allow researchers to explore a complex social issue such as trust, our study involves the behavior and experiences of twelve teacher teams from four schools, whose responses may or may not reflect those of any other collaborative team. Our findings may suggest aspects in the experiences of other collaborative teams, but quantitative research should be added to substantiate generalizability elsewhere.

Our findings suggest that longitudinal research, both quantitative and qualitative, on collaborative teams is needed to determine more precisely how teachers experience developing trust, how the principal can support and encourage teams to develop trust, and how trust impacts collaboration. Because these qualitative results are consistent with Hoy and Tschannen-Moran's (1999) five facets of trust model, future qualitative research might seek to further understand why some of the trust facets seem to be more influential than others in the various stages of trust development and how these differences can affect the actions of both principals and teachers. For example, research results might guide these individuals in deciding which facets of trust they should emphasize in particular situations. We found that trust among team members began with benevolence and reliability, which led to openness and perceived competence. Additional

research might examine whether this pattern would be consistent in other contexts or with other school actors.

Conclusion

This research examined what teachers and principals do to develop trust in teams and how trust among members helps teams be more effective. Our findings suggest that trust facilitates collaborative team effectiveness and that teachers and principals can take specific actions to help trust thrive. In schools with high levels of trust, high levels of collaboration are likely (Tschannen-Moran, 2001). To develop team trust, teachers should begin by being benevolent, reliable, and open, leading to increased collaboration from greater openness and perceived competence. Principals can facilitate increased trust in collaborative teams by giving teams autonomy and including teachers as teams are formed and re-formed—practices that demonstrate both competence and openness.

Educators should continue to research the role of trust, the development of trust, and the strategies that build and maintain trust among members of collaborative teams. Increased understanding of trust and the practices that foster trust will likely result in schools functioning more effectively.

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APPENDIX A: REVIEW OF LITERATURE

Professional Learning Communities

The United States is expecting more of its schools than ever before and the schools are responding with increased efforts to reform (McDermott, 2007). Test scores have become a deciding factor in how schools are rated (Olsen & Sexton, 2009). In an effort to improve student achievement, an increasing number of schools and districts have adopted models centered on more teacher collaboration. Several research studies have concluded that schools with well-developed teacher collaborative practices have seen a positive impact on teaching practices and student achievement (Goddard et al., 2007; Gallimore, Ermeling, Saunders, & Goldenberg, 2009; Forsyth et al., 2006; Harris & Jones, 2010; Lomos, Hofman, & Bosker, 2011).

A Professional Learning Community (PLC) refers to a formal collaboration model of school organization in which all stakeholders are involved in planning, action, and assessment. This organization provides a process for administrators and teachers to engage collaboratively in dialogue to improve both teaching practices and student achievement. In theory, when a school implements the PLC model, the entire school works together to help all students. In an extensive review of literature conducted on the impact of PLCs, Vescio, Ross, and Adams (2008) concluded that student learning increases when teachers participate in PLCs.

One of the major components of school wide PLC implementation is the use of collaborative teams (Eaker, DuFour, & DuFour, 2002). In the PLC model, there are many groups that could be considered collaborative teams. All of the stakeholders, including those outside of the school, such as the surrounding community and the district personnel could be thought of as a team. Similarly, the entire school's faculty and staff could be thought of as one team.

This study centered on the collaborative teams most commonly referred to in the literature on PLCs. These teams are usually small groups made up entirely of teachers. The teachers on these teams are generally in the same department, content area, or grade level. They meet together regularly and work to clarify purpose and priorities, create common assessments to generate student data, form strategies to help students learn, assist each other as they put the strategies into action, and gather new data to gauge the outcome of their efforts (DuFour, 2002). Collaborative teams are meant to work interdependently for a common goal and are held mutually accountable (DuFour, Eaker, & Many, 2010). Huffman and Jacobson (2003) found that effective learning collaborative teams promote sharing responsibilities as well as rewards.

It is important to note a PLC team is designed to function through both informal and formal collaborative functions. Teachers often visit in the hallways or in the teachers' lounge. They discuss what they are doing in the classrooms, students with whom they are struggling, and perhaps share details concerning their personal life. Similarly, they frequently swap ideas and teaching methods. Informal collaboration likely occurs on every faculty to some degree and is an important part of every school (Jarzabkowski, 2002; Mawhinney, 2010). However, well-developed PLCs do not just focus on informal collaboration. Effective PLC teams are able to articulate their outcomes in terms of data that indicate improved student learning. The actions a collaborative team takes to improve student learning should be driven by achievement data.

Dufour et al., (2010) identified four critical questions on which PLC collaborative teams should focus on in order to improve student learning:

1. What do we want our students to learn? This question is meant to focus the team on the curriculum to be given to the students. Using State Core Standards as their guide, teams discuss what they see as the viable and essential outcomes for each subject or

- unit of study. They identify what knowledge and skills each student must acquire by the end of the course, class, or unit of study.
2. How will we know they are learning? This question is meant to help the team come together to create and administer common formative assessments to determine if the students have met the essential learning outcomes. Each team member shares the data produced by the assessments with the team and the team identifies weak areas and shares ideas on how to improve instruction to meet the needs of all students.
 3. How will we respond when they don't learn? This question enables the team to create timely, direct, and systematic intervention strategies in order to give extra time and support to the individual students or student groups who did not learn. Intervention is not left to the individual teacher, but should be a team effort.
 4. How will we respond when they have already learned it? This question allows the team to create challenging academic programs for students or student groups that are ready for more advanced content. Students then have the opportunity to achieve at higher levels.

Implementing the PLC model is neither simple nor easy. In order to implement high functioning PLC processes, teachers must become more data driven. Data driven collaborative teams have been shown to contribute to a fundamental shift in the attitudes and practices teachers bring to their daily work in the classroom (Vescio et al., 2008).

Similarly, implementing a PLC requires a significant shift from a focus on teaching to a focus on learning (DuFour, Eaker & DuFour, 2005). A teacher may think a certain idea or subject was taught, but did the students learn what the teacher intended for them to learn? The

fact that effective PLCs are able to better assess student learning has made the model desirable for schools.

In order for a school to flourish as a PLC, the teachers and administration must be student oriented; involved in personal reflection, inquiry, and learning; and committed to high quality relationships (Bolam, McMahon, Stoll, Wallace, 2005; Hord & Hirsch, 2008; Stoll & Louis, 2007). The quality of relationships greatly influences everything else that happens in the school (Duignan & Bhindi, 1997). The type of relationships among the actors in a school is important because it is the nature of those relationships that determine whether the school's culture is one in which collaboration is genuine focus on critically examining practice to improve student outcomes (Stoll & Louis, 2007). Trust is an important element in those relationships.

Teams must be properly trained in order to understand and implement PLC collaborative practices. When teachers open up to sharing and reflection with one another and take the risks necessary to change, they are more successful in their collaborative efforts (Vescio et al., 2008). A culture of sharing information requires participants to make themselves vulnerable to each other. Trust can be defined as a willingness to become vulnerable to another person or group of people (Mayer, Davis, & Schoorman, 1995). Therefore, the type of culture needed for effective PLCs will inevitably thrive or wither depending on the degree of trust that exists within collaborative teams and throughout school systems.

History of Trust Research

In the last 50 years, trust has been studied as an individual attribute, a behavior, a situational feature, an ethical principle, a psychological state, and as an institutional arrangement. Research on trust became prominent during the 1980s and 1990s, but seedlings of trust can be seen in research from the 1940s and 1950s. The notion that the feelings of individual people

have impact on organizational performance dates back to Elton Mayo (1945) and the beginning of the human relations theory. Trust research first developed at a societal level and then in business theory, centering on the role of trust in effective management (Kramer & Tyler, 1996). Since then, the significance of trust has been included in business, human relations, organizational, leadership, management, and communication theories (Schoorman, Mayer, & Davis, 2007).

Julian Rotter (1967) was one of the first researchers to attempt to define the concept of trust. He emphasized the survival of any social group, from the family unit to big business, depends on the presence of trust. He described trust as a characteristic of a relationship, such as the trust between a principal and a teacher. He discovered that cooperation seemed to mark the everyday behavior of individuals and organizations to a far greater degree than he anticipated. Rotter (1967) offered this definition of trust: “The expectancy held by an individual or group that the word, promise, verbal or written statement of another individual or group can be relied upon” (p. 651). That expectancy, he said, is an important variable in human learning because much of the learning that human beings acquire is based on the statements of others which have to be believed without independent evidence.

In the late 1970s, while most organizational theorists were writing about the positive effects of employee involvement, James Driscoll (1978) found that the level of trust provided a better lever for change than the level of employee participation. He concluded that employees with more trust in an organization’s decision makers are more satisfied with their level of participation regardless of the employee’s level of participation in the decision making process, desired or undesired.

Following Rotter and Driscoll, research on trust developed as a major construct in business, management, and economic settings. Zucker (1986) said trust was a cause rather than a consequence of economic change and that trust could not be created through formal mechanisms, such as contracts. Fukuyama (1995) wrote that governments may be able to legislate central banks or armies into existence, but strong families and durable social groups cannot be created in the same manner. He noted:

One of most important lessons we can learn from an examination of economic life is that a nation's well-being, as well as its ability to compete, is conditioned by a single, pervasive cultural characteristic: the level of trust inherent in the society. (p. 7)

Trust is traditionally seen as the basis for quality interpersonal relationships and a source of competitive advantage for organizations (Tan & Lim, 2009).

Trust quickly became a complex construct. Hoy, Smith, and Sweetland (2003) summarized that scholars across many disciplines widely acknowledged that trust is central in cooperative human behavior despite a lack of agreement on a commonly accepted definition. In other words, researchers knew that people wanted to work in organizations instilled with trust and positive interpersonal relationships, but did not have a firm grasp on what trust actually was. There is still no universally accepted scholarly definition of trust.

However, one commonly cited definition of trust in organizational research draws on the work of Mayer et al., (1995). They attempted to integrate research on trust from multiple disciplines to develop a definition and a model of trust's antecedents and outcomes. They defined trust as follows:

The willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control the other party (p. 712).

Over the last half century, trust has been studied at both an individual micro level and an organizational macro level (Rousseau, Sitkin, Burt, & Camerer, 1998) and is still a complex construct. However, under any definition or context, it seems clear from the literature that trust contributes to a positive working environment characterized by honest, supportive relationships (Moye, et al., 2005).

Trust Research in Education

Research shows that parents, students, teachers, and principals must have some degree of trust in one another in order for a school to function (Bryk & Schneider 2004; Wahlstrom, 2008). Trust has been compared to the lubricant in an engine. Oil isn't a built-in part of any system in an automobile, but it is crucial to the vehicle's performance. When the oil in car gets low, systems will slowly begin to build up friction. In a school, when the level of trust begins to drop, school systems will slowly begin to feel the friction of conflict. When trust within a school gets severely low, the school and the student body may be threatened with ruin (Tschannen-Moran, 2004).

Organizational and business research in trust gave birth to the emergence of trust in educational research. In a similar manner, as trust became a more complex construct when associated with leadership and performance, trust in educational contexts has also become more complex (Wahlstrom & Louis, 2008). Education research began developing a view of trust in education from a seemingly simple construct to what is now a very complex and dynamic phenomenon. As the construct of trust became a more central focus in education, it became more

and more difficult to define it in this context. As understanding of trust in education has advanced, various definitions of trust have also been developed to attempt to better explain its complexity. Trust in schools is now a construct that includes various concepts and has a potpourri of definitions (Shapiro, 1987).

In the midst of such complexity, some definitions of trust are becoming more commonly cited. One such case is the work of Hoy and Tschannen-Moran (1999) who defined trust as “one party’s willingness to be vulnerable to another party based on the confidence that the latter party is (a) benevolent, (b) reliable, (c) competent, (d) honest, and (e) open” (p. 204). Tschannen-Moran (2004) wrote further that trust has to do with predictability; in other words, knowing what to expect from others. She holds that building trust takes patience and time and is a choice that must include effort and risk-taking by everyone involved. She identified a commitment period in any relationship during which trust is built. During this commitment period, each party has the opportunity to signal to the other party his or her willingness to not exploit the vulnerability of the other for personal gain. Tschannen-Moran’s work has done much to clarify the multi-dimensional definition of trust in schools and is beginning to gain acceptance in education literature.

Types of Trust

It is important to recognize that trust research has identified different types of trust that can be examined at varying levels. One could obviously discover situations in which trust was extended with the absence of one or more of the five factors listed in Tschannen-Moran’s definition. One person/group may trust another person/group in a certain situation because they find them honest and competent, even though they do not see them as benevolent or open. For example, someone may trust a surgeon to perform a complicated heart surgery even if he or she

does not perceive the surgeon as being benevolent. If the surgeon is perceived as honest and competent, that may be enough for the patient to trust him or her to perform the surgery.

Trust research has identified many types of trust that may develop in educational settings. These differing types of trust can be examined at both personal and organizational levels. The types of trust most relevant and instructive for this research are relational trust, competence trust, institutional trust, and social trust.

Relational trust, perceived through affect and emotion, is based on perceptions of benevolence, goodwill, openness, positive relationships, and motivations (Cook, Hardin & Levi, 2005; McAllister 1995). Rousseau, Sitkin, Burt, and Camerer (1998) describe relational trust as being built over time through repeated interactions between the trustor and trustee. Bryk and Schneider (2004) primarily focused on relational trust to describe the trust that can be built through social interactions that occur in the school environment because a good school is more like “a family than a factory” (p. 19). They outlined that relational trust is founded both on beliefs about the school and observed behavior of the individuals within the school. Relational trust is built when individuals sense that they are cared about and genuinely listened to.

Competence trust, perceived through cognition, is based on perceptions of ability, competence, and integrity (Edwards, 1990; Lewis & Weigert 1985). Hite (2005) found that competence trust, built through repeated interactions, became stronger as routines and processes became understood and expected by both parties. When an individual has interacted first hand with another and senses that he or she has the knowledge and skills necessary to effectively complete a task, competence trust increases (Tschannen-Moran & Hoy, 2000). On the other hand, Bryk and Schneider (2004) posited that gross incompetence is corrosive to trust within schools and, if allowed to persist, would undermine improvement.

Louis (2007) referred to institutional trust as an expectation based upon the norms of a given institution. This leads a person to believe that those in the institution will behave appropriately in organized settings. For example, parents may allow their child to attend a certain school even though they do not personally know any of the teachers or the principal. They do this because they generally trust that schools will do their best to educate and protect their child. Bryk and Schneider (2004) described situations in which unconditional trust given by those who see the leadership of a community or social system as unquestioningly moral. Trust is given by individuals because they believe in the rightness of institution. Conversely, Kochanek (2005) indicated that institutional trust of a school is the least effective type of trust. Parents who simply trusted the school based upon occupational title were found to take a less active role in their child's education. Rousseau, et al. (1998) suggested that the best way to use institutional trust is to ease the way to building relational trust.

Like institutional trust, social trust is not based upon personal interaction with the individual being trusted. Within schools, trust develops between individuals who are part of a complex system of existing and potential relationships. Social trust relies on the existence of social capital among individuals in a network, and the "assets that may be mobilized through that network" (Nahapiet & Ghoshal, 1998, p. 243). Hite (2005) indicated that social trust was built when two parties knew a common third party and trusted one another based upon the recommendation from a third party. The social structure shapes an individual's reputation based upon the stories told about the individuals to others by third parties within the organization who have not had personal interaction with the individual (Rousseau, et al, 1998). Social trust, based on third party recommendations and social capital, can also be seen as a gateway to developing relational or competence trust (Hite, 2005).

Depending on a given situation, each type of trust can become an important part in the process of overall trust formation. Although Tschannen-Moran, the primary theoretical framework for this study, does not attempt to clarify types of trust, educational leaders may benefit from recognizing that different types of trust exist and that different types of trust may be involved in the development of trust within PLCs. Understanding these different types of trust could make a principal more aware of the type of trust lacking in a given situation and may help the principal discern what action to take.

The myriad definitions, conceptualizations, and types of trust, although not providing one completely accepted definition or type, clearly indicate that trust is instrumental to the success of a school. When people are willing to engage with one another they are more likely to learn about each other. The more people know about one another the better they can connect with each other and hence help each other learn (Darling-Hammond & Bransford, 2007). Forsyth et al., (2006) wrote, “The centrality of trust in school organizations seems unassailable” (p. 138). Therefore, focusing on building trust within the school ought to be a priority for everyone involved there, beginning with the person in the school with the most formal power—the principal.

Leadership Research

Throughout the first half of the 20th century, leadership research was limited to the aristocratic idea that some people were born with characteristics that made them natural leaders and other people could not be taught to acquire such characteristics (Bacharach & Mundell, 1995; Clawson, 2002; Daft & Lane, 2005). During the 1950s and 1960s, this aristocracy gave way to the idea that leadership traits were only effective when applied to the correct situation. This shift gave birth to the behavior approach and the contingency approach. These approaches

stated that anyone who practiced the appropriate behavior, in a given context, could be an effective leader (Daft & Lane, 2005).

Like trust research, as leadership research expanded, the definition of leadership became more complex and ambiguous. A new definition was developed with each piece of research (Slater, 1995). This is precisely because leadership means different things to different people. How we answer some of the most frequently asked questions about leadership depends on our assumptions about the nature of societal organizations and society in general (Slater, 1995).

Today, leadership is seen as much more than a simple collection of behaviors (Cotton, 2003). An effective leader is a person who is socially and emotionally intelligent (Goleman, 1998). Emotionally intelligent leaders understand the value of individuals, have the ability to perceive and manage emotion, have genuine empathy for others, listen intently, and value moral authority more than formal authority. Socially intelligent leaders are flexible and adaptive, accept full responsibility for mistakes, and are lifelong learners (Clawson, 2002; Daft & Lane, 2005; Goleman, 1998; Yukl, 2008).

Two leadership theories seem to dominate educational leadership research, instructional leadership theory and transformational leadership theory (Hallinger, 2003). Instructional leadership theory guides the school principal to focus on improving teaching and becoming an instructional resource for their teachers (Hallinger, 2005). Leading instructional quality and continuous learning becomes the top priority at the school. Transformational leadership theory guides the principal to use passion and energy to create a culture of high morale and commitment toward a common vision (Leithwood & Jantzi, 2006). Leading a shared vision of goals and participation become the top priority at the school. Examining 27 published studies on the impact of leadership on student achievement, Robinson, Lloyd, and Rowe (2008) found that

school leaders have more impact on student learning when they focus on the core business of teaching and learning (instructional), but doing so in a manner that produces commitment to goals (transformational). They conclude, “Effective leaders do not get the relationships right and then tackle the educational challenges—they incorporate both sets of constraints into their problem solving” (p. 659). In their extensive review of literature, Leithwood, Louis, Anderson, and Wahlstrom (2004) reached a very similar conclusion. They wrote, “these [leadership] labels primarily capture different stylistic or methodological approaches to accomplishing the same two essential objectives critical to any organization’s effectiveness: helping the organization set a defensible set of directions and influencing members to move in those directions” (p. 6). When to focus on instructional strategies or transformational strategies is contingent upon each specific situation.

Current research specifies that principals should invest time to learn about and use unobservable resources to strengthen the school environment and build trust (Moye, et al., 2005; Youngs & King, 2002). They are encouraged to learn how to strengthen relationships and lead more effectively. They are advised to analyze the potential benefits that may result from developing and improving other unobservable resources such as: school mindfulness, school capacity, employee empowerment, developing culture, establishing mission, and social intelligence (Goleman, 1998; Tan & Lim, 2009; Van Maele & Van Houtte, 2009; Wahlstrom & Louis, 2008; Youngs & King, 2002).

The research directly linking principal behavior to student achievement is relatively weak (Marzano, Waters, & McNulty, 2005). Most research indicates that principals have an indirect effect on student achievement through the influence they have on school organizational conditions, teacher working conditions, instructional quality, and school culture and climate

(Hurren, 2006; Supovitz, Sirinides, & May, 2010; Wahlstrom & Louis, 2008; Youngs & King, 2002). However, research has found that leadership is second only to classroom instruction among all school-related factors that contribute to what students learn at school (Leithwood, Louis, Anderson & Wahlstrom, 2004).

The Principal and Trust

No person in the school is in a better position to influence trust than the principal (Bryk & Schneider, 2004). A school principal's behavior has been shown to influence teacher motivation, teacher job satisfaction, teacher learning, and school collaboration – all of which are linked to trust (Blase & Blase, 2002; Hurren, 2006; Leithwood, Harris, & Hopkins, 2008; Tschannen-Moran, 2001; Youngs & King, 2002). Studies indicate that principals who offer praise, set high performance standards, buffer teachers from outside attacks, socialize with teachers, become more empathetic, engage in honest conversation, treat staff equitably, exhibit competence, and listen closely are more likely to be trusted (Dunn & Schweitzer, 2005; Glover, 2007; Goleman, 1998; Hallam, et al., 2009; Tan & Lim, 2009; Wesley, 2004). Similarly, selflessness and humility both have been essential qualities of a leader who is trusted (Chopra, 2002; Hoy, Gage, & Tarter, 2006). Collins (2001) discovered that the most effective and trusted leaders had a paradoxical blend of personal humility and professional will.

Principals cannot create a high trust environment by themselves. Although the principal has more formal power than the teachers, he or she depends on teachers to make good efforts at building trust. Similarly, teachers depend on the principal to build trust through fairness, a predictable environment, adequate resources and professional support (Leithwood et al., 2008). Principals must often exercise considerable role authority that directly affects teachers. Teachers who perceive benevolent intentions on the part of their principal are more likely to be efficient in

their jobs and offer trust (Tschannen-Moran, 2004). Likewise, any actions taken by the principal that heighten a teacher's sense of vulnerability without proper explanation create an atmosphere of fear and distrust (Tschannen-Moran, 2004).

When principals foster trust between themselves and faculty members, teacher quality is likely to improve (Youngs & King, 2002). One reason for this relationship—within a climate of high trust, teachers do not hesitate to seek assistance from the principal because increasing trust reduces vulnerability. Teachers do not feel threatened by potentially being seen as unintelligent or ineffective (Tschannen-Moran, 2004). Similarly, people in relationships characterized by high trust are more likely to reveal more accurate and complete information about problems (Tschannen-Moran, 2001). Teachers' trust in their principal has been linked to teacher satisfaction, teachers' perceived influence, leadership success, and teacher professionalism; all of which impact teacher quality and student achievement (Bigley & Pearce, 1998; Hoy, Hoy, & Kurz, 2008; Hoy, et al., 2006; Moye, et al., 2005; Tschannen-Moran, 2001).

Principal behavior does directly influence the level of trust within the school (Tschannen-Moran, 2004). In fact, teacher trust in the principal is positively related to teacher trust in their colleagues (Hoy, 1992, Kochanek, 2005). In a climate of high trust, people are more likely to accept change and reform (Bryk & Schneider, 2004). Correspondingly, high levels of trust are associated positively with healthy school climates, and a healthy school climate has been shown to positively impact overall teacher quality (Hoy & Tschannen-Moran, 2003). With teacher's trust in their principal being linked positively to teacher quality, it is not surprising that teachers' trust in their principal has also been positively linked to student achievement and overall school effectiveness (Forsyth et al., 2006; Tschannen-Moran, 2001).

While acknowledging a dearth of evidence linking principal behavior to student achievement, Leithwood et al., (2008) boldly stated that as far as they were aware, “there is not a single documented case of a school successfully turning around its pupil achievement trajectory in the absence of talented leadership” (p. 29). Likewise, Robinson et al., (2008) found there are significant differences between the leadership of otherwise similar high and low performing schools, and that those differences matter for student achievement. Perhaps the principal’s crucial role in building trust in the school could account for part of that difference.

Trust develops between principals and teachers when school leaders’ beliefs and actions are consistent with school goals, when the principal supports teachers’ work on a consistent basis, and when the principal manages conflict proactively and effectively (Bryk, Lee, & Holland, 1993; Smylie & Hart, 1999). When principals distribute influence over decisions related to curriculum, hiring, and professional development, they can increase trust among teachers and enhance collective responsibility for student learning (Spillane, Halverson, & Diamond, 2001). Trust is strengthened when principals create internal structures and conditions that promote teacher learning such as aligning school wide professional development activities with school goals, promoting sociality among staff members, and practicing distributed leadership (Bryk, et al., 1993; Goldring & Rallis, 1993; Spillane, et al., 2001). Hoy et al., (2003) found that leaders who are honest with teachers, treat them as equals, are affable and sympathetic, and who set realistic standards are not only appreciated by their teachers but are also rewarded with their trust.

Some researchers have concluded that nothing can substitute for interpersonal contact in building trust (Isaacs, 1999). Hallam, Boren, Hite, Hite, and Mugimu (2013) found that principals who spent more time engaging with teachers in social and unscheduled interaction

improved trust within the school. Even small acts, such as memorizing names, short social visits, or leaving brief complimentary notes can potentially make large differences in trust levels (Kochanek, 2005; Tschannen-Moran, 2004).

Trust impacts the lives of the teachers at school. Teachers with high levels of interpersonal trust with their principal found their work personally meaningful and reported having substantial influence in their work environment (Moye, et al., 2005). In fact, as the flow of truthful information increases, dependence upon control measures, such as monitoring hours worked, will decrease (Moye, et al., 2005). Schools in which the principal has a relationship of trust with the teachers of the school have higher teacher job satisfaction and more effective teaching than those schools without such relationships (Hurren, 2006). Chopra (2002) notes that the leader who aims for only external goals (money, victory, power) will falter in the area that counts most – influencing the lives of followers. Trust contributes to a positive working environment for teachers characterized by honest, supportive, relationships (Moye, et al., 2005). Teachers who perceive they are trusted by their principal report feeling higher levels of empowerment and thus seem to enjoy teaching at high trust schools (Louis, 2007).

Not all principals are willing or able to extend trust. Principals at low trust schools seem to be reluctant to extend genuine influence to teachers and parents, perhaps assuming they do not have the expertise to make valuable contributions or because they do not trust them to make decisions in the best interest of the school (Tschannen-Moran, 2001). Principals at low trust schools sometimes rely on a policy manual more than trusting relationships. Errors and wasted time may be reduced by extensive rules, detailed procedures, and elaborate control mechanisms, but they can also undermine employee commitment and job satisfaction (Yukl, 2008). Research on principal mistreatment of teachers indicates that even small conflicts, derived, for example,

from insensitivity in interpersonal relationships or from mere misunderstandings, often escalate into debilitating crises (Blase & Blase, 2002; Leech & Fulton, 2008). Such conflicts become magnified because of the role emotions play in perceiving trustworthiness. Dunn and Schweitzer (2005) found that a person's willingness to trust another person is greatly influenced by the perception of anger they sense in that person. As more anger was sensed, trust was less likely to be extended.

Trust and Change

Trust is most useful when it is used to steer the school toward increased student achievement (Barth & Guest, 1990). Trust can be used to produce a culture in which teachers talk about teaching and learning, observe each other teach, plan and design curriculum and assessments, and teach each other what they have learned (DuFour & Berkey, 1995). In high trust schools, principals can create internal structures that enhance teachers' knowledge, skills and dispositions and other aspects of school capacity enabling the school to adapt and improve (Cosner, 2009).

School improvement is not likely to occur without trust, a vital component of school change (Lambert, 2005). Effective management skills are not enough to bring about real change in a school. Effective management must be coupled with effective leadership, winning the hearts and minds of people to work together for a common good (Gill, 2003). Principals giving feedback to teachers, a crucial element of change and improvement is well received in a respectful and trusting relationship (Blase & Blase, 1999). Barnett and McCormick (2004) wrote

The direct effects of individual concern on vision may have reflected the recognition by these teachers that, to enlist the support of teachers for a school vision, a principal must know them, involve them, and develop a relationship with them that is founded on trust

and confidence. Without trust and confidence, these teachers may have been less likely to take risks, and without risks, there is less likelihood of change. (p. 424)

The heart of principal leadership needed to bring about meaningful change and improvement has changed from formal power to relationships (Dinham, 2005). The amount of formal power invested in a principal by virtue of position is now seen as inconsequential because the principal is dependent upon the other members in the school for support to make lasting change (Bryk & Schneider, 2003; Slater, 1995). Emotionally intelligent leaders use relationships rather than positional power or authority to make changes and progress (Gill, 2003). It would be wise for a principal seeking to change and improve the school to understand and develop the skills necessary to build lasting relationships of trust with individual teachers.

When principals take the necessary time to build trust, teachers will be more likely to perform tasks that are outside their normal realm of tasks in order to see that the school succeeds. This is similar to Barnard's (1938) conceptualization that each employee has a zone of indifference to the decisions and actions of his or her manager. Within this zone, an employee is unconcerned with what the manager does for various reasons such as lack of interest or lack of expertise (Rice & Schneider, 1994). Theoretically, trust may expand an employee's zone of indifference because as trust grows, the employee may trust the manager to take certain actions or make certain decisions they previously would have not have allowed. For example, as trust begins to become part of the culture of a school, the principal will be in a better position to give candid feedback on teaching practice (Wahlstrom & Louis, 2008).

Building trust is a worthwhile investment for a principal because of the positive impact high trust has on the culture of the school. The longer a teacher works in a given culture, and the older the culture is, the more these will influence teachers' perceptions, thoughts, and feelings

(Schein, 1984). Positive results will become more apparent and frequent when teachers are working with a principal who puts in the time and effort to build trust (Burke, Sims, Lazzara, & Salas, 2007). Research shows that principals who invest time and energy in the creation of a climate of trust are very likely to see teachers seeking to improve (Kochanek, 2005).

Researchers have warned that a principal who neglects the qualities and skills needed to build lasting relationships of trust with individual teachers is destined for failure (Kelley, Thornton, & Daugherty, 2005). No matter how skilled the principal is in organizing, debating, budgeting, etc., he or she cannot succeed without the emotional intelligence necessary to build trusting relationships with the teachers and staff of the school. In order for trust to flourish school leaders must be concerned as much with values and relationships as they are with budgets and policies. Teachers are not only interested in what leaders do, but how they make them feel (Duke, 1986).

Evolution of Trust

One reason trust can be a difficult construct to understand is that trust between two parties can be continually changing and evolving. Kochanek (2005) noted that trust in an educational relationship should not be viewed as absent or present, but rather viewed on the continuum from low trust to high trust that evolves and changes over time. Tschannen-Moran and Hoy (2000) wrote that studying trust is akin to studying a moving target because it changes during relationships. As such, building trust should be thought of as a fluid process rather than a concrete event. In general, individuals first assess the trustworthiness of another person and then, if they perceive the other person as trustworthy, seek to establish a relationship of trust with him or her through repeated exchanges (Kochanek, 2005; Lewicki & Bunker, 1996). This process is impacted by an abundance of multifarious factors.

Sensing trust is a psychological experience in which values, attitudes, and emotions all interplay (Jones & George, 1998). Similarly, individuals differ in the propensity to trust which is defined as the willingness of a person to trust others. People's propensity to trust is impacted by their childhood, their personality, and their life's experiences (Mayer, et al., 1995). All of these variables reacting to one another make building trust in any relationship an intricate process.

In the beginning of any social encounter, each party does not assume that the other is trustworthy; rather, decisions of whether to trust the other party or not is suspended until further evidence is provided. Evidence comes as the two parties try to understand one another's expectations, needs, and goals (Jones & George, 1998). Bryk and Schneider (2004) suggested trust is built and maintained through repeated positive social interactions and undermined by instances of negligence. Trust is most likely to build when the social interactions are personal and occur often (Blase & Blase, 1999; Kochanek, 2005; Rooney, 2008).

Establishing trust is a task with inherent challenges. Trust is more difficult to build in diverse populations because people may be initially uncertain about the values of others they see as different (McKnight, Cummings, & Chervany, 1998). Trust may be withheld when an individual is perceived as challenging the principles of the organization (Lindsfold, 1978). When a person challenges a school's fundamental assumptions and values, that person may be perceived as working under values so different from the group's that the violator's underlying moral view becomes suspect (Sitkin & Roth, 1993).

Similarly, people may have difficulty trusting something or someone they don't understand. Individuals have an inclination to more easily trust those they perceive as similar to themselves because they feel better able to assess their intentions (Doney & Cannon, 1997; McKnight et al., 1998; Tschannen-Moran & Hoy, 2000; Turban & Jones, 1988). Levin,

Whitener, and Cross (2006) found that in new relationships, trust in another person is often rooted in gender similarity.

In order for trust to increase, perceptions of trustworthiness must also increase. What are the critical factors in assessing trustworthiness? In their seminal work, Mayer et al., (1995) identified three major factors in determining another's trustworthiness: ability, benevolence, and integrity. Ability is the culmination of people's skills, competencies, and characteristics that enable them to be highly capable in a specific domain. Benevolence is the extent to which individuals are believed to desire good for others even when it is not required. Integrity is the perception that individuals consistently adhere to a set of values the other party finds acceptable.

Lewicki and Bunker (1996) outlined three levels of trust as a relationship develops: (a) deterrence based, (b) knowledge based, and (c) identity based. They explained that in the establishment of a relationship, deterrence based trust develops first, reinforced by the belief that the other party desires to maintain the relationship. This deterrence-based trust is fortified when the deterrent or penalty for breaching the trust is clear and likely to take place. The relationship will remain at this level without continued interaction. For knowledge-based trust to develop, the relationship needs to mature to the point where the parties feel comfortable and are able to foresee how the other is likely to behave. Shapiro (1987) reasoned that courtship and communication are key processes in this development. Finally, as the relationship develops, the possibility of furthering a deep identification between partners emerges (Lewicki & Bunker, 1996). Identity-based trust develops when each party comes to understand and appreciate the other's desires to such an extent that each can effectively act for the other, which is the highest and most satisfying stage of trust (Lewicki & Bunker, 1996).

More recent research on the development of trust moves away from a linear pattern of trust development. Some researchers now posit that trust development should be analyzed at both a behavioral level and psychological level (Lewicki, Tomlinson, & Gillespie, 2006). Other recent research on trust, in both U.S. and international educational settings, indicates that trust is developed through demonstration of benevolence, reliability, honesty, and openness (Hallam, Hite, Hite, & Mugimu, 2009).

Kochanek (2005) proposed that behaviors that build trust vary depending upon the level of trust of the relationship at that time. The level of trust in any relationship can be thought of as a point on a continuum from low to high. Certain behaviors that will effectively build trust in a relationship higher on the continuum may have the opposite effect in a relationship lower on the continuum. Likewise, certain behaviors that will effectively build trust in a personal interaction with one teacher may have the opposite effect with a different teacher. Relationships lower on the continuum may not benefit from activities that are appropriate in relationships higher on the continuum (Kochanek, 2005; MacDuffie, 2010). For example, a new principal will likely hurt trust if he or she moves directly to giving critical feedback to teachers. However, once a high-trust relationship has been established, giving critical feedback can increase trust. The behaviors that will most effectively build trust vary according to a relationship's level of trust on a continuum and the situation in which that relationship is being placed (Mayer, et al., 1995).

Kochanek (2005) also suggested that relational trust normally precedes competence trust in the relationship between a principal and a teacher. She advised principals to only engage in low risk activities when a relationship is forming and to focus primarily upon easing the vulnerability felt by the teacher. A principal should start trust-building by first ensuring positive working conditions and then creating opportunity for low risk interaction. These positive

conditions and low risk interactions increase a teacher's discernments of the principals' respect and personal regard (relational trust). Over time, the development of strong relational trust creates the opportunity for the principal to introduce higher-risk interactions primarily based on perceptions of the principal's competence and integrity (competency trust). Within this model therefore, high risk interaction that comes too early in the relationship are not likely to produce positive perceptions of competence.

Trust and Collaboration

A principal's efforts to build a climate of trust within a school can have a far reaching impact on the amount of collaboration, both formal and informal, in the school. Because of the administrative power vested in the principal, many researchers emphasize the responsibility of principals to initiate the building of trusting relationships with each teacher (Moye, et al., 2005). Huffman and Jacobson (2003) found that leaders who try to build trusting relationships have a greater opportunity for success in developing an effective PLC.

It is important to note that the teachers' trust in the principal is not always found to be more crucial than other relationships of trust that can exist in a school such as the trust between teachers and parents, teachers and students, and between the teachers themselves. Trust between individual teachers may be more important than the teachers' trust in the principal as an indicator of the decisions teachers will make in designing or changing classroom practice (Wahlstrom & Louis, 2008).

What is the role of the principal in these other relationships of trust that can exist in a school? Teachers' trust of the principal directly strengthens teacher trust of other teachers (Forsyth et al., 2006). As teachers' trust in the principal increases, trust will likely increase in other relationships in which the principal is not directly involved. The teachers' trust in the

principal will likely impact teacher-teacher relationships, teacher-parent relationships, and teacher-student relationships (Forsyth et al., 2006). Thus faculty trust in the principal has a ripple effect in a teacher's willingness to create relationships of trust and collaborate with other teachers (Tschannen-Moran, 2001; Youngs & King, 2002). Principals can sustain high levels of teacher-teacher relationships by establishing trust as a staple in the school culture and climate instead of a bureaucratic orientation (Tschannen-Moran, 2009; Youngs & King, 2002). As these other relationships continue to strengthen, the teachers are likely to begin their own efforts towards personal relationships with each other and are likely to make personal choices to meet the needs of all learners (Hallam & Hausman, 2009). One such choice may be to collaborate with other teachers.

Teacher collaboration has positive results and school leaders can promote collaboration and reflective inquiry by allocating time for teachers to meet on a consistent basis (Bryk, et al., 1993). Most teachers enjoy the reduction in isolation that comes with collaboration (Goddard et al., 2007). Teachers often use collaboration time to share teaching ideas and help each other solve problems (Butler, Lauscher, Jarvis-Selinger, & Beckingham, 2004). Collaboration allows organizations to better deal with uncertainty and novelty (Dodgson, 1993). Most important, schools with teachers who collaborate show increased student achievement (Goddard, et al., 2007; Louis, 2007; Rousseau, et al., 1998).

Simply placing individuals in the same room together does not guarantee they will become a collaborative team. High quality collaboration within a school have been linked with high levels of trust, but when trust was missing, people were reluctant to work closely together (Tschannen-Moran, 2001). Even if the individual teachers work together, will all of them contribute evenly? If the teachers do not trust one another, how will the other team members

react to a teacher who does not seem to be investing or even participating? Without trust, a teacher's energy may be used in self-protection rather than creating relationships with other teachers in order to progress and teach more effectively (Tschannen-Moran & Hoy, 2000). Hoy et al., (2006) found that reported errors actually increased within high trust environments. It wasn't the amount of errors that had increased, but the amount of *reported* errors that had increased. This showed that trust is essential if errors are to be openly and honestly admitted rather than hidden. Teachers who trust each other are more likely to build effectively collaborative teams that have a real impact on student learning (Tschannen-Moran, 2001).

Gill (2003) has labeled trust as the glue that unites people together. One study found a positive relationship between trust in coworkers and trust in organizations, which suggested that the informal interactions between coworkers is the process in which employees gather information and form perceptions about top management (Tan & Lim, 2009). Relationships of trust act like conduits for the flow of information around and through the school. Schools with a high level of trust are more likely to act as a team in scanning for subtle changes that may cause trouble (Hoy, et al., 2006). This is a sharp change from a norm in schools to avoid problems as a way to ignore the difficulty inherent in working toward a genuine solution (Blase & Blase, 2002). Bryk, Camburn, and Louis (1999) said,

By far, the strongest facilitator of professional community is social trust among faculty members. When teachers trust and respect each other, a powerful social resource is available for supporting collaboration, reflective dialogue, and deprivatization characteristics of professional community. (p. 767)

Tschannen-Moran (2001) wrote, "Collaboration in an atmosphere of trust holds promise for transforming schools into vibrant learning communities" (p. 328).

Five Facets of Trust

The theoretical framework for this study was based on the work of Tschannen-Moran (2004). Her research offers five main facets of trust on which a principal can focus his/her attention to facilitate the development of trust. She stated, “Trust is difficult to define because it is so complex. It is a multifaceted construct” (p. 17). She divided trust into five facets—benevolence, honesty, openness, reliability, and competence. Tschannen-Moran and Hoy (2000) wrote,

Although teaching has historically been a rather individualistic enterprise, greater cooperation and trust emerge when situational conditions emphasize communication and collaboration. In fact, the cooperative orientation found in collaborative school cultures tends to be associated with greater trust. In the context of schools, cooperative strategies are built with strong professional communities in which there is an equitable distribution of power and joint deliberation and decision making. Such professional communities broaden and enhance trust that teachers and principals will act in the best interests of each other. (p. 574)

When principals, teachers, students, and parents trust each other and work together cooperatively, a climate of success is likely. But when distrust prevails, each is motivated to minimize his or her vulnerability to one another. (Tschannen-Moran, 2004).

Benevolence

The construct of benevolence is the belief that one’s welfare or the welfare of someone or something one cares about will be safeguarded and not purposely harmed by the one who is trusted (Mayer et al., 1995; Tschannen-Moran, 2001). Trust is built upon a foundation that one can rely on another to act in one’s best interest under all circumstances. Benevolent principals

are those that are perceived to genuinely care about teachers, convey authentic concern for each individual relationship, have an awareness of their own limitations, are tolerant of the imperfections of others, and help others learn, grow, mature, and succeed (Burke, et al., 2007; Duignan & Bhindi, 1997). The more an individual knows about someone else, the more he or she is able to connect to specific interests and needs and explain things in ways that make sense to them (Darling-Hammond & Bransford, 2007).

Benevolence aims more at building teachers' dispositions to enable the school to succeed more than it aims at building their knowledge and skills (Leithwood, et al., 2008). Teachers are more likely to seek help from the principal, work to meet high expectations, speak highly of principal to others, and accept correction when they believe a principal has their best interest as an underlying motivation. (Tschannen-Moran, 2004). Conversely, teachers who do not trust the benevolence of the principal often become anxious and worried about their own welfare (Hoy, Tarter, & Hoy, 2006). Principals display benevolence through optimistic outlooks, placing confidence in teachers, sincere compliments and expressions of appreciation, protecting teacher's rights, acting equitably, and sincerely apologizing (Moye, et al., 2005; Tschannen-Moran, 2004).

Honesty

The construct of honesty is the congruence of one's words and actions (Tschannen-Moran & Hoy, 2000). Honesty is also one's estimation of another's truthfulness. In order to be considered honest, principals should genuinely behave in a way that highlights consistency between their words and actions (Hoy & Tschannen-Moran, 1999).

Honesty also involves authenticity. When a person's words and actions are not congruent, the feeling of authenticity is weakened. Trust can be easily undermined by negligence and by a lack of authenticity (Sweetland & Hoy, 2001). Trust cannot be counterfeited and

inauthentic attempts to create trust will only produce more distance between individuals. People tend to think more about the importance of trust when it is absent or after it has been damaged (Tschannen-Moran, 2004). If a teacher senses a counterfeit effort from a principal he or she will likely invest time and energy into self-protection rather than engaging in the relationship (Burke, et al., 2007). When trust is undermined, the breakdown moves quickly. A study on deception defined as “principal spin” and “teacher spin” resulted in these findings:

The initial analysis supported the theory that principals spinning the truth are likely to generate a sense of powerlessness among teachers that may lead to teachers protecting themselves by engaging in their own version of truth spinning. Principals appear to react to teacher spin with more spin of their own and the vicious cycle begins anew. Unless teachers or principals, who are willing to be authentic in their interactions, break the cycle, a disingenuous climate of deceit, deception, and manipulation is likely to persist and reinforce itself. (Sweetland & Hoy, 2001, p. 291)

Dishonesty hurts trust. As trust levels decrease, in order to avoid the vulnerability of disappointment from both real and imagined harm, people will refrain from taking any assertive action whatsoever. If withdrawal is not an option it is likely that cooperation and support will be abandoned (Kochanek, 2005).

Principals that genuinely take personal responsibility for their actions are likely to be perceived as more honest (Burke, et al., 2007). Honesty, integrity, fair-mindedness, loyalty, justice, and equity are central to the culture of organizations that focus on developing trust. These are the type of organizations in which honesty is internalized and finds expression through every day practices and procedures (Duignan & Bhindi, 1997).

Authenticity is crucial because without the principal's willingness to be authentic and break the cycle of principal and teacher spin, a disingenuous culture of dishonesty and manipulation will persist and fortify itself (Duignan & Bhindi, 1997; Sweetland & Hoy, 2001). School leaders control their own destiny by acting in ways that engender trust or distrust (Tschannen-Moran & Hoy, 1998). Bryk and Schneider (2004) took congruency between word and action a step further by mentioning the importance of intent. They stated, "Fulfillment of obligations entails not only doing the right thing, but also doing it in a respectful way, and for what are perceived to be the right reasons" (p. 21).

Openness

Openness is a construct which refers to the willingness to share relevant information in the form of facts, alternatives, judgments, intentions, and feelings (Tschannen-Moran, 2004). It is an indication that one is willing to extend trust to another by being open with information that may make themselves vulnerable (Hoy et al., 2006). The process of increasing openness in any relationship is gradual. Sharing information is a mutual exchange process beginning with small investments and eventually developing into divulging what may be more personally vulnerable information (Burke, et al., 2007). Principals who offer information in a truthful and straightforward manner enhance trust while principals who guard information incite suspicion (Hoy et al., 2006; Moye, et al., 2005).

Openness can correct problems before they are compounded. In schools in which openness is a part of the culture, teachers and other staff members are more likely to disclose more accurate, relevant, and complete data about problems (Tschannen-Moran, 2004). As the culture of openness becomes more and more permanent, trust continues to build.

Openness is exhibited through sharing resources, materials, equipment, successful teaching strategies, relevant budget numbers, and disclosing personal information. Shared decision making and appropriate delegation are practices based on principles of openness. Researchers indicated that principals who wish to be perceived as open, and therefore more trusted, should create transparent decision making processes within the school (Tschannen-Moran, 2004).

Reliability

The construct of reliability is one's assessment of the consistency, predictability, and dependability of another person or group. Trust cannot be simply built by assuming its existence. It is built through consistent positive interaction creating a sense of reliability, the extent to which one can count on another to come through with what is needed. The degree to which a person believes that outcomes will be forthcoming and positive reflects the extent of trust (Hoy & Tschannen-Moran, 1999).

Perceptions of reliability are developed through consistent and positive interaction over a period of time (Rousseau, et al., 1998). Principals need the ability to have frequent positive interactions with others. A series of positive interactions builds confidence that the next interaction will be positive regardless of the circumstances. On the other hand, sporadic and indiscriminate negative interaction diminishes predictability which sows distrust. Consistent negative interaction may become predictable, but will not result in trust. Reliability, therefore, is a combination of predictability and caring (Tschannen-Moran, 2004).

Perceptions of reliability are strengthened when a principal follows through with commitments. A principal must exhibit enough consistency in keeping promises to inspire confidence that others can rely on him or her when the need arises (Tschannen-Moran, 2004). If

a principal does not keep promises, wasted energy will be spent by the teachers in mental planning on what to do if another promise is not kept.

Perceptions of reliability are also strengthened when a principal meets the expectations produced by their espoused beliefs. Words and actions must be aligned if a principal wants to be deemed reliable by teachers. For example, if principals talk about the importance of trust, they must hold themselves and other's accountable for trust building behavior (Hallam, et al., 2009).

Competence

Despite being benevolent, honest, open, and reliable, principals may not be fully trusted if they do not have the ability to carry out their responsibilities as expected. Competence is a construct defined as the capability to perform tasks as expected. Teachers will ask questions such as: Can the principal develop and maintain a budget? Can the principal handle difficult situations? Does the principal know what good teaching is? Can the principal lead effective professional development? A teacher may feel that a principal is benevolent and desires very much to help, but if the principal lacks comprehension or otherwise cannot adequately fulfill expectations, the teacher will likely lack trust in the principal. However, principals who fulfill what teachers feel they ought to be able to expect are likely to be respected and even admired (Tschannen-Moran, 2004). Teachers cannot be expected to expand their abilities without the principal taking responsibility to help them create more capacity, not just punish them more when they don't live up to expectations (Elmore, 2004). Feedback that creates capacity can only arise from the mind of a competent and thus trusted principal.

Competence also enables a principal to understand which behaviors are appropriate in various circumstances (Kochanek, 2005). For example, principals must know what behaviors would be best to use in difficult situations such as conflict resolution between teachers. Bryk and

Schneider (2004) wrote that principals must have the interpersonal skills needed to engage adults effectively. A principal's competency will enable him or her to discern the presence of benevolence, honesty, openness, and reliability in a relationship and take appropriate action. This type of relationship management requires that a principal have competent interpersonal skills.

Adding competence as a facet of trust allows for relationships that may change according to each individual's ability (Burke, et al., 2007; Schoorman, et al., 2007). Trust within a relationship is a function of each party's different abilities across different domains (Schoorman, et al., 2007). A relationship of trust between two people can simply change due to the situation (Rousseau, et al., 1998). For example, a teacher may trust a principal to tell the truth, but not trust the principal's ability to manage a budget or help with a discipline problem in the classroom.

Using the theoretical framework of Tschannen-Moran's (2004) five facets of trust (Table 1), this study first used the five facets to frame team member and principal behaviors as antecedents to trust, e.g. when a team member demonstrated openness. These five facets of trust were then used to identify relational content between the PLC team members, e.g. when one member perceived another as being honest. The degree to which the team member and principal demonstrated these facets, and the extent to which they were perceived as such by others, related positively to the trust within the team and the team's ability to collaborate effectively.

Table 1

Five Facets of Trust (Tschannen-Moran, 2004, p. 34)

Benevolence

Caring, extending good will, having positive intentions, supporting teachers, expressing appreciation for staff efforts, being fair, guarding confidential information

Honesty

Having integrity, telling the truth, keeping promises, honoring agreements, having authenticity, accepting responsibility, avoiding manipulation, being real, being true to oneself

Openness

Engaging in open communication, sharing important information, delegating, sharing decision making, sharing power

Reliability

Having consistency, being dependable, demonstrating commitment, having dedication, being diligent

Competence

Setting an example, engaging in problem solving, fostering conflict resolution (rather than avoidance), working hard, pressing for results, setting standards, handling difficult situations

Conversely, deficiencies in these five facets, and their perception, signaled potential problems for the team in terms of lower levels of trust and collaboration.

Tschannen-Moran's (2004) theoretical framework of the five facets of trust will also influenced how the data were analyzed. Emergent theories were very important to this research, but it was also important to have a place to start. Employing the five facets of trust as an etic theoretical framework provided this research a starting point from the literature.

Figure 1 is the conceptual framework for a study on the role of trust between team members who are a part of a collaborative team. The proposed relationships between the facets of trust as team member and principal behaviors and a PLC team's ability to collaborate are displayed. Trust within a PLC collaborative team was influenced by each team member's

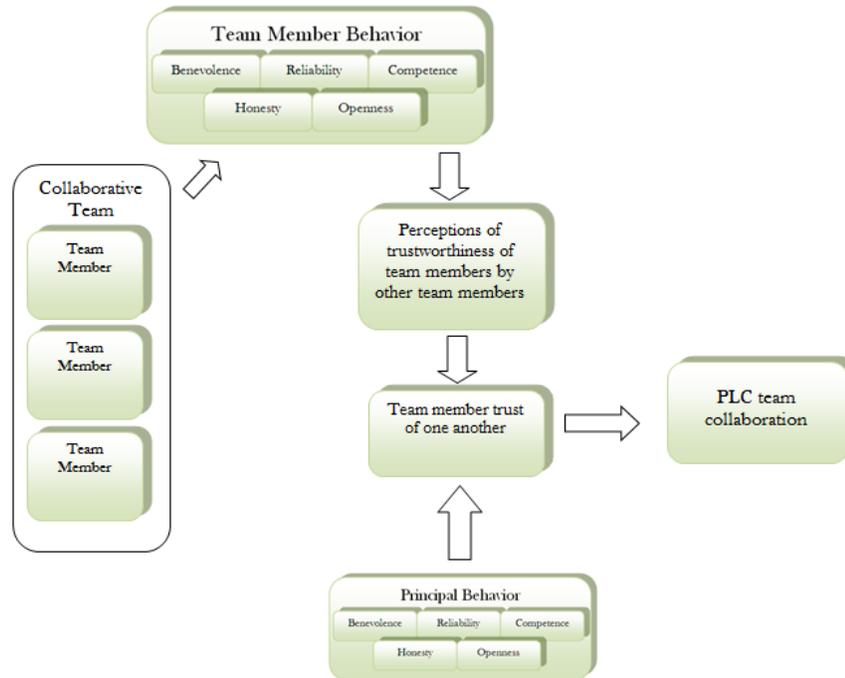


Figure 1. How trust influences a PLC team's ability to formally collaborate

perceptions of trustworthiness of one another and the perceptions of the trustworthiness of the principal. In this way, the five facets of trust were thought to be antecedents of trust. The individual team members' perception of the trustworthiness of the principal influenced the trust within the team to a lesser degree than did team members' perceptions of trustworthiness of one another. Perceptions of trustworthiness are influenced by the team members and principal exhibiting behaviors perceived by others as benevolence, reliability, competence, honesty, and openness. Therefore, we postulated trust to be the lifeblood of an effective PLC.

In sum, this conceptual framework surmised that trust between the members of the collaborative team positively influenced the team's ability to collaborate. Likewise this conceptual framework proposed that the team member's trust in the principal influenced the team's ability to collaborate, albeit to a lesser degree than the trust between the members. This research aimed to build upon the existing research linking PLCs and collaboration (Vescio et al.,

2008; DuFour, Eaker, & Many, 2010) to trust in schools (Bryk & Schneider, 2004; Tschannen-Moran, 2004; Kochanek, 2005).

APPENDIX B: METHODS

Trust can be a sensitive topic and therefore it should be researched with great caution and information should be handled with sensitivity and care in order to protect those who are being studied. The study of trust has been compared to the study of the roots of delicate plant. Without great forethought and carefulness, the examination can damage or even destroy the very things about which greater understanding is sought (Colquitt, Scott, & LePine, 2007).

This study assumed that trust can be measured and that qualitative research methods are effective means with which to measure it. These methods are also useful for studying the role of trust in a collaborative team's ability to collaborate. Flick (2007) explained that one of the purposes of qualitative research is to explain social phenomena by analyzing the experiences, everyday knowledge, accounts, and stories of individuals or groups. Qualitative researchers seek to untangle how people construct the world around them, what they are doing or what is happening to them in terms that are meaningful and that offer abundant insight. As Pettigrew (1990) noted, it is difficult to capture the complexities of the real world, and then make sense of them.

This study employed case study methods (Eisenhardt, 1989; Yin, 2009) to explain the role of trust on a collaborative team's ability to collaborate. Case study studies are a type of research that involves doing an in-depth study of a single person or group. They are used extensively in social science research. Case studies are used to understand complex social phenomena and, at the same time, allow the researchers to retain the holistic and meaningful characteristics of real-life events. With the permission of Dr. Pamela Hallam, this research utilized archival case study data from her on-going research of trust in schools. Specifically, four elementary schools were each treated as a case.

Sampling

Using purposive sampling (Creswell & Creswell, 2005), Hallam, Dulaney, and Wall selected four schools in a U.S. western state. For qualitative case study research, purposive sampling increases the focus and utility of the data obtained. While purposive sampling can introduce a source of researcher bias, this sampling strategy is useful when the researchers require information from particular groups such as those with outstanding success or notable failures (Pettigrew, 1990). In this research, the researchers sought for outstanding success or notable failures in successfully implementing the PLC model.

This research began with Timber Intermediate School, a school made up of entirely fifth and sixth grade students, which was struggling to implement the PLC model. The research team was trying to understand why these teams were struggling. The team did not expect to expand the study beyond Timber. However, after reviewing the data from the Timber PLC teams we saw an opportunity to advance upon what was discovered through a comparison study. The research team then sought another school with which to make that comparison. Ideally, another intermediate school made up of fifth and sixth grades would have been chosen. However, no other schools with Timber's grade configuration existed in the state and there were no other schools in Timber's district with fifth or sixth grade students.

A list of schools in a neighboring district was developed by district leaders as successfully implementing the PLC model and having met AYP (Annually Yearly Progress). From this list, three schools with fifth and sixth grade students were chosen. Inclusion criteria included similarity of school demographics, e.g. similar percentages of minority students. Purposive sampling was also used to select the specific collaborative teams for this study. Only fifth and sixth grade teams that were trying to implement the PLC model were interviewed. The

schools were also chosen based on their willingness to participate and relative accessibility.

The three other elementary schools identified as having similar demographics as Timber, but succeeding, albeit in different degrees, to implement the PLC model were Center, Vine Grove, and Fox Canyon (*all pseudonyms*). Center had been nominated for higher merit pay by district leadership based upon their PLC implementation. We interviewed the fifth and sixth grade teams at these three schools to compare to the data obtained at Timber which was made up of only fifth and sixth grade students. Twelve interviews were conducted, six at Timber and six at the other three elementary schools. Six of the interviews were with fifth grade teams and six of the interviews were with sixth grade teams. The twelve transcribed interviews resulted in over 400 pages of data.

Timber, Center, Vine Grove, and Fox Canyon were similar in demographics. This is important because it allows the researchers to rule out some alternative reasons for either Timber's failure or the other schools' successes to implement the PLC model. Schools that were more than ten percent below Timber in their percentage of minority students, students at an economic disadvantage, English language learners, and students with disabilities were excluded from being part of the sample. Center, Vine Grove, and Fox Canyon each met the exclusion criteria. Table 2 shows the similarities between the demographics of the four schools.

Case Descriptions

The four schools chosen were cases of schools attempting to become PLCs, three with varying degrees of success, the other failing. Each school was chosen through observation by district leaders and similar demographics. Four similar schools, all varying in the ability to implement the PLC model, created a satisfactory environment to study the impact of trust on their collaborative teams' ability to collaborate.

Table 2

Demographic Information for Timber, Center, Vine Grove, and Fox Canyon

	Timber Intermediate	Center Elementary	Vine Grove Elementary	Fox Canyon Elementary
Total Number of Students	793	523	640	1110
Students in fifth & sixth Grade	793	141	160	288
Minority Students	17%	17%	29%	11%
Economic Disadvantage (percentage of students on free or reduced lunch)	41%	51%	56%	32%
English Language Learners	9%	7%	10%	4%
Students with Disabilities	18%	12%	11%	12%

School #1 – Timber Intermediate School

Timber was identified as failing based upon low test scores and the school's reputation with district administration as attempting to implement the PLC model, but failing in that effort. Timber was recently reconstituted as a middle school and its configuration made up of only fifth and sixth grades added to the difficulty of effectively implementing the PLC model.

Timber was established in 2010, after its rural school district built a new building for its ninth through twelfth grade students. The seventh and eighth grade students then moved to the vacant high school building, leaving the old junior high school building unoccupied. The school board decided to create an intermediate school made up of all of the district's existing fifth grade students, who had been part of the district's elementary schools, and all of its sixth grade students, who had been served at the junior high school. The district's elementary schools now would be only K-4 schools, and its junior high school would now only host two grades (seventh & eighth), giving both room to grow. However, this new arrangement meant combining teachers

who had been accustomed to functioning within a junior high school setting (e.g., being specialty teachers teaching different classes of students during 50 minute periods) with teachers from an elementary school setting (e.g., students stay all day with one teacher who offers all subjects).

The new configuration made it difficult for teachers to find common ground their first year. The former junior high school principal became the new principal of the intermediate school and he sought to create a junior high school setting at Timber. The fifth grade teachers struggled with that idea as they tried to make the necessary adjustments to their teaching. After the first year, the principal retired and a new principal, Donna (pseudonym) was transferred from her assignment as an elementary school principal. It was the sixth grade teachers who now had difficulty relating to Donna because she had no experience at the secondary level. Donna received direction from district administrators to have Timber function like a traditional elementary school, which required the former junior high school teachers to teach all of the subjects for a specific set of students. In addition to this, the district pressured the school into several new initiatives including new math and literacy programs, a one-to-one laptop initiative, Sheltered Instruction Observation Protocol (SIOP), and “becoming” a PLC. These initiatives all occurred while teachers were still getting to know their new colleagues and principal.

As the faculty began implementing the PLC model, it seemed doomed from the outset. Teachers complained that district leaders dictated which books each teacher should read and discuss. When they were broken up into PLC teams, Donna assigned team leaders, but gave no reasoning behind her choices. The district did schedule time for the teams to meet, but they did not know what to do or discuss when they met. The school did not have a unifying mission statement that may have been able to move them forward in a common purpose.

When the researchers came to Timber at the end of the second year, discontent was high and job satisfaction was low. During the summer between the 2nd and 3rd year, the teachers were informed that the school did not make Adequate Yearly Progress (AYP), which increased the level of stress in an already tense environment. Now the teachers had to raise the performance level of the school or face penalties.

School #2– Center Elementary

Center Elementary was identified as thriving based upon test scores and the school's reputation with district administration as its most successful school in implementing the PLC model. With similar demographics as Timber, Center was a fair comparison to Timber.

Center has a history that extends over a century. Like other elementary schools in the state, the number of minority students enrolled at Center has increased steadily over the last ten years. The number of students categorized as economically disadvantaged has also increased. Beginning the 2011-2012 school year, the majority of Center's K-6 students could be categorized as economically disadvantaged. Center is a Title 1 school, with a large enough concentration of low income students (51% of Center's students receive free or reduced lunch) to receive supplemental federal funding. Center had always met AYP required by the *No Child Left Behind Act*.

In 2007, Nicki (*pseudonym*) was brought in as a new principal for Center. The faculty and staff were suffering from the damaging leadership of the previous principal. Center was still able to meet AYP each year, but turnover was high and morale was low. Nicki had been successful in her previous school and the district administrators had faith she could do the same at Center. Her first four years at Center were a resounding success. When the research team arrived at Center, both morale and test scores were high.

School #3 – Vine Grove Elementary

Vine Grove Elementary was identified based upon test scores and demographics. Vine Grove had higher than average test scores and, like Central, the demographics of the student body made Vine Grove another fair comparison to Timber. Like Center, Vine Grove, is a Title I school (56% of Vine Grove's students receive free or reduced lunch).

Vine Grove was established over 20 years ago. Olivia (*pseudonym*) became principal 5 years ago replacing an inexperienced and incompetent principal. The upper grades of the school (3rd-sixth) felt completely ignored, as the previous principal seemed to focus all of his attention on the lower grades. Most teachers felt he did not support their efforts to discipline the students. It was a common feeling among the teachers he did not have the necessary classroom experience to offer them any effective feedback or advice, especially when the school began implementing the PLC model during his administration. Test scores were lower than they ever had been when Olivia arrived. The teachers immediately sensed in Olivia a level of professionalism they had not seen in years. Test scores and teacher morale had been steadily increasing since Olivia arrived.

School #4 – Fox Canyon Elementary

Darrel (*pseudonym*) was in his first year as principal at Fox Canyon Elementary. He came into a school already thriving. Fox Canyon had a history of continual high test scores, happy teachers, and ambitious students. He had known Fox Canyon's previous principals and they all spoke very highly of the faculty, staff, and students. When he arrived, he found the teachers to be professional and hard working.

The school had begun implementing the PLC model when it opened seven years previous to Darrel's arrival. He felt the faculty understood what it meant to be a PLC and were functioning very effectively as one. The only complaint Darrel heard from the teachers was that

they were not able to get to know everyone on the faculty because of the size of the school. With over 1100 students, Fox Canyon was the largest of the four schools studied.

Data Collection

This study used archival data from the ongoing research of Drs. Hallam, Dulaney, and Wall at Brigham Young University. All data were collected under IRB approval.

In order to better describe the correlation between trust and a collaborative team's ability to collaborate, the collaborative teams were interviewed as focus groups. First, each teacher gave informed consent to participate and was given any necessary instructions, potential risks and benefits, and format details for the interview. Second, the team was interviewed. Each focus group took place in an available faculty meeting room within the school. Table 3 shows the structure of the twelve teams that were interviewed.

The focus group questions were created using the episodic interview model. Episodic interviewing is an interviewing technique in which researchers interview a respondent seeking to elicit an accurate picture of the subject's personal narrative (Flick, 2000). This type of interview process encourages the respondents to recall and relate experiences and stories which enable the researchers to ascertain how they understand their environment and their own experiences. Episodic interviews also seek to elicit an accurate picture of the generalizations or theories the respondents have created as a result of their environment and their own experiences (Flick, 2000). Data from episodic interviews allow the researchers to triangulate in order to get an

Table 3

Detailed Structure of Collaborative Teams Interviewed

	Case 1: Low performing PLC		Case 2: High performing PLCs	
	Timber Intermediate	Center Elementary	Vine Grove Elementary	Fox Canyon Elementary
Fifth grade teams	#1: 6 Teachers (5 female, 1 male)	#1: 3 Teachers (2 female, 1 male)	#1: 3 Teachers (3 female)	#1: 4 Teachers (3 female, 1 male)
	#2: 5 Teachers (4 female, 1 male)			
	#5: 5 Teachers (5 female)			
Sixth grade Teams	#3: 6 Teachers: (4 female, 2 male)	#2: 3 Teachers (2 female, 1 male)	#2: 3 Teachers (2 female, 1 male)	#2: 4 Teachers (3 female, 1 male)
	#4: 4 Teachers (2 female, 2 male)			
	#6: 5 Teachers (4 female, 1 male)			

accurate picture of what is really happening to and within the collaborative team and to be confident in both analyses and conclusions. Asking differing questions about the same topic does not mean that all responses should be expected to be identical, but rather that the responses should converge together and complement each other. The respondents might not be able to fully articulate what they believe until they are clear in their minds what they mean. The episodic interview process helps them think through their experiences and create narratives, summaries, and theories.

An interview guide was followed in conducting the episodic interviews for this study. The research focus for the interviews was the role of trust between the individual team members and also between the team members and the principal in the effectiveness of collaborative teams. The interview guide steered the researchers through the steps of the interview: 1) familiarizing

the participant with the principles and format of an episodic interview, and 2) asking the different interview questions. Episodic interviews contain four types of questions: situation narrative, repisode, example, and subjective definition (Flick, 2000). Anticipated prompts were also listed as part of the guide.

The situation narrative questions were designed to have the participant draw from his or her personal experiences an experience related to trust on the collaborative team. Asking the questions in this way was meant to produce a story that stood out to the respondents and gave them a chance to explain their realities, what they heard, saw, and felt. The respondents were free to select from any experience of their choice, but the questions were designed to draw out an experience centered on trust in the collaborative team.

The repisode question was designed to have the participants tract toward the typical experiences they had with trust. This question helped the respondents reflect on the relevance of trust in the everyday workings of their teams. During data analysis, the answer to this question could be contrasted against the answer to the situation narrative question. The researchers could then understand and/or further explore why a respondent's narrative differed or was similar to the typical experiences. The data obtained from this question allowed the researchers to begin to triangulate during data analysis.

The example questions were designed to have the participants move the focus off of their experiences to the experiences of their collaborative team members. The respondents drew from their experiences in which they had seen or heard of a team member's experiences dealing with trust on the team. During data analysis, the respondent's answer to these questions enabled the researchers to compare each respondent's own experiences from the situation narrative and repisode questions against the experiences of other team members. The researchers were able to

watch for consistency in the respondents' answers and asked for further clarification when respondents seemed to make contradictions.

The subjective definition questions were designed to have the participants create a definition of trust from their own perspective. During data analysis, the researchers watched for the consistency of this answer to the other answers previously given. Consistency is vital in order to obtain an accurate picture of how the participants saw and experienced trust in the collaborative team. Having the participants create an argumentative-theoretical statement gave them an opportunity to stand back from their experiences and then summarize and create conclusions concerning the role trust played on the success of their collaborative team.

Each interview was recorded on two digital recorders, one recording as the primary recorder, the other for backup in the event of the primary recorder malfunctioning. Interview recordings were saved on an external drive and laptop computer with password protection. The researchers also took written notes during the interviews to log anything the respondent did (body language, reactions, etc.) that would be relevant to the study. For the interviews conducted at Timber, two researchers were present at each interview. This enabled the researchers an opportunity after the interview to discuss impressions and questions with each other on school trust. The twelve transcribed interviews resulted in over 400 pages of data. To ensure transcription accuracy, the recorded interviews were listened to, read and refined as necessary by the researchers prior to data analysis. The resulting data was imported into NVivo Software, coded, and analyzed to support descriptions, explanations, conclusions and implications related to the research questions.

Data Analysis

This study utilized constant comparative methods to analyze the data (Boeije, 2002). Using NVivo software, qualitative data analysis methods were used to identify and analyze themes and patterns in the focus group data. Based on a grounded theory approach, the goal was to develop theoretical explanations that emerged from the data (Glaser & Strauss, 1967; Glaser, 2008; Strauss, Corbin, & Lynch, 1990). As such, the three general stages of data analysis included open coding, axial coding, and selective coding (Marshall & Rossman, 2010). Coding the data was a way to break down the large amount of data and reorganizing it in a way that told a story (Creswell, 2012).

Open coding was the beginning stage in which data was categorized and themes began to emerge (Marshall & Rossman, 2010). During axial coding, we built on one-dimensional themes to identify multi-dimensional patterns (Creswell, 2012). Finally, during selective coding, we focused on specific themes and patterns that provided rich theoretical explanations of the phenomenon under study (Marshall & Rossman, 2010). These stages should not be thought of as clearly distinguishable procedures, but more as an iterative process. We moved back and forth across the stages (Flick, 2007). However, each stage of the qualitative analysis process was essential to the development of theoretical explanations and was not rushed or seen as tasks to check-off a list. The quality of our conclusions was determined by the quality of the entire process.

Before seeking to explain what is happening at the schools, we first sought to understand what was happening (Miles & Huberman, 1994). Open coding was the process of understanding. It involved categorizing, clustering, and summarizing in order to reduce and organize large amounts of qualitative data (Creswell, 2012). A code is a label that the

researchers attached to a piece of data relating to an idea, question, construct, or theme (Miles & Huberman, 1994). The creation of the different labels happened during the coding process (Gough & Scott, 2000). As we read through the 400 pages of transcribed interviews in this study, we attached codes to parts of it—a few words or multiple paragraphs. To etically frame the data, the data were initially coded using categories derived from Tschannen-Moran's (2004) five facets of trust. Next, the data was coded using each of the research questions.

How is trust developed specifically within collaborative teams of teachers? In order to answer this question from the data, we watched for comments team members gave concerning how they established trust initially and how trust evolved through their time together as a team. In a similar manner, we watched for comments from team members describing specific moments when trust was strengthened significantly.

What is the role of the principal in facilitating trust within professional learning community collaborative teams? In order to answer this question from the data, we watched for direct and indirect comments team members made about their current principal or the former principals at their school. We also watched for a lack of comments about the principal or former principals to inform this question.

What is the role of trust in facilitating teacher collaboration within professional learning community collaborative teams? In order to answer this question from the data, we watched for connections team members made to the trust on the team and their ability to collaborate. We also watched for comments team members made concerning their willingness to share student test scores with other members of the team.

As we worked with such a large amount of data, open coding became a tiresome and tedious process. However, we saw open coding as important because it forced us to make

judgments about the meaning of the data (Denzin & Lincoln, 2005). Open coding also included placing codes into a hierarchical structure. As we coded the different sections of data, we discovered certain codes fit together or two or three codes were all subsections of another code. Creating codes and placing the codes in a hierarchical structure was part of the qualitative analysis. Coding and structuring the codes were not just products of knowledge; they were both forms of learning about trust and collaboration. We came out of the coding process knowing and understanding much more about the role of trust on collaborative teams.

As we created codes and placed those codes in a hierarchical structure some themes began to emerge that were unique to the respondents. We identified themes when certain words, ideas, and phrases seemed to come up repetitively. In order to see the repetition, we created emic codes using the vocabulary used by those interviewed. The NVivo software helped us see which words, ideas, and phrases were used more frequently than others. Similarly, our familiarity with trust and collaboration research enabled us to identify when themes of the literature showed up in the data. The appearance of such themes in the data provided additional validation to the emerging theoretical explanations. The creation of codes and discovering themes were at the heart of open coding (Strauss et al., 1990). Similarly, our open coding was not considered as separate from data analysis, because coding was part of analyzing. We learned and discovered as the data was coded. When we saw that codes were no longer being created and that no new themes were emerging from the data, we felt ready to move into axial coding.

Like open coding, axial coding was a process of discovery. However, axial coding was more focused than open coding (Strauss et al., 1990). It moved us from summarizing and organizing data into one-dimensional themes to revealing patterns between the themes. In axial coding, we focused on those codes that were the most relevant (or became relevant through the

analysis) to the research questions. Axial coding was a process of synthesis in which we wrestled with, grappled with, and made sense of the data. As we massaged the data and compared and contrasted the most relevant themes to other relevant themes, we found relationships between them.

Many possible combinations of themes, attributes and patterns were explored during axial coding (Strauss et al., 1990). In axial coding, we used all of the codes and hierarchical structure created in the open coding stage to create different ways of seeing the data. Many possibilities existed for connections within the data during axial coding. We attempted to find patterns by comparing themes by themes. (Strauss et al., 1990). This not only enabled us to further understand the data and discover patterns but also to start to explain the patterns and themes to our audience in a simple and organized way rather than relying on the reader to find the patterns in our written explanations.

After we discovered the central phenomenon emerging from the data, we sought to use the data to communicate that message to our readers. Selective coding was a process of providing explanations and evidence (Strauss et al., 1990). The data were once again combed through as we used open and axial coding strategies to find further evidence supporting the theory that emerged. We sought to be sure the displays we created during selective coding provided clear evidence supporting the central story. Selective coding was the final stage of our theory development and explanation.

NVivo software was used to identify themes and patterns. This software contains tools which allowed us to check thresholds. We used thresholds to make sure that the themes and patterns focused on are actually representative of the data. Thresholds are a tool for judging significance. This study employed an over 50% threshold at Timber and a 100% threshold for the

other three schools in order for the majority of focus groups to be represented. In this study, if a particular topic or insight was brought up by four of the six teams at Timber or both of the teams at the other schools, the thresholds would be met. Thresholds allowed us to be sure that the conclusions we came to were accurately grounded in the data and the reality of the participants.

NVivo software was also used to show us the number of codes attached to each piece of data. This allowed us to watch for data saturation. Data saturation was a good indicator that we had done enough. We reached the point that continued analysis didn't reveal new patterns, it only continued to validate what has already discovered.

Reporting Conclusions

To be sure this research would be considered valid and useful among scholars and practitioners, it was conducted and reported in a manner that allows the reader to make judgments about the consistency of the procedures and the soundness of the conclusions drawn from the data. We sought to conduct and report this research in a trustworthy way to indicate to the user that our findings are worthy of attention. Erlandson (1993) listed techniques meant to help researchers provide trustworthy research. These techniques include trust value through credibility, applicability through transferability, consistency through dependability, and neutrality through confirmability.

Credibility refers to “the compatibility between the constructed realities that exist in the minds of the inquiries respondents with those that are actually attributed to them” (Erlandson, 1993, p. 30). In other words, how can we and our readers be confident that the conclusions drawn are an accurate representation of our sample? Credibility through peer debriefing was established in the data analysis process. Peer debriefing between researchers was used to allow the researchers with more knowledge and understanding of the constructs involved in the study

to help other researchers with less experience. The more experienced researchers offered different perspectives and helped maintain objectivity. For this study, frequent meetings with between researchers (dissertation chair and major committee members) provided not only credibility, but needed guidance and direction.

Transferability is the ability to help the user utilize research findings to other similar circumstances and situations. Generalizing conclusions is argued by some to be difficult or even inappropriate by qualitative researchers (Gibbs, 2007). While it is impossible us to generalize findings beyond the scope of the sample, knowledge gained in one setting often can be useful in a different setting (Erlandson, 1993). The lack of generalizability needs to be openly acknowledged, but this does not destroy potential applicability.

Many means were employed to increase transferability in this research. This study used a purposive sampling strategy, a sampling procedure governed and controlled by the purposes of the study (Erlandson, 1993). The data gathered from interviewing the specific teams of teachers enabled us to provide rich detail about the role of trust in a collaborative team's ability to collaborate. Transferability was also increased through the data analysis process. The reader must make judgments about the applicability of the research and we saw that these judgments would be more easily made with data that was rich in detail and precision. Therefore, we sought to increase transferability through clear and detailed description of methods in the reports produced. As the data were analyzed and reported, trustworthiness was built by offering the audience a brief history of the school. Such detail allowed the readers the closest thing to directly experiencing the setting and then making judgments about similarity to their own context.

Dependability refers to the ability of research findings to be repeated in similar situations with similar and consistent results (Erlandson, 1993). People and their realities are always

changing; therefore, the goal of this research was not to create a study in which all variables were the same in order to achieve similar and consistent results. We did not seek to prevent change, but sought to explain change. In other words, we did not seek to increase dependability through replication, but through accounting for trackable variability, variability that can be attributed to particular sources (Erlandson, 1993).

The Dependability Audit recommended by Erlandson (1993) was built into this research. The coding process was detailed in a research journal along with the researchers' thoughts and insights. All of the interviews were transcribed word for word to gain an accurate interpretation. All of this enabled us to face external checks and peer reviews of the research procedures with confidence. During data analysis, we noted why specific directions was taken through the data, why changes in strategy occurred, where focus was placed, and which data led to which specific conclusions. Such an archive allowed the reader access to the processes, but also served as a reminder to us of the path that led us to our specific conclusions.

Confirmability was also important to this qualitative research. Like all qualitative research, this research did not attempt to create bias free findings. However, all findings were able to be traced, both explicitly and implicitly, to their sources along with the logic used to arrive at such findings (Erlandson, 1993). In other words, confirmability refers to the extent in which findings were tied to the data and conclusions were logically drawn from the data.

Like dependability, confirmability was established through the audit trail—the journals, memos, and transcriptions. The audit trail tracked analysis strategies during data analysis. This system allowed us to verify that the conclusions drawn can be logically traced back to the data. This audit trail enabled us to explain in the published analysis why certain data was given emphasis. We sought to help the reader easily tie the strategies to the conclusions. The quotes,

models, and tables created a pathway from the raw data to the conclusions that was transparent, reasonable, and sound. We sought to explain strategies in such precise detail that the conclusions are seen by the readers to be the natural results produced from the data, not the natural results of our own biases.

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