

Enhancing Teacher Collaboration
Effectiveness of Collaboration in Online and Face-to-Face Learning Formats

by

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ABSTRACT

As a result of the district program evaluation, a follow up on teacher perceptions of an online collaboration versus face to face collaboration approach was deemed necessary. The interviews were conducted with eight teachers from a suburban southwest K-8 public school district. After all teachers had participated in a 10 week program evaluation comparing online team teacher collaboration with face-to-face team teacher collaboration, the interview process began. One teacher from each grade level team was randomly selected to participate in the interview process. Analysis of the interview responses was inconclusive. Findings were confounded by the apparent lack of understanding of major concepts of Professional Learning Communities on the part of the participants. Assumptions about participant knowledge must be tested prior to investigations of the influence of either face to face or online format as delivery modes.

DEDICATION

I would like to dedicate this paper to my family, who were always there cheering me on, my mother and father, grandparents, sisters and brothers, my nieces and nephews, and especially to Scott, who by simply being my son, helped me to focus on going for the highest possible goal. I know Scott is looking down from heaven right now and giving me the thumbs up. A special thanks goes to my husband, John, who took up the slack when I was attending endless evening and weekend classes, and to my boys, Jonathon and James, who waited patiently for four years while mom finished this degree. And finally, I would like to dedicate this paper to the Lord above, who helped me through when the road was rocky.

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Chapter 1

INTRODUCTION

Enhancing Teacher Collaboration

The topic under research is the Professional Learning Community (PLC). The Professional Learning Community is not a place but a concept. The concept is summed up in a quote by founder of the Professional Learning Community model Richard DuFour (2004), “To create a professional learning community, focus on learning rather than teaching, work collaboratively, and hold yourself accountable for results”(p. 6). The Professional Learning Community has no universal definition but many share the idea a Professional Learning Community exists when a group of teachers meet to share and critically interrogate their practice in an ongoing, reflective, collaborative, inclusive, learning-oriented, growth promoting way (Mitchell and Sackney, 2000; Toole and Louis, 2002).

Professional Learning Community Key Components

Professional Learning Communities emphasize three key components: collaborative work and discussion among the school’s professionals, a strong and persistent focus on teaching and learning within that work, and the gathering and use of assessment and other data to inform and evaluate progress over time (Newmann & Wehlage, 1995). Overwhelming agreement exists that professional learning, although not a guarantee, is directly and persistently linked to educational improvement and school development (Bredeson & Scribner, 2000).

Collaboration between teachers is a key element within the PLC model. Ideally, teachers would function in a community that uses the collective power of a shared vision

and the combined intelligence of members to form a system of success (Brown & Lauder, 2001). Through “systems thinking,” teachers would be able to see the complete picture of the organization and understand how parts and the whole were interrelated. Teachers would understand the connection between personal and interpersonal learning. They would see how actions in one sphere create consequences in another, and how the organization learns as a collective body (Mitchell & Sackney, 2000; Mulford, 1998).

Stamps (1998), garnered insight from research by the Boston based- Education Development Center Inc. (EDC), which established the intention that successful organizations created an environment conducive to learning with the idea that humans learn well within work-based groups called “Communities of Practice” (p. 35-36). The importance of the learning environment has found its way into studies, including Wenger (1998) who coined the original term “Communities of Practice” along with Sergiovanni (2000). In fact, Sergiovanni (2000) states the community of practice is the critical element in school development. He contends that "developing a community of practice may be the single most important way to improve a school" (p.139). The idea of a community of practice implies, just as students learn from and with one another, so too teachers construct their knowledge not only upon the models that they discover in their own practice but also upon those that they gather from their colleagues' practices. (Mitchell & Sackney, 2001).

Organizations that establish effective outcomes have a few big ideas or overriding principles that unite people in the pursuit of a shared purpose, common goals, and clear direction. (Tichy, 1997). In research regarding high-performing organizations, Collins (2001) states that great organizations, “simplify a complex world into a single organizing

idea, a basic principle, or concept that unifies and guides everything” (p. 91). The Professional Learning Community utilizes these overarching concepts using three major ideas.

Professional Learning Community Major Ideas

The first idea is that emphasis on learning leads school community members to concentrate energy and effort on the purpose of why they meet. “The fundamental purpose of the school is to ensure that all students learn, rather than to see to it that all students are taught- an enormous distinction ” (DuFour, DuFour, Eaker & Karhanek, 2010, p. 7). Four questions focus on student learning and involve teacher collaboration.

The first important question is; What is it we want all students to learn? Lezotte (2004), found that within effective schools “each of the teachers in the school had a clear understanding of what the essential learners objectives are, grade by grade and subject by subject” (p. 7). “Teachers must accept shared responsibility for the learning of all studentsand that they work together to clarify exactly what each student must learn” (DuFour et al., 2010, p. 34).

The second question is, How will we know when each student has learned? “...Each educator within the school would participate in a vigilant collective effort to assess each student’s learning in a timely, ongoing basis.Frequent team-developed common formative assessments are one of the most powerful weapons in the assessment arsenal, and that effective teams will focus their collaborative efforts on creating high-quality assessments, agreeing on the criteria they will use in monitoring the quality of students’ work, and using the results of assessments to inform and improve the

professional practices of both individual members and the team at large” (Stiggins & DuFour, 2009, p. 34).

The third question is, How will we respond when students experience initial difficulty in their learning? “.....Procedures are in place to guarantee that every student has access to the intended learning in his or her classroom, each student’s learning is carefully monitored, and those students who are experiencing difficulty are provided with additional time and support for learning that will not take them away from new instruction” (Stiggins & DuFour, 2009, p. 35).

The fourth and final question is, How will we enrich and extend the learning for students who are already proficient? Educators must have structures put in place to advance, enrich, and extend learning for those students who are already proficient. “Plans for enriching and extending the learning of students must, however, provide additional support to help students be successful as they take on greater challenges” (Stiggins & DuFour, 2009, p. 212).

The focus on these questions help educators develop a shared sense of a school environment allowing teachers to move towards measurable goals with a target and a timeline, monitoring progress as they practice the Professional Learning Community model. These questions align practices and procedures which represent the very foundation of a Professional Learning Community (DuFour, et al, 2010).

Forming a Positive Community

The second critical idea in forming a positive Professional Learning Community is helping students learn. “Helping all students learn requires a collaborative culture and collective effort. Therefore, Educators will be organize into collaborative teams in which

members work interdependently to achieve a common goals for which they hold themselves mutually accountable: learning for all students. Teachers must work together rather than in isolation to address the four critical questions” (DuFour et al., 2010, p. 8). Eaker (2002) explained the importance of finding and allotting time during the school day to enable teachers to meet and collaborate on a regular basis. Chadwick (2000) agrees that none of us prefers to be isolated. We all have the need to be part of a community and when we feel connected, we will be more motivated to work together and spend time together.

Data Collection and Assessment

The third major idea of a Professional learning Community is data collection and assessment. Without clear and reliable data, teachers are unable to monitor their effectiveness in helping students learn. The use of Common Formative Assessments, (CFA's), developed by the teachers within a grade level team, help to evaluate student progress. Results of these assessments are easily accessible and shared among team members. The intention of creating Common Formative Assessments is to build upon individual and team strengths and locate areas of concern. The main reason for team data collection and assessment is to identify students who are experiencing difficulty and need added support as well as those students who are highly proficient and require enrichment activities. In a fifteen year study using over 800 meta-analyses based on student achievement, Hattie (2009), concluded that teacher reflection about the impact of instruction must be done collaboratively and that it must be based on evidence of the impact of their teaching on student learning. (DuFour, et al, 2010).

The first- idea of promoting a clear philosophy that all students will learn, contrary to all students are taught, is a difficult concept to impart to all teachers, especially those who have been in the profession for many years. “The metaphor of the learning community assumes, first, that schools are expected to facilitate the learning of all individuals, and, second, that educators are ideally positioned to address fundamental issues and concerns in relation to learning. Within this metaphor, school personnel are central to questions of educational practice, change, and improvement; they are the ones charged with the tasks of identifying and confronting the problems and mysteries of professional practices. But simply charging them with this responsibility will not necessarily bring about the types of profound improvement that are envisioned within a learning community. Instead, capacity for a learning community needs deliberately and explicitly to be built among educators and within schools and school systems” (Mitchell & Sackney, 2000, p.11).

The second idea of collaborative teams seems to” look good on paper” but actual implementation is either not possible or highly limited. Little research has been conducted to examine teacher interactions within a Professional Learning Community. How Professional Learning Communities provide resources for teachers and present innovations to the practice of teaching remains unclear (Little, 2003). Teachers within teams sometimes have conflicting personalities. Teachers are not always clear on the role they should play in the collaborative process. Problems may arise where interpersonal tensions make people uncomfortable and conflicts arise (Goulet, Krentz, & Christiansen, 2003); Little, 1990). Due to teacher conflicts, suspicion and distrust can infiltrate the collaborative process, leaving individuals unable to continue to work together in a

positive manner (Amason & Schweiger, 1997); in fact, teachers expressed feelings of anger and devastation at times of personal attacks from colleagues, while completing group work with one another (Hargreaves, 2001). Dooner, Mandzuk, & Clifton (2008), established that teachers do often find themselves in ineffective situations due to several circumstances, including time constraints, and lack of training in the process of how to communicate successfully within their team professional learning communities. Keeping in mind the individual needs of each school, King (2004) found schools often vary in many ways and require different support systems depending on the needs and development of that school.

Administrative Outlook

Often administrators do not know how to facilitate the process of training teachers to collaborate. “Site-based management and shared decision-making point out the need for collaboration. Principals need not act alone or in a vacuum. A new vision of educational leadership is emerging that encourages inculcating a sense of community and responsibility” (Farmer, 2007, p. 57). The educational hierarchy may contribute to the lack of expertise in facilitation, since typically administrators have operated from control functions and teachers from service functions. In that arrangement, administrators have made decisions and teachers have implemented them. These conditions have served to disconnect teachers from many of the decisions that have profound implications for classroom practice and to disconnect administrators from the daily world of classroom practice (Mitchell & Sackney 2001). Often, teachers are placed in a room with one another and told to collaborate, but not trained on how to begin the process. (Wenger, McDermott, and Snyder, 2002), argue that tension is inherent in group work and little

educational research explores the difficulties that teachers experience in establishing and sustaining productive learning communities.

Administration does not always place priority on allowing a common planning period for grade level teachers to collaborate on issues related to curriculum planning, student interventions, and assessment preparation and analysis. Teachers need common planning time during the teaching day in order to build a strong foundation of trust and camaraderie (Thessin & Starr, 1992; Cooper (1998), noted that the most effective implementation occurred when both teachers and administrators took responsibility for the program as a collective opportunity to improve the educational experience of children. Educators must be empowered prior to adoption of the program, as well as during the change process. Establishing a stable, committed team of teachers is the first step to successful program implementation. Also a factor to success was a school site facilitator, with strong interpersonal, organizational and communication skills. McLaughlin and Talbert (2001) state at the school level it is the principal who creates the conditions that allow the PLC concept to flourish.

Teacher Outlook

Teachers do not magically know how to work with colleagues; districts must support and lead that work if Professional Learning Communities are to live up to their potential. Lieberman & Pointer Mace (2008) believe that districts and states can support Professional Learning Communities by providing teachers with continuous blocks of time devoted to instruct teachers with the strategies that have been successful in working with their own students, using technology to illustrate good teaching, and building networks of

teacher communities where teacher leaders can provide professional development with colleagues.

Many teachers have grown accustomed to assessments that are prepackaged within the curriculum, and have little experience in writing their own common formative assessments. However, for several decades, literacy researchers and wise practitioners have advocated for the use of assessment data to guide instruction (Fisher, 2005; McKenna & Walpole, 2005).

The third major idea of the Professional Learning Community model is that of collection and analysis of data. An efficient method of data collection is not always in place or is nonexistent. Even if this data was collected in an effectual manner, many teachers are not able to decipher the available data. When teachers collaboratively analyze student work, they often do so on a voluntary basis (Langer, Colton & Goff, 2003).

Far less widespread is the use of common formative assessments which are used to guide curriculum development, reteaching, student-level intervention, and professional development. However, as Fullan, Hill & Crevola (2006) note it is exactly this level of precision that we need if we are going to achieve “breakthrough” results. Also, “Practice can improve if teachers are able to look at themselves and student data in an objective manner. Hoy and Hoy (2006) stated the most effectively impact on teaching and student learning was the use of data exchange using technology throughout the entire school, both within and between teacher teams.

In most education training programs, teachers are not taught to use data to design curriculum and analyze their instructional practices. They need training in both data

management and analysis as well as in facilitating discussions about data” (Bray, 2005, p.11).

Conclusion

In conclusion, areas of the Professional Learning Community model are not being observed. Threats to collaboration, of teachers within team meeting, include but not limited to; the reality that educators do not fully understand or “buy into” the philosophy of the Professional Learning Community model, teachers do not work well within collaborative teams and administrators do not prepare teacher teams for successful collaboration when working as a team, common planning time along with specific direction regarding expectations is sometimes lacking, and teachers are not prepared to produce Common Formative Assessment and other forms of assessments on their own. Teachers are not fully trained to decipher, decode, and use assessment data to drive their instruction. In order to develop collaboration necessary for a successful Professional Learning Community, an analysis of the strengths and weaknesses in the collaboration models in schools need to be examined.

Chapter 2

LITERATURE REVIEW-IMPROVING TEACHER COLLABORATION

Introduction

The purpose of this research is to understand elements of a Professional Learning Community and interpret how to increase success for teachers using collaboration with team members, administration and other support staff. Additional intent is to create a more effective and efficient Professional Learning Community within a specific school site. The following research provides strong evidence that a Professional Learning Community is an optimal environment for teachers in establishing effective communication. Effective communication provides a positive school culture and increased student achievement. Although studies have shown, elements of a Professional Learning Community are vital to overall success of the student population, teachers not reaching their full communication capacity through use of technology. The program evaluation is designed to promote the use of teacher team blogs using g-mail technology. The team use of blogs may promote further teacher reflection which is vital to individual development and professional growth.

Sources

In locating original scholarly publication and empirical, peer-reviewed articles, several search engines were used including; ERIC, Education Proquest, EBSCOhost, Academic Search Premier, Educational Full Text Review, Directory of Open Access Journals, and ACM Digital Library. Key terms used to locate articles were professional learning communities, teacher collaboration, school culture, distributed leadership and

public education. These articles display and support evidence that the Professional Learning Community is in need of modification to increase efficacy.

Professional Learning Community

A myriad of research over the past decade has touted the attributes of the Professional Learning Community (DuFour, Eaker, & DuFour, 2005; Servage, 2008; Thompson, Gregg, & Niska, 2004; Klien, 2008; Levine, 2011). Due to the federal mandates of the No Child Left Behind (NCLB) Act of 2002, public schools have had to find ways to increase school level performance, in particular the emphasis has been on student achievement scores. Major aspects of the Professional Learning Community are; creating a clear vision of expectations, administrative support for teachers and staff, team learning and shared knowledge, collaboration, and a means towards collective accountability measures (Bryk & Schneider, 2002; McLaughlin & Talbert, 2001). Education Departments within the U.S. have been modifying school accountability systems to meet the NCLB guidelines, which include having all public school students proficient in English/language arts and mathematics by 2014. Schools not meeting Annual Yearly Progress (AYP) according to the student performance instruments may be forced into restructuring by the state department. (McQuillan & Salomon-Fernandez 2008). Finding the solution that will promote an effective and successful school culture is vital.

School Vision

In a study conducted by Wells Lindon Feun (2007) found the process of transformation to a Professional Learning Community is slow and challenging. Results were based on six high schools, using qualitative and quantitative data collection, and

survey feedback using a Likert-type scale from teacher and administrative leaders. Within a national 5-year study of 18 schools involving principals and teachers, Huffman (2011) found through analysis of interviews, major phases of development were discovered. He concluded that the process in establishing a Professional Learning Community should begin with a vision focused on how the schools can support students as well as general concerns regarding raising test scores, student demographics, issues related to change, and the importance of lifelong learning. Technology used to support such a focus should be included.

When conducting research within 88 urban public schools, based on interview data collected from principals, teachers, students, and parents, Leana and Pil (2006) also found that all members of the educational community should be held accountable in helping students to achieve their academic goals. Results indicate that both internal social capital (relations among teachers) and external social capital (relations between the principal and external stakeholders) predict student achievement. All means of communication should be explored in order to solidify these relationships, including internet options such as g-mail, and blogs.

Research conducted by Rowan and Miller (2007) in over 100 schools using teacher questionnaires and school leader questionnaires using individual-level data incorporating item responses within teacher logs, revealed that the most successful schools implemented the model of a strong professional community and values-based decision making as well as strong instructional guidance, through standardized and intensive instructional leadership. Also, research conducted by Talley and Keedy (2006)

using observations, interviews, and document mining, data from three high-performance schools revealed four enabling conditions which help to create reform:

“(a) Council collaboration with committees created networks, webbing the entire school and enabled “bottom-up” problem solving by staff and parents. (b) Principals facilitated the sharing of decision making by modeling collegial interactions with staff. (c) Councils focused on student achievement, including use of assessment data in decision making to improve student outcomes. (d) Councils promoted staff accountability for student achievement (pp.441-442).”

Shared Leadership

The previously mentioned data points schools in the right direction, but statistics shows that all members of a school community are not being held accountable for the conditions necessary to effectively implement and sustain a Professional Learning Community. Heck and Hallinger (2009) using a longitudinal study of 195 elementary schools in one state over a 4-year period, administered multilevel latent change analysis during research, discussed the idea of shared or distributed leadership when building capacity within the school environment and found that distributed leadership was moderately and significantly related to change in academic capacity. “It has become increasingly clear that leadership at all levels of the system is the key lever for reform, especially leaders who (a) focus on capacity building and (b) develop other leaders who can carry on” (Fullan, 2006, p. 33). Although focus on capacity and developing leaders facilitates the building of school capacity, Rhodes and Brundrett (2005) conducted a small research project with twelve schools located within a single local education authority (LEA), using information from individual semi-structured interviews. They found that faulty structures may exist when leaders wanted to improve their schools but availability of time as well as lack of shared understanding of school improvement,

transparency of development, and levels of needs analysis was not addressed. Use of g-mails and blog accounts set up for the specific purpose of communication with other members, may give added flexibility and time extensions to limited daily schedules. Use of the digital pen also gives the members ample time to reflect on questions, individual development concerns and needs, not necessarily given attention during the busy work day.

Building a Collaborative Community

Fahey (2011) observed and interviewed a 22 principal cohort. Using the discourse analysis approach outlined by Miles and Huberman (1994), found that principals who put strong effort into building a professional community had little time for reflection, collaboration, or teaching and learning. In effect, the pressure to build school wide professional communities was an unqualified expectation, but principals themselves were not participating fully in the collaboration plan. Mitgang and Maeroff (2008) explain school districts placed high expectations upon principals to help build Professional Learning Communities, but do not give them the support required to sustain increased learning regarding leadership responsibilities. Borko, Wolf, Simone, & Uchiyama (2003) conducted case studies of two schools analyzing classroom-level practices and schools' progress toward successful enactment of the school reform vision by considering six dimensions of school capacity, and found that principals are often overwhelmed by the daily duties of the school and therefore disregard professional learning community goals. Finding an instructional leader who is adept at leading teachers and students to new levels of performance is a challenge. Finding leaders who are technologically proficient is also a concern.

Based on two years of research supported by Carnegie Corporation of New York, The Broad Foundation, and the New Schools Venture Fund, Tucker and Coddling (2002) using case study research, found few administrative development programs have focused directly on the problem of instructional improvement. Based on data from a longitudinal study conducted in a mid-sized urban school district in the Southeastern United States, a randomized experiment in which 48 principals participated in a mixed method strategy to investigate the influence of the program on principals' knowledge and practice Barnes, Camburn, Sanders, and Sebastian (2010) found in interviews with acting principals, the "egg cartoon model" of schools that isolate teachers from one another also isolates principals from interacting with one another. Principal meetings that take place rarely focus on instruction or involve the kinds of peer discussions that support improved leadership practice. The research brings to light the need to further explore more effective means of collaboration opportunities for both teachers with principals and administrative time management practices.

The problems of creating a sustained Professional Learning Community are widely documented, but there is hope for future success. DuFour, DuFour, Eaker, and Karhanek (2010) maintain educators can help more students succeed at higher levels by supporting structural and cultural change at their schools and districts. Research conducted by Vaughn and Coleman (2004) using interviews, teacher implementation logs, and observation of 12 teachers from urban and rural schools, suggests that using data to inform instruction may be most successful when coaches, principals, and teachers work together in a team effort to support one another in the practice of administering, processing, and interpreting data, and while making instructional decisions.

Collaboration Between Principals and Teachers

Printy (2008) studied the connection between principal and teacher collaboration practices using measures for analysis constructed with the Rasch Model (Bond & Fox, 2001). Analysis proceeds in two stages using hierarchical linear modeling. The finding revealed productive learning communities are those whose members process collaboration practices with colleagues. These members place their ideas out for the scrutiny of the group and possible educators outside of their primary community as well. When participation and interaction is high, members generally feel more competent that they can teach in ways that enhance success for students through best practices. Best practices are highly effective when reflection by members of a collaborative community take place.

Collaboration Between Teachers

In order to attend to the academic needs of each student, professional development for teachers has been an essential element. (Luna, Gonzalez, Robitalle, Crespo, and Wolfe, 1995). With the continued demands to transform into a Professional Learning Community, Stoll and Louis (2007) found a Professional Learning Community exists where a group of teachers focus on improvement and sharing of knowledge in a collaborative environment. Teachers critically exchange ideas and practices in an ongoing, reflective, inclusive, learning-oriented and growth-promoting way. Use of technology is making great strides in promoting this collaborative environment.

Wells Lindson Feun (2007) using both qualitative and quantitative analyses of interviews with school leaders from 6 high schools found that demand on teachers is often times overwhelming. Teachers are frustrated that they are expected to meet in

teams, study learning results on top of the basic demands of the local, state, and national initiatives and laws. In some instances the idea of the development of a Professional Learning Community was thought to be a top down initiative and not accepted as a feasible answer to the school's dilemmas. Craig (2009) using narrative inquiry as the research method with teachers from a large urban school district, discovered similar findings in that Fear-based tactics were being used by the administration against teachers to force collaboration and Professional Learning Community ideals. Teachers were dismayed by the principal's reaction to locate teacher perceived weaknesses and how the teachers' knowledge and experiences were often discounted.

Although situations may occur that negatively affect the Professional Learning Community, many studies reveal that the Professional Learning Community is a positive and powerful trend in perpetuating change for school communities. Wood (2007) using field-based data in dialog with survey data and responses from 251 Learning Community participants in the Hillsboro School District, which found teachers' Learning Communities (LC) have been recommended because participation fosters teacher collaboration and make teaching practice transparent and public. However, this type of professional development depends on teachers taking more control over their work, expressing their knowledge and expertise, developing critical judgment, and taking fuller responsibility for student learning. The use of g-mail and member blog accounts may allow for extended opportunities to increase individual and professional development in many facets of a teachers work.

With responsibility as a key factor in teacher effectiveness, Chin-Kin Lee, Zhang, and Yin (2011) using the Professional Learning Communities Assessment (PLCA) as a

teacher questionnaires with a sample from 33 schools, which comprise 660 teachers, found Professional Learning Communities and other-teacher or school-level factors such as faculty trust, collective teacher efficacy, and teacher commitment, were vital components. During a 6-week controlled field study focused on the development of an information systems project, Serva, Fuller, and Mayer (2005) observed Twenty-four teams of systems analysis and design students and found that trust is a significant predictor to people's overall job satisfaction and risk-taking behaviors within an organization. Chin-Kin Lee et al. (2011) states the expectations of school principals and administrators within a Professional Learning Community is to see development of the teachers' sense of belonging to the school with a strong support for shared values focused on a commitment to student achievement. Goddard, Hoy, & Hoy, (2004) using Social Cognitive Theory to analyze and synthesize existing research on how teachers' practice and student learning are affected by perceptions of collective efficacy, found that creating a trusting atmosphere among teachers, while simultaneously promoting collective learning and application, contribute to the improvement of instructional strategies and student discipline as well as the enhancement of teacher commitment to students. Use of technology through teacher team g-mail accounts/blogs may create a sense of belonging and promote teacher commitment to overall student success.

Common Planning Time

The shared vision of staff within the school can also influence student achievement in a significant and positive manner. In addition, teachers' collective efficacy, which represents the shared beliefs of teachers within their school, could also significantly and positively influence students' learning achievements (Goddard et al.,

2004; Hoy, Sweetland, & Smith, 2002). Having a shared vision and positive environment may help support the Professional Learning Community ideal. Graham (2007) using a mixed method (professional development survey, teacher interviews, and a review of school documents) case study to investigating the relationship between Professional Learning Community activities and teacher improvement in a first-year middle school, found common planning time provided the opportunity for intensive collaboration, which was identified by teachers as the most important element in the perceived successes of Professional Learning Community. Although teachers may give symbolic attention only when meeting together during common planning time, most often teachers would collaborate on managerial tasks and then return to their individual classroom. Conflicts did sometimes arise during teacher collaboration, Stoll et al. (2007) agreed relationships take time to establish and both administrators and teachers must network and need continuous opportunities to connect with others.

Teacher Efficacy

Using randomized controlled trials focused on teacher professional development interventions, Wayne, Yoon, Zhu, Cronen, and Garet (2008) found that teachers need professional growth opportunities integrated into school hours and that professional development must be ongoing in order to sustain teacher progress. Nimighi (2009) following the grounded theory approach using interview methods formed by Seidman (1991) with five veteran teachers (12 years or more experience), concluded that teachers reflective practices are few. Antonek, McCormick, and Donato (1997) using analysis of teacher portfolios found reflection within teaching practice is vital to a teacher's self-concept. Nimighi (2009) concluded in order to improve teacher's work, more thought and

reflection should be incorporated into the school day. An atmosphere of self-reflection will perpetuate a teacher's personal and professional identity. Through self-reflection each teacher will take a genuine role in perpetuating change and growth within their classrooms. Use of g-mail and team blog technology perpetuates ongoing teacher self-reflection when individuals must stop to think and then write to other members about concerns, new innovations, or ask questions that pertain to the work day.

Teachers and Data

Research using the Grounded Theory Model of K-1 teachers from the Florida Reading First Schools, Roehrig, Duggar, Moats, Glover, and Mincey (2008) developed data useful to inform instruction through axial coding and found teachers discussed three primary ways in which they interacted with assessment data to provide focus for their instruction: (a) monitoring student progress and areas of strength and weakness; (b) adjusting or forming groups for individualizing instruction; and (c) identifying appropriate activities, intensity, and level of instruction. Roehrig et al. (2008) determined any progress monitoring system that displays student level achievement and groups students accordingly, is beneficial. Progress monitoring can identify students who are not performing as expected, skills needing attention, and suggested learning groups. However, teachers did not always understand how to decipher the data and are not given assistance to identify appropriate activities, intensity, or levels of instruction. Ol'ah, Laerence and Riggan (2010) using interview, observation and artifact collection coding and analysis with 3rd -5th grade teachers, supported by the National Science Foundation and the Consortium for Policy Research in Education at the University of Pennsylvania, found teachers do use assessment but not always in the way district guidelines dictate.

Teachers consult, analyze and act on assessments, but limitations in the analysis of the data are superficial and do not drive lesson planning and response to interventions to a large degree. Roehrig et al. (2008) found lack of knowledge or training in progress monitoring assessments was a knowledge barrier that the teachers confirm. All the teachers thought they would better understand the results and implications for instruction of assessment scores if they were trained to administering the tests and trained to decipher test results. For example, one teacher stated, “I get the data back and I’m not sure what they [the students] were tested on and what they had to do. Even if I don’t give the test, I would like to be trained on what they were tested on” (p. 375). The added benefit of using e-mail and blog team technology may increase a teacher’s comfort level with the digital data information technology.

Conducting prospective, mixed-method research (surveys, interviews, and school records) of 34 teachers within a team process Gregory (2010) found, that teacher capacity may increase as teachers learn new skills to individualize student interventions. When teachers work together to apply a new skills, they often receive validation from their teammates and find student performance increases. Findings also revealed that teachers who were optimistic found benefits for themselves and their students. The concluding results emphasize the need for schools to carefully consider teacher expectations in order to maximize teacher learning on collaborative, problem-solving teams. Using the digital pen within teacher teams may reveal new and groundbreaking aspects of teacher problem-solving strategies.

Conclusion

In conclusion, Professional Learning Communities have great potential in bringing the school population together with the focus of student achievement as the goal. Based on the review of the literature, in order to develop a meaningful Professional Learning Community, principals and teachers need to work more closely together on meaningful and intensive activities, yet are faced with time restrictions due to pressing work demands. Use of technology such as team g-mail and blog accounts may be a key to this impasse. One area of special need expressed by teachers is the ability to interpret the results and implications for instruction of assessment to individualize student interventions.

The purpose of this study is to provide additional analysis via an interview process to solicit teacher perception of the effectiveness of two collaboration models. The first being the face to face team meetings and the other meetings exclusively through g-mail and blog team accounts on line. The follow up interviews explored the perceptions of teachers to form meaningful learning communities comparing online and face to face formats of communication.

Based on the need for teachers to interpret the results of assessments as impacting student interventions, common planning time, and principal involvement, the following questions will be addressed:

- What similarities exist in perception of teachers regarding online and face to face collaboration as a part of a Professional Learning Community?

- What differences exist in teacher collaboration contributions in a face to face format as compared to an online format?

The program development activities explores teacher perceptions of the utility of using face to face and technology, specifically g-mail and blog accounts, within the Professional Learning Community of the school district to enhance communication and collaboration.

Chapter 3

METHODOLOGY

Chapter 3 details the methodology proposed for developing and carrying out teacher interviews following a district program development activity which took place in January 2012 and concluded in March 2012. In fall 2013, a follow up interview Teacher perception of collaboration during Professional Learning Community context comparing face to face and online communication took place with the intention of discovering answers to the following research questions;

1. What similarities exist in perception of teachers regarding online and face to face collaboration as a part of a Professional Learning Community?
2. What differences exist in teacher collaboration contributions in a face to face format as compared to an online format?

Background

In the first development project twenty-two teachers participated in online and face to face formats for collaboration in Professional Learning Community teams at a kindergarten through eighth grade school site within a small urban elementary school district located in the southwestern United States. The school was rated as “Highly Performing” according to state guidelines. The student population is 78% Caucasian/not Hispanic, 17% Hispanic, and 2% African American/not Hispanic. The percentage of free and reduced lunch indicated that 13.58% of the families live in poverty.

In the Spring, during the 2012 school year, a ten week professional development program focusing on two communication strategy formats was presented to the teaching staff at Madison Traditional Academy within the Madison School District in Phoenix

Arizona. Twenty-two teachers participated in the development activity. The intent of the project was a comparison of the effectiveness of teacher communication in face to face meetings or through online blog accounts within the districts Professional Learning Community model. For five weeks, half the teachers met in face to face meetings and the other half met online. After five weeks these teams switched formats. The teacher teams who were meeting face to face then began communicating with one another online. Teachers who had been communicating online, then began to communicate within face to face team meeting. Program activity began on January 15th, 2012 and was completed the week of March 25th, 2012.

Additional Context of the Study

Teachers participating in the study had varying experiences with the definition and expectations related to Professional Learning Communities. New teachers were provided with an overview of the district vision statement involving the purposes of working within a PLC. The purpose of the PLC is to advance district initiatives and create expectations of ownership and leadership of all employees. Furthermore, new teachers were placed with a lead teacher who was to provide direction and clarification on expectations and requirements of the Professional Learning Community. Additionally, weekly two hour sessions were allocated for the express purpose of focusing on and clarifying district initiatives and providing support in carrying out these initiatives. Consequently, teachers did have exposure to the PLC anticipated outcomes. Research will clarify the experiences and expectations the participants believed or obtained as a result of their training and exposure. All teachers, however were provided with specific training on the expectations for behavior during the Spring 2012 professional

development offerings. All teachers were gathered together during a weekly TCT meeting and trained on how to sign in and participate in a team blog account prior to the launching of the program evaluation. Due to varied skills when working with computers, some teachers were able to easily navigate the website, where other needed more direction and practice. A follow up training session was presented to the staff before the team face to face and online switch took place at the five week mark, but this training was not extensive.

A variety of questions were raised after data for the program development study was completed. Records from the district development activity were inconclusive for a variety of reasons, e.g., incomplete data collection, interruptions by special events, and technical issues. The purpose of follow up teacher interviews was to establish perceived values of the face to face and online formats as communication vehicles within the Professional Learning Community.

Based on the results of the first professional development study, the district determined that an important aspect of continued improvement in the area of online and face to face collaboration required additional information from the teachers regarding their perception of their first collaborative experience with online technology. As a result, in the Fall of 2013, follow up interviews were conducted with stratified randomly selected teachers who had participated in the first phase of program development. The current study reports the findings of the interviews which provided more in-depth understanding of how teachers perceived the original professional development activity utilizing online collaboration during Spring of 2012.

Teacher Follow-Up Interviews

In August of 2013, the twenty-two teachers involved in the previous Spring program evaluation were asked to participate in an interview process. Following an all school staff meeting, a description of the interview process took place. All teachers were asked to sign a waiver if they wished to participate in the interview process. All teachers who signed a release waiver were considered viable interviewees. After collecting all waivers, the forms were folded and placed into a container. Forms were drawn at random from the container until one teacher from each grade level team was chosen for the interview process. A total of eight teachers participated in the interview process.

Post survey responses, found in Appendix C, from the 2012 study were used to design interview questions for development of follow up teacher interviews.

Table 1 identifies the interview questions developed and used in the teacher interview process.

Table 1

Teacher Interview Questions

Question 1	Given your participation in the district’s Professional Learning community groups in Spring 2012, what examples can you provide of challenges and strengths of the face to face and online formats.
Question 2a	Describe the effectiveness of a “face to face” vs “online” interaction (communication).
2b	In what area(s) do you believe “Online” was more effective? Why?
2c	In what area(s) do you believe “face to face” was more effective? Why?
Question 3a	Describe how each method, face to face and online, increased your professional practices.
3b	Describe how each method, face to face and online, influenced development of products to be used with your students.
3c	Provide some examples of how within the face to face format, teachers worked together towards a shared understanding of curriculum policies

	and practices.
3d	What, if any, practices and/or products were developed and utilized as a result of the online experience?
3e	What, if any, practices and/or products were developed and utilized as a result of the face to face experience?
Question 4a	How does school leadership/administration keep the focus on a shared purpose, related to professional learning groups through “face to face” contact?
4b	How does school leadership/administration keep the focus on continuous improvement, related to professional learning groups through “face to face” contact?
4c	How does school leadership/administration keep the focus on collaboration related to professional learning groups through “face to face” contact?
4d	How does school leadership/administration keep the focus on continuous improvement related to professional learning groups through “online” sessions?
4e	How does school leadership/administration keep the focus on collaboration related to professional learning groups through “online” sessions?
4f	Describe your experience with leadership in supporting ongoing improvement and collaboration through a face to face and online environment?
Question 5a	Having participated in online and face to face professional development formats, please provide your insight as to the strengths and/or weaknesses of the two formats.
5b	What suggestions for improvement for these two formats would you suggest?
5c	What else would you like to add about face to face or online communication within your Professional Learning Community experience?

The person chosen to conduct the teacher interviews was a retired teacher who had taught previously within the Madison School District and was currently working as a substitute teacher at the time teacher interviews were conducted. She was compensated for her time conducting interviews at twenty-five dollars an hour. Interviews took place between November 19th, 2012 and December 7th, 2012.

The interviewer was given the names of the nine teachers who would be participating in the interviews, along with a copy of the interview questions. She contacted each of these teachers by e-mail and set up appointments with them individually. The interviewer was trained on how to use the Dragon Tracer Digital Voice Recorder and given the device to use until the completion of the interviews. Each interview lasted approximately 20 to 30 minutes. Teachers met with the interviewer either before school, after school, or within the school day during the teacher's prep time.

The recorded interviews were downloaded from the Dragon Voice Tracer Digital Recorder, and the individual teacher interviews were placed into an audio file folder and a corresponding WORD document folder, so voices of individual teachers were matched to their related WORD documents. Each file was labeled with the interviewee's name and grade level.

After the transcriptions were thoroughly proofread and errors were corrected, a WORD document was produced and saved in an individual teacher folder. Independently two members of the research team coded and categorized the data based on the model of Miles and Huberman (1994) process for analysis of qualitative data. Members compared themes that emerged and came to consensus. All interviews were conducted by the same individual, a person unrelated to the research team and participants. Although prompts were provided by the interviewer, the responses to the questions appeared more like short answers rather than richly detailed or deliberate narratives, typically found in an interview situation. A list of coded themes from the teachers interviews are listed in Table 2.

Table 2

List of Coded Themes From Teacher Interviews

Interview Questions	Face to Face Format	Online Format
Question 1	No common Prep time, Not enough time to meet, Participation, Accountability, On/Off Task Behavior, Directives/Agendas unclear	Time wasted waiting for responses, No signal when others post, Lack of technology skills, Privacy issues, Hard to problem solve, Not as clear
Question 2	Create Camaraderie, Sharing of Materials	Quick, Convenient, Allowed Think Time, archival data
Question 3	Team Learning, Shared Knowledge, Collective Accountability, District Requirements	Intervention Sites, Teacher Web Pages, Supplementary Materials, Educational Websites
Question 4	Site Grade Level Meetings, District Grade Level Meetings, Across Grade Level Meetings	Student Growth Data, Data Assessment and Analysis, Progress Monitoring
Question 5	Clear Communication /Precision, Builds Camaraderie, Time to Meet, On Task, Accountability	Convenience, More Reflection Time, Quick Yes/No Answers, Resourcing/Relaying Info. Quickly, Time, Depth of Conversations, Accountability

Chapter 4

Findings and Discussions

This chapter details the findings of teacher interviews following a district program professional development activity which took place in January 2012 and concluded in March 2012. Interviews with teachers who had participated in online and face to face formats during Professional Learning Communities were conducted with the intention of soliciting in-depth answers to the following research questions;

1. What similarities exist in perception of teachers regarding online and face to face collaboration as a part of a Professional Learning Community?
2. What differences exist in perception of teachers regarding online and face to face collaboration as a part of a Professional Learning Community?

Teacher interviews were a logical and useful next step in the professional program development process. To further the understanding of how teachers perceived the value of face to face compared to online communication, a five question interview was created. These interview questions were based on the post survey of 2012.

Examples of Communication in Face to Face and Online Format

The themes that emerged in responses to Question #1 regarding challenges of face to face and online communication were discussed by participants. Respondents disclosed that face to face team meetings did not allow enough time within the school day to sufficiently accomplish all the work required of them. A second theme to emerge revealed members of teacher teams were not always able to meet at all due to scheduling conflicts such as coaching responsibilities, morning duties, and class schedules. In addition, not all members wished to participate, and if these teachers were involved in the

team meetings, off task conversations often occurred. A final theme which arose was the discussion of lack of direction by administration on what and how to carry out these team meetings. Challenges also existed within the online format. The first theme to emerge was similar to the face to face format in the mention of time. Respondents revealed that online communication resulted in time wasted in waiting for a response to a posted question or comment. Having no signal or indication on the computer screen when team members log on and respond was also a challenge to online communication. Not all team members were as computer literate as others so a lack of participation was evident. Another theme revealed some participants were not comfortable discussing issues online since they could be monitored by administration or others. The last theme discussed was the inability of members to write concerns or comments in a clear and concise way. Problem solving was a challenge through online communication.

Data revealed communication during the face-to-face meetings of teacher Professional Learning Communities consisted of, first, being able to produce plans for school events, lesson planning, and curriculum consistencies. For instance, "...we go over all our curriculum to see if we are on the same page", appeared typical for face-to-face grade level and team meetings. This response was similar for the majority of teacher teams, although finding the time to meet and having enough time for discussions, were barriers expressed by nearly all team participants. A sixth grade teachers noted, "For face-to-face there was sometimes difficulty getting the whole team together at once due to scheduling." A fourth grade teacher remarked, "Time was also a barrier to our communication, as it is for every teacher....Grading, planning, and communicating with parents took up the majority of my supposed free time." In comparison, online

communication was purported to take more time. A sixth grade teacher wrote, “Typical barriers to effective communication in online communication were the downtime in waiting for a response and not knowing when a person responded.” A seventh grade teachers replied, “...online took longer than the face to face.” Supporting literature would suggest that challenges to face to face and online are similar when describing time as a factor. Dooner, Mandzuk,, & Clifton (2008) established that teachers do often find themselves in ineffective situations due to several circumstances, including time constraints, and lack of training in the process of how to communicate successfully within their team professional learning communities.

Second, several respondents noted that the sharing of student data, especially for students who were falling behind, occurred during face-to-face meetings. One individual described being able to “come up” with suggestions the team shared with administration. One individual provided examples of sharing student information in the online format, but added that protecting student confidentiality was an issue in collaborating with others online. A barrier in both formats was lack of precise expectations of administration for team meetings. A seventh grade teacher noted, “Barriers to effective communication would be not having a directive for using the communication.” Literature supports this same challenge existing within other professional learning communities in both face to face and online communication. Goulet, Krentz, & Christiansen (2003); Little, (1990) found that teachers are not always clear on the role they should play in the collaborative process.

Several individuals describe the immediacy, clarity, and depth of feedback received in both formats. Respondents described usual barriers to online and face to face

within these three realms. Immediacy was a barrier with online communication since some teachers had more experience with technology than others. A kindergarten teacher stated, “Some of us are on the computer a lot more often than others..... and so we lacked a lot of communication because we would be waiting for certain members to get online or other people would begin a different discussion and so the format of it was really difficult for us to keep up.”

Clarity was also a barrier to online communication as described by one participant, “People are also not as thorough in their responses as they would be verbally.” In comparison to face to face communication another teacher stated, “Obviously you have your normal barriers when it comes to online communication or face-to-face, face-to-face you can get off task or talk about something different and change subjects easily.”

Depth of feedback was the third issue when describing the online format. A second grade teacher reported online sessions as lacking complexity, “We found that we did not communicate as much when it was online and did not get as much done...” In comparison, A fifth grade teacher noted that not all members of a face to face collaboration team always participated in the discussions taking place. She stated, “Whereas in face to face not everyone had to respond and often did not respond to something.” Literature supports similar findings on all three afore mentioned challenges to communication in both face to face and online formats. Rhodes and Brundrett (2005) found that faulty structures may exist when leaders wanted to improve their schools but availability of time as well as lack of shared understanding of school improvement, transparency of development, and levels of needs analysis was not addressed.

Concluding Summary for Challenges with Face to Face and Online Format Delivery

Despite the elements described in both the face to face and online experiences, identifying barriers to effective communication appeared in both formats. Participants described having different levels of experience and expertise with computer literacy as well as lacking confidence in their ability to “do it the right way.” The design of the on-line format posed barriers in terms of equitable participation, staying on the assigned topic, and reading or posting responses in a timely manner according to participants. One individual noted that, “Other people would begin a different discussion...so it was hard to keep up,” while another described, “having a lot of down time waiting for others to respond.” Participants also mentioned the lack of directive from administration in the use of online accounts.

Although online obstacles were described in a majority of the responses regarding barriers, participants also described barriers within the face to face communication, “It was too difficult to make sure everyone participated and stayed on the same topic”. A majority of the eight participants mentioned lack of time and having no common planning time together as a barrier to effective face to face communication. Research supported these findings. Graham (2007) found common planning time provided the opportunity for intensive collaboration, which was identified by teachers as the most important element, although not always available, in the perceived successes of the Professional Learning Community.

Common learning time was effected by the face to face and online format as described by a majority of teachers as useful in lesson planning and student data analysis.

The differences in common learning time of the face to face and online format focused primarily on timeliness and immediacy of feedback within face to face versus the online format.

Communication Within Online and Face to Face Formats

Themes also emerged as to the areas of effective communication of the face to face and online formats. The first theme focused on the face to face format which allowed participants time to discuss student issues, lesson and event planning, as well as sharing of materials and student data with one another. Secondly, respondents found there was no wait time in getting and receiving response from one another. A third theme discussed communication with special area teachers, such as the speech teacher, occupational therapist, or school psychologist, as being more thorough than within online communication.

Themes displaying effectiveness of online communication also emerged. Convenience was the first theme that participants discussed. Team members could post anything they wished at any time of the day. Secondly, teachers could communicate quickly with special areas teachers if needed. A third theme emerged discussing the flexibility of taking the time to think about a reply before answering, and the element of staying on topic when communicating online. A fourth theme discussed the benefits of having all conversations available in written form. Learning and using online programs together was the final theme. Themes to emerge in both face to face and online formats are found in Table 3.

Table 3

Comparing Communication of the Face to Face and Online Formats

Face to Face	Online
Time to discuss student issues (academic progress, discipline, student achievements)	Quick Questions/Feedback could be given anytime
No wait time for answers to questions	Allows more time to think of coherent answers to questions posted
Solve issues with lesson planning, event planning	Good way to communicate with special area teachers on quick issues
Able to show student samples/materials needed for lessons	Freedom of choice of what to post
Communication with special area teachers was more in-depth	Participants stayed on topic
	Able to access archival data
	Could learn/teacher online programs

Data revealed various areas of effective communication in both the face to face and online formats. Both formats provided for efficient use of time depending on the teacher and their experiences. Several participants considered face to face meetings as time saving. A typical responses in support of the face to face format was stated by a third grade teacher, “We got our thoughts out clearly and addressed all that needed to be addressed at the time - not waiting for someone to respond.” and a First grade teacher noted, “It’s quicker and easier to respond in a timely fashion (within face to face).” In comparison several other participants maintained time was minimized within their online communications. A 1st grade teacher noted, “It is also effective on the time -in the online session people had the leisure of taking time to respond and time to think.” An eighth grade team participant stated, “So the staff communicating effectively online would include - we were able to communicate with each other and give each other feedback quickly.” Literature supports these findings, Graham (2007) found common planning

time provided the opportunity for intensive collaboration, which was identified by teachers as the most important element in the perceived successes of a Professional Learning Community. Murphy (2001), stated the administration should ensure the teaching staff be afforded all the necessary time and tools needed for the success of the Professional Learning Community.

Two individuals saw the benefit of sharing student information in the online format, but added that protecting student confidentiality was an issue in collaborating with the special education teacher. In comparison, the face to face format allowed teachers the opportunity to effectively discuss student issues in a secure private environment. An example is described by a kindergarten teacher, “Examples of staff communicating effectively would be my grade level team meetings- every Wednesday we ...discuss any kids that are falling behind, we talk about accomplishments - things that are coming up and any problems that any of us are having that we can problem solve together.” Literature supports similar benefits. Within a study conducted by Goddard, Hoy, & Hoy, (2004) using Social Cognitive Theory, they found that creating a trusting atmosphere among teachers, while simultaneously promoting collective learning and application, contributed to the improvement of instructional strategies and student discipline as well as the enhancement of teacher commitment to students.

Three participants describe the clarity, and depth of feedback received in face-to-face settings describing online sessions. A fifth grade teacher supported online communication stating, “You could really be clear as far as it was very black and white about what you were talking about.” In comparison, teachers reported that face to face communication displayed the same clearness and complexity of feedback. A 1st grade

teacher noted, “In the face-to-face sessions I liked that a more extensive conversations based on what other persons said-that we had a back-and-forth conversation going on”. A Third grade teacher replied, “We got our thoughts out clearly and addressed all that needed to be addressed at the time - not waiting for someone to respond.”

Sharing of physical materials, student data, and resources in order to precipitate higher levels of student achievement were strengths within the face to face format. One participant noted, “We were able to show each other’s student samples, our grades, what material we needed to make our lesson go smoothly.” A sixth grade teacher responded, “The suggestion of using a Google doc was given and face to face we were able to show an example immediately and walk the team through the process.” In comparison, the online format allowed sharing of resources and programs that also advanced student success. An example is discussed by a fourth grade teacher, “Examples from last spring especially were- it came to end of the year events, events happening, like graduation, field trips, parent teacher conference schedules produces online.” Archival data and resources were then available for easy access for future use. These participants had similar experiences compared to research findings carried out by, Stoll and Louis (2007) a successful and purposeful Professional Learning Community exists where a group of teachers focus on improvement and sharing of knowledge in a collaborative environment. Research supports these findings. Leana and Pil (2006) indicated that relations among teachers predict student achievement. All means of communication should be explored in order to solidify these relationships, including internet options such as online technology.

Effectiveness of Online Versus Face To Face Communication

Interview Question #2 asked participants to describe examples of effective face to face interactions as well as examples of effective online communication. Additionally, teachers were asked to explain which areas were most effective and why. When discussing each format, participants favored face to face interactions over the online format. However participants did describe several positive aspects of online communication. Positive participant reaction towards Professional Learning Community activities is supported by a study conducted by Wood (2007) which found teacher Learning Communities (LC) have been recommended because participation fosters teacher collaboration and make teaching practice transparent and public. However, this type of professional development depends on teachers taking more control over their work, expressing their knowledge and expertise, developing critical judgment, and taking fuller responsibility for student learning.

When comparing face to face and online interactions participants found face-to-face communication to be more effective in creating understanding and building camaraderie between team members. Conversely, those who described online interactions found the instances of misunderstanding to be greater when communicating in this way, noting “An e-mail or online message can be viewed, for example, as hostile or angry when that was never your intentions.....” Several members described online communication as ineffective when trying to find a solution to a problem in a timely manner. One member noted “If you are trying to discuss something or solve a problem- I don’t think the online was the most effective.” Although, the online format was touted as keeping the team on topic as one participant explained, “You didn’t really post something

that didn't have to do with whatever people were asking about.” Although teachers displayed a preference for face to face experiences, research indicates both forms of communication are needed to promote increased student achievement.

Timeliness was a factor discussed in both face to face and online formats. One participant thought face to face was more time efficient stating, “face-to-face is more effective due to timeliness...” where online was described, “I could do it [online posts] whenever...”. Lastly, accountability was a subject of comparison between the two formats. One participant believed that the online format was not monitored by administration, thus making it a low priority, “I think that face-to-face is much more effective because there is more accountability for your actions or lack thereof.” A comment regarding online communication followed this same thought, “When online, if you don't participate there is no way to hold anyone accountable for their own nonparticipation.”

Respondents also provided examples of why the online and face to face formats were effective. Six of the eight participants agreed online communication was most effective because it was convenient, for instance, the fact that all members of a team could be involved with a certain discussion or project was discussed, “...I believe that the online communication was more effective in areas because it was convenient and everybody was able to, you know, log on at their own time to answer the questions.” Research corroborated these statements. Rhodes and Brundrett (2005) found that use of online communication set up for the specific purpose of communication with other members, may give added flexibility and time extensions to limited daily schedules. Following this example, another member pointed out, “It allows ability to participate

even if not available in person.” Helping the team stay on a specific topic was another positive aspect of why online was an effective communication tool. Members noted that online was more effective because participants could stay on task and the focus could be on just one concept at a time. Several members believed that online was more effective because it was less time consuming [than face to face meetings]. A fourth area of effective online communication was the ability to keep records of past communication and having a detailed plan or communication document in which to refer when needed. Stoll (2007) agreed both administrators and teachers must network and need continuous opportunities to connect with others. Lastly, two teachers mentioned online communication as being very effective in the use of surveys and sharing student score sheets and work sheets with one another.

The two major themes emerged as to why face to face may be an effective communication tool. First, members mentioned references to body language, facial expressions, voice tone, listening to and hearing what another person means, as a vital part in building team camaraderie. Comments such as, “...when you can look somebody in the eye and they can see what your intended meaning is, not through just words, but through your body language and everything else they think, that always makes the message clear.” Additionally, a seventh grade teacher stated, “There was never a question about anyone’s tone or concerns. I mean you could see their facial expressions to understand how they felt about a specific concept or question that we were having.” The physical aspect of meeting together aligned closely with the second major theme, quick and effective feedback. Participants described getting work completed quickly and in the time allotted through effective communication between members. Even when

conflict arose a member noted, "...when there are actual issues happening that needed to be discussed, like on a conflict level- people needed to talk face-to-face, it just helped solve the issue faster rather than being online- dragging it out." Lastly, one teacher made a comment on the possibility of going to other teachers for resources or advice outside the normal grade level team support system. A face to face meeting was the only possible or effective means of communication, since team online accounts were arranged by grade level only.

Professional Practices

Interview question #3 asked participants to describe how their professional practices were increased in both online and face to face communication. A majority of teachers were divided equally in their support of both formats, although not every participant believed either format was helpful in increasing their professional practices. Typical responses were, "I didn't think that talking online created stronger team with us at all." Also noted, "... in face to face not everyone had to respond and often did not respond to something." Participants were also asked to give examples of products developed for use with students. The bulk of teachers agreed that product development occurred largely within the face to face format, although when comparing student data and internet resources within grade level teams, the online format was influential. In addition, development of Smartboard activities, used to teach concepts in the classroom, were shared as an online resource. Aspects of an effective Professional Learning Community were apparent within these teams as supported by research. Bryk & Schneider (2002); McLaughlin & Talbert (2001) stated the major aspects of the Professional Learning Community are; creating a clear vision of expectations,

administrative support for teachers and staff, team learning and shared knowledge, collaboration, and a means towards collective accountability measures. Similar findings were presented by Chin-Kin Lee, Zhang, and Yin (2011) using the Professional Learning Communities Assessment (PLCA), found Professional Learning Communities and other-teacher or school-level factors such as faculty trust, collective teacher efficacy, and teacher commitment, were vital components.

Curriculum Policies

Furthermore, participants were asked to give examples of how they worked together towards a shared understanding of curriculum policies and practices. Participants gave little evidence of these events except to state they reviewed the school district's written policies through an online posting and then briefly discussed these policies within a face to face, TCT (Teacher Collaboration Time), weekly school meeting. Curriculum policies and practices were not brought to the forefront unless an issue presented itself and required attention. Teachers related that administrator rarely discussed these topics with them either face to face or online.

Product Development

Additionally, respondents gave input into the practices and products developed and utilized as a result of either online or face to face experiences and responded positively when discussing both formats. "We were able to create lesson plans, units, share materials, create domains for core knowledge, and the list can go on." was a representative view of the face to face format. Online communication also produced information sharing as noted by a third grade teacher, "We did share with each other educational websites and online practice sights for our students." Interestingly, the

development of products or material were generally created through face to face contact, but then utilized online. Teachers would create a list of educational websites, intervention practice sites, or pertinent lesson plan worksheets within face to face team meeting. Later this information and copies of products were stored on the teacher web pages for use when needed by various team members. Research supports the teacher's product development outcome. Bond & Fox (2001) found productive learning communities are those whose members process collaboration practices with colleagues. When participation and interaction is high, members generally feel more competent that they can teach in ways that enhance success for students through best practices.

Participants also described the face to face format as increasing professional practices within teams by first, making the team stronger through suggestion, discussion, and utilization of problem solving strategies. During team meeting teacher got to know one another, trust one another, and rely on each other in order to increase their professional practices. For instance, "You can make sure we all are on the same page and that helps to create a stronger team." Additionally, another respondent noted, "Face-to-face communication increased the professional relationship between myself and my new teaching partner. We got to know each other and trust each other."

Although positive remarks, such as members bringing useful materials to share were noted, not all teachers felt face to face communication increased professional practices within their teams. Two teachers made statements that were to the contrary, expressing the thought that some member of a team had stronger personalities and would monopolize team meetings, not allowing some member to speak or express their own opinions. Also spoken of as a detriment, was the lack of detailed records of information

discussed within face to face meetings. Because the minutes to the meetings were never written down, key details were often forgotten shortly after the meetings adjourned.

On the other hand, participants expressed that online meetings did increase professional practices, due to the fact archival discussions were online and available for reference at a later date. Along that same vein, one respondent noted that “Online is helpful and increased my professional practice, again, because it's an added resource and a place that I can go to get extra help.” One member expressed the awareness that everyone was allowed input regardless of personality traits. She noted, “ As far as increasing our professional practices, I guess the best thing I have to say is that it increased our communication as far as everybody having to respond, everybody having to agree or disagree so that was nice, we got everyone’s input.” Finally, the professional practice of allowing team members to look toward future plans was a noted theme, although one respondent stated that the online method did not create stronger teams.

Development of products took place consistently within the face to face format. Typical activities included lesson development and materials to be used in the classroom. Google documents were created to record and display student assessments for review by the team, but were not used on a consistent basis. Development of ‘Smartboard Lessons’ to share with team members was discussed, although several participants noted that they developed no products within team meetings in either face to face or online formats.

When asked to give examples of working together towards a shared understanding of curriculum policies and practices, very little feedback was expressed. Four responses were recorded, but related only that curriculum policies and practices were read face to face as a district requirement and new information was often sent over

e-mails for viewing during the school year. One respondent did feel she gained feedback from fellow colleagues to help her understand the district policies and practice more clearly.

Lastly, participants were to give examples of policies or products developed and utilized as a result of online or face to face experiences. Predictably certain online policies were developed to provide more effective communication, “Online communication increased my ability to communicate with other professionals who are working with my special needs children...,” and “Online communication allows us to communicate... with our administration.”, were typical responses. Teachers did shared resources, “We did share with each other educational websites and online practice sights for our students.” Additionally, one teacher added that these products helped refine needed student intervention resources. Surprisingly, several respondents added Google accounts as a new product, developed to help the team share daily and weekly lesson plans, create monthly agendas, and store archive materials needed for future lessons. One participant responded that the development of products or practices online was a nonissue. Research support these findings as a professional learning community is motivated to follow school wide policies and create products necessary for overall improvement of the school site. Newmann & Wehlage (1995) found collaborative work and discussion among the school’s professionals, a strong and persistent focus on teaching and learning within that work, along with the gathering and use of assessment and other data to inform and evaluate progress over time establishes a strong and effective learning community. Bredeson & Scribner (2000) also found overwhelming

agreement exists that professional learning, although not a guarantee, is directly and persistently linked to educational improvement and school development.

Face to face development of practices and products yielded similar results to the online format. The creation of lesson plans, domain maps, and supplementary material were a few of the products mentioned. Student remediation material was another area of product development that took place within the face to face format. This mirrored the online product development format. One difference was the mention of clear time management practices and a goal oriented focus. For example, “We use Google docs to upload stuff rather than e-mailing a hundred times over and over....” was described as a time saving practice. Desire for a clear focus was applied, “We were able to make sure our daily lesson plans, as well as weekly, were the same - that we are all teaching the same content at the same time.”

School Leadership

Interview question #4 in the research design asked participants to relate how school administration keeps the focus on shared purpose, continuous improvement, and collaboration within teacher professional learning groups both face to face and online. Teachers expressed the use of face to face collaboration towards a shared purpose, as a time to interact, create plans, review units, and domain mapping as well as pass on information and new learning to one another about student goals. Although the shared purpose was not always made clear by administration as one teacher stated, “I do feel as if the administration does keep a shared purpose [as the focus], however I do not think expectations are always clear and precise for all.” Research supports these findings, Venture, Fund, Tucker, and Coddling (2002) using case study research, found few

administrative development programs have focused directly on the problem of instructional improvement. Mitchell & Sackney (2001) found administrators have made decisions and teachers have implemented them. These conditions have served to disconnect teachers from many of the decisions that have profound implications for classroom practice and to disconnect administrators from the daily world of classroom practice.

Shared Purpose

Time specification was also discussed as a factor in the success of a shared purpose during face to face meetings. One participant noted “...school leadership administration keeps the focus on a shared purpose....although there is not a set time.” As far as administration keeping a shared purpose for the school through online contact, most participants stated that little or no communication took place in this format. Comments such as, “... the focus on a shared purpose related to professional learning groups through online sessions - they don't really focus on online at all.” Another teacher noted, “Shared focus on online sessions doesn't happen.” Two participants did state they used the online format to post team minutes to keep administration up to date on their group activities, however the record of team minutes was not examined by the administration on a continuous basis. “Our online- we feel that it wasn't 100% monitored, so we felt we did not have to fully go into it.” This experience is synonymous with researched conducted by Fahey (2011) who found that principals who put strong effort into building a professional community had little time for reflection, collaboration, or teaching and learning. In effect, the pressure to build school wide professional

communities was an unqualified expectation, but principals themselves were not participating fully in the collaboration plan.

Continuous Improvement

Four participants expressed positive remarks about continuous improvement through the face to face format. “There is continuous improvement as far as we’re all on the same page with each other- all hearing the same message at the same time.” Teachers noted that administration helped to work on goals and strategies that targeted student growth or helped improve classroom management, but the focus was narrow. One teacher noted, “This usually leans towards teaching us engagement strategies.”

Six participants felt administration did not make the practice of continuous improvement a priority. Progress monitoring can identify students who are not performing as expected, skills needing attention, and suggested learning groups. However, teachers did not always understand how to decipher the data and are not given assistance in this process. An example from a team member noted, “The continuous improvement and collaboration that our leadership and administration and district office is providing is not completely adequate to teacher’s time.” Research supports this concern. Ol’ah, Laerence and Riggan (2010) found teachers did not always understand how to decipher data and are not given assistance to identify appropriate activities, intensity, or levels of instruction. They found teachers do use assessment, but not always in the way district guidelines dictate. Teachers consult, analyze, and act on assessments, but limitations in the analysis of the data are superficial and do not drive lesson planning and response to interventions to a large degree. Roehrig (2008) found lack of knowledge

or training in progress monitoring assessments was a knowledge barrier that the teachers confirm.

Three participants went as far as stating administration did nothing towards continuous improvement within face to face professional learning community meetings stating, “I don't recall a direct focus on continuous improvement that was part of these meetings.” A study conducted in 2003 found similar results. Borko, Wolf, Simone, & Uchiyama (2003) found principals are often overwhelmed by the daily duties of the school and therefore disregard professional learning community goals.

The majority of teachers responded negatively to the question about administration and their promotion of continuous improvement within the online format. Six of the eight respondents stated that there was no system in place for this type of collaboration. “To be honest, I never really thought of the administration having serious conversations about things like continuous improvement or shared purpose with the staff in an online manner.” A majority of teachers stated they saw no real application. “I don't recall any of the focus was on continuous improvement during the online sessions as part of the work we did.” However, one teacher did state that surveys were employed to elicit teacher input on the outcome of face to face TCT weekly meetings. “School administration’s continuous improvement online- doesn't happen too much, although we do have to respond to surveys after TCT's to see how helpful they are and so its feedback for them and they do whatever with it.”

Collaboration

Collaboration was the focus when questioning teachers about administrative leadership and their support of professional learning groups within the face to face

format. Six participants answered positively regarding the building of relationships among staff members. One teacher responded, “. . . .through the professional learning groups, face-to-face contact is a way that we all have to interact with each other, we’re all responding to each other in different grade levels, and different subject areas, so that’s effective as far as communicating and knowing the staff.” Research supports this finding. Chin-Kin Lee (2011), states the expectations of school principals and administrators within a Professional Learning Community is to see development of the teachers’ sense of belonging to the school with a strong support for shared values and goals.” Three teachers agreed the sharing of ideas, concerns and curriculum issues was the general purpose of most meetings, and guidelines were provided by the district as displayed in a comment made by one respondent, “. . . .and our leadership provided us time, sets up all of the communication [agendas], and [gave us] guideline for when to use the communication [time] that was common among all the teachers.” Although two participants found collaboration between teachers was the expectation however no actual guidance from administration was given. This finding coincide with research conducted by Mitchell & Sackney (2000) Simply charging them [teachers] with this responsibility will not necessarily bring about the types of profound improvement that are envisioned within a learning community. Instead, capacity for a learning community needs deliberately and explicitly to be built among educators and within schools and school systems.

It was argued that authentic collaboration was not always the goal as one teacher commented, “So most of our subjects are mandated by the district and so that isn’t always what’s happening [true collaboration] in each classroom or grade level or subject.”

Another teacher noted, “As far as the face-to-face collaboration – there really isn't any - because we are not let to work on the things that we feel are important in our classrooms.” One participant explained that collaboration time occurred more often during weekly whole staff meeting times, than occurred during grade level team meetings, “In our Professional Learning Community groups, we get a lot of face-to-face collaboration time, but whole group - hardly any at all.” This conclusion was also supported by research conducted by Wayne, Yoon, Zhu, Cronen, & Garet (2008) teachers need professional growth opportunities integrated into school hours and that professional development must be ongoing in order to sustain teacher progress.

Time was often described as constraint which deterred teachers from engaging in authentic collaboration when meeting face to face. One teacher noted, “The administration likes to think we spend lots of time collaborating as a group face-to-face, but they actually rarely give us time as a whole group to discuss anything of importance.” One teacher stated, “We spend way too much time on useless materials in our face to face time.” Although this respondent did not elaborate on the types of materials she considered useless, another teacher did respond to that issue, “We feel that sometimes our time is taken up for paperwork.....versus giving teachers time to collaborate.” Several teachers also elaborated on the fact that collaboration is encouraged and expected within face to face meetings, but that no one holds them accountable. A seventh grade teacher stated, “As far as collaboration, they just really encourage us to do it. They don't really monitor though.”

The leadership focus in communication during online sessions was considered generally nonexistent by four teachers. The other four teachers made no comment on the

subject. Two teachers did describe instances where teachers may be communicating or collaborating online with the support of the district office and online courses were available to earn district credits towards a salary increase, but it was believed that only a small percentage of teachers engaged in these classes. A fifth grade teacher commented, "...but many people are not doing online work if they've already earned the credits they need for their pay scale upgrade or district required coursework, so that is a small percentage."

Lastly, Teachers were asked to describe any experiences with leadership that supported ongoing improvement and collaboration within either the face to face or online format. Two teacher comments were noted with regard to the face to face format. A typical response was stated by a fourth grade teacher, "Our administrator expects us to meet often and to collaborate to improve our teaching practices and these meetings generally do take place face-to-face." A similar thought was expressed by a kindergarten teacher, "Our administration wants us to have that shared time when- where we can collaborate with one another because they want us to have specific goals for each student."

Expectations by administration to meet as much as possible was described. Comments were made such as "Administration does encourage us...", "Administration wants us to...", and "Administration expects us to meet." However teachers made clear the limitations to these expectations. "...collaboration in the face-to-face online environment is not very supported because there's not enough time given it within the school day. Only 30 minutes, it works out to be more like 20 minutes each day, within the teacher collaboration time each supposed day to be able to foster any of that." Frustration

on time limitations was the main theme within this last inquiry. Literature supports these findings, Wells, Lindson, & Feun (2007) found that demand on teachers is often times overwhelming. Teachers are frustrated that they are expected to meet in teams, study learning results, on top of the basic demands of the local administration's initiatives.

Insight into Strengths and Weaknesses of the Two Formats

Question #5 was the final question within the research design, which asked participants to provide insights into the strengths or weaknesses of the two formats. Any suggestions for improvement or anything they wished to add to help improve the Professional Learning Community experience could be discussed at this time. When discussing strengths of the online experience, the word convenience came up in four separate teacher responses, "They [online posts] can often be completed at my own convenience which is great, like in the middle of the night." was a typical comment. In addition to convenience, most respondents agreed the online format allowed more reflection time to product a more thoughtful answer to an online question. "The online strength is teachers are able to get on and take the time and really think about an issue or topic and be able to respond in a coherent and helpful away and on their own time -if it's a morning or afternoon." Another strength noted by respondents was all information discussed was documented as to who and when the comment was made. "We have something in writing to refer back to" and also noted, "You knew who was participating and who was not.", were two replies given in response to the strengths of the online format. Succinctness was mentioned, "The online is good for quick yes or no answers." Lastly, the comment that the online format was helpful in resourcing or relaying

information to one another by either acquiring needed information for oneself or giving out needed information to others.

Time was also mentioned as a weakness within the online communication, since all members were not always available to discuss specific plans or solve a concern. A seventh grade teacher responded, “Weaknesses of the online, again, because we were doing it whenever we had time.” was a typical response. Time constraints also affected quality of communication, gaining a clear consensus on certain topics or getting a full explanation of data. A first grade teacher responded, “I think the downfall is you don't have extensive conversations about the issues when they are online, especially about really important topics such as student data or shared purpose on certain things.” Words communicated online were thought to have the potential to be misread.” Another respondent had a similar view, “.....whereas online or through e-mail can be misconstrued and impersonal.” Equity was also a concern. A second grade teacher replied, “The weakness of online is that there is no accountability aspect to making sure everyone is equally participating.” A sixth grade teacher brought up the fact there is no way of knowing when someone responded to a question that was posted. This respondent wrote, “Another weakness - I don't think it- I don't remember it e-mailing us if someone responded- so you didn't always see that someone was still commenting on something.” Most computers display a symbol or project a sound when a message has been transmitted. In the case of teacher online blog accounts, this was not an available option, so no one knew when a new or urgent response was required.

The respondents were questioned about the strengths of face to face communication. Six participants spoke of the effectiveness of face to face communication

when discussing conflict situations, engaging in debates or making clear discussion points. An eighth grade teacher commented, “So overall I think face-to-face professional development is effective when you're dealing with the issues, again conflicts and debates about a topic.” Two teachers agreed face to face communication bred camaraderie between team members, as noted by a first grade teacher, “And you can form a bond between colleagues.” Similar findings were discussed in research. Thessin & Starr (1992) found teachers need common planning time during the teaching day in order to build a strong foundation of trust and camaraderie.

Precision was a major strength of face to face communication as noted by a four teacher participants. A sixth grade teacher commented, “Clarifying questions and answers can be given immediately so that we can move on.” A similar sentiment was described by a fifth grade teacher regarding efficiency when interpreting student data. “That I feel we could really flush out certain topics and discussion about how students are collaborating, and working in their lessons.” A vital component of a collaborative team is the production of material useful in everyday practice. A second grade participant noted this when responding to the strengths of the face to face condition. “A strength for face-to-face is that you're able to sit and work together to plan and make units and stay on the same page.”

Weaknesses of the face to face format were discussed as well. Four responses revolved around time constraints and off task behavior. A seventh grade teacher noted, “A weakness of face to face is that, you know, because people who are going to be late, people who are going the leave early- struggling just to meet.” Excused given for the time restrictions when not able to meet in grade level teams were; schedule conflicts, before or

after school activities, and other commitments. “You are going to get a little off task- every so often, because we are teachers and we are going to talk about students or change the subject a bit.”, was a comment given by another respondent. A third grade teacher also mentioned that there was no one monitoring the team meetings, so accountability was low. Literature supports this sentiment. Mitchell & Sackney (2001) found teachers are often placed in a room with one another and told to collaborate, but not trained on how to begin the process.

Suggestions for Improvement

Suggestions for improvement of these two formats, was the next focus question. Four participants suggested more time for meeting together as a team in the face to face format. One teacher suggested having substitute teachers come in during the day to take over the classes so teachers could meet within their teams. Finding more teacher resources and sharing them with team members was another suggestion.

Teachers had more specific recommendations for the online collaborative format. First suggested, was the need for more upkeep and structure on how and when to use online communication. A seventh grade teacher wanted notices on her e-mail when others posted comments or responded to her questions. A fifth grade teacher noted, “There could definitely be something that could be online, some resources that could help with a certain topics.” She went on to suggest teachers could research online resources and share them with others online. One participant stated she had no suggestions.

The last section of interview question #5 asked participants if they had anything to add regarding face to face or online communication within their professional learning community experiences. One teacher spoke of being isolated in their classroom for the

majority of the day and that there existed a need for face to face time with other professionals. Two other teachers described face to face collaboration as their preference because of the need for adult contact. “I think of face-to-face time, [it] is a little more important and helps teachers connect more.....and so I enjoy the face-to-face time more...” Four teachers made suggestion which revolved around the online format. One teacher added that online was great for quick responses and was still more convenient although, the need for more technology training was necessary for teachers to understand how online communication worked. Having an online chat format was another suggestion. “My only advise for making the online format more effective is.....to have a chat like MSN chat or some other chat format where you could talk immediately and you can see what everybody has written, and it would be more like a flowing conversation, like a text message because you would be able to see it, and it would constantly be updating on your computer.”

Implications for Education: Online Format

Based on the outcome of teacher interviews relating to the online format, a variety of implications for education exist. Five themes were found when reviewing teacher interviews regarding experiences with the online format: further training and preparation, further resources from other grade level teachers and special area teachers, team building between members, input into school goal setting, and more administrative monitoring towards teacher accountability.

Training and Preparation

First, training in preparation for the online format and its continued support were necessary to ensure teacher success. Participants were not trained in the effective use of

online communication and various challenges arose. A variety of barriers to effective online communication were discussed due to lack of training. A kindergarten teacher discussed difficulties of the online format, “We didn't have a lot of great online communication during the professional learning community grouping last spring.....Some of us are on the computer a lot more often than others and so when you started a discussion you need the other people online. So we lacked a lot of communication because we would be waiting for certain members to get online or other people would begin a different discussion. So the format of it was really difficult for us to keep up.”

A third grade teacher discussed a barrier due to lack of participation by all members, “It was too difficult to make sure everyone participated and stayed on the same topic.” A seventh grade teacher reported difficulty with the online format in regard to timeliness “The online sessions were difficult in the fact that teachers are using it whenever they have time, so responses sometimes took longer than others and there were times where I didn't look back at that response that had come from a different time.”

Guidelines for participation in the online format were also discussed as a challenge. Teachers revealed they needed guidance on how to accomplish the necessary goals expected by administration. A sixth grade teacher reported “Barriers to effective communication would benot having a directive for using (online) communication.” Literature supports these findings. Mitchell & Sackney (2000) found that school personnel are central to questions of educational practice, change, and improvement, but

simply charging them with this responsibility will not necessarily bring about the types of profound improvement that are envisioned within a learning community.

Therefore implications for education revolve around leadership taking the role to support Professional Learning Communities by providing teachers with continuous blocks of time for using technology to illustrate good teaching, and building networks of teacher communities, where teacher leaders can provide professional development with colleagues. Additional implications to these findings suggest several points towards improvement of the online teacher collaboration format. First, teachers should be trained in the proper and effective utilization of the online format. This training should be ongoing and reflective. Research supports these implications. Lieberman & Pointer Mace (2008) believe that districts can support Professional Learning Communities by providing teachers with blocks of time devoted to instruct teachers with the strategies that have been successful..... using technology, and building networks of teacher communities. Hattie (2009), concluded that teacher reflection...must be done collaboratively. Teacher teams should have access to ongoing professional development designed to improve online teacher collaboration. Teachers can be trained individually or as a grade level team. As technology improves and develops, so too should the training teachers receive.

Additional Resources

A second implication established the need of teachers to look to additional resources to increase their professional development. These resources include freedom of goal setting, ability to meet online with all teachers including special area teachers, and having technological resources at their fingertips. Although the school district mandated a majority of teacher goals, teachers felt a need to expand on these goals. A fifth grade

teacher commented, “As far as the collaboration, there really isn't any, because we are not let to work on the things that we feel are important in our classrooms, so most of our subjects are mandated by the district, so that isn't always what's happening in each classroom or grade level, or subject.”

Meeting online with grade level teams as well as online with whole school teams and special area teachers was discussed as a means to increase needed resources. A sixth grade teacher revealed “You also knew immediately if you had to turn to another person to find a solution, someone that maybe wasn't on your team.” A fourth grade teacher discussed online conversations with resource teachers asking for advice on helping one of her students. “I do recall I had opportunities to communicate online with our special education resource teacher.” Literature supports the implication that added resources increase teacher professional development. Hoy and Hoy (2006) stated the most effective impact on teaching and student learning was the use of data exchange using technology throughout the entire school both within and between teacher teams.

An addition implication for teacher resources was based on technology availability. A fourth grade teacher stated, “We did share with each other educational websites and online practice sights for our students. And I would also occasionally develop Smartboard activities to use in our classrooms.” A first grade teacher stated, “At least with the online materials and products, they are all saved and we could go back and look at our archives and see what had been discussed or produced.” A fifth grade teacher made a similar response, “And the online was nice because we had a record of the communication print up of exactly what was written and discussed.” Literature supports

these findings. Stiggins & DuFour (2009) states, educators must have structures put in place to advance, enrich, and extend learning for teachers and students.

Implications for education include a need for increased professional development based on teacher goals instead of goals mandated by the district. Having a school data base with readily available technology resources such as Smartboard activities, online web resources, and online materials and products, were additional implications. A final implication revealed the need for an online system where the entire school staff has access to one another for added support, including special area teachers, speech and reading specialist, occupational therapists, school counselors, the nursing staff, and office personnel. With these technological connections to other members of the school staff, teachers could increase their knowledge and expertise in a larger variety of realms.

Team Building

A third implication for education within the online format focused on team building activities between grade level teams and across grade level teams. A third grade teacher confirmed, "It (online collaboration) allows for the ability to participate even if not available in person." A fifth grade teacher noted, "First online - people may feel that it's effective because we had a written detail plan or communication for our team." Research conducted by Brown & Lauder (2001) confirms collaboration between teachers is a key element within the Professional Learning Community model. Ideally, teachers would function in a community that uses the collective power of a shared vision and the combined intelligence of members to form a system of success. Mitchell & Sackney, 2000; Mulford, 1998) agree that teachers would see how actions in one sphere create consequences in another, and how the organization learns as a collective body.

Therefore, the implication for education appears to move towards expanding the use of online communication to include team building practices. The use of online group meeting for the purpose of completing online surveys and polls was discussed as an added form creating more detailed plans of action and communication for the grade level teams as well as the across additional grade level teams.

Collaborative Goal Setting

Allowing teachers to create an online agenda based on their needs was a fourth implication for education. Interviews with Teachers revealed the school district or school site regularly dictated the weekly goal for staff development. Often these goals did not correspond to teacher classroom goals. A fifth grade teacher noted, “So most of our subjects are mandated by the district and so that isn't always what's happening.... in grade levels or subject areas.” A sixth grade teacher noted, “And our leadership provided us time, sets up all of the communication and a guideline (of goals) for what to use... that was common among all the teachers.” Literature supported this finding. Wells, Lindson, & Feun (2007) found that demands on teachers are often times overwhelming. Teachers are frustrated that they are expected to meet in teams, study learning results on top of the basic demands of the local, state, and national initiatives and laws. In some instances the idea of the development of a Professional Learning Community was thought to be a top down initiative and not accepted as a feasible answer to the school’s dilemmas.

Therefore an implication for educational improvement might include district personnel surveying teachers on specific desires and goals. Once these goals have been determined, district personnel and teachers could work together on a corresponding

agenda that can accomplish both the district requirements and specific areas of teacher needs.

Administrative Responsibility

The focus on administrative practices within online communication was the last implication noted by teachers. A sixth grade teacher stated, “Our administration does encourage us to keep the continuously time to meet.” Two participants stated that administration seldom checked to see if all were participating in the online format. No feedback was given by administration, which gave the impression there was no accountability. A third grade teacher stated, “No one checks on us or looks to see who is represented on any of our online time ...” Research supports this assertion. Farmer (2007) found the need to give administrator more time to monitor teacher online meetings. Cooper (1998) stated, effective implementation will occurred when both teachers and administrators take responsibility for the program as a collective opportunity to improve the educational experience. Therefore the implications for education would be to offer administrative training on the effective use of monitoring online teacher team communication. Teachers would be expected to create an online agenda and keep minutes of each meeting. This agenda would be submitted to the site administrator at specified time intervals. Minutes of each grade level team meeting would be presented online for feedback from the administrator. Time for this practice must be set aside to ensure administrators can supply ongoing, supportive, and specific feedback to teachers.

Implications for Education: Face to Face Format

Based on the outcome of teacher interviews relating to the face to face format, a variety of implications for education exist. Four themes were found after reviewing

teacher interview experiences within the face to face format. The first theme was providing time or giving additional time for collaboration, the second theme was to hold all members accountable for participating equally, a third theme was keeping all members focused on the allotted task(s) until their completion, and the final theme focused on administrative expectations and support.

Time Provided for Collaboration

As part of the Professional Learning Community teacher team meetings within the face to face format are an expectation. Teachers are to meet in grade level teams on a weekly basis. Kindergarten through fourth grade teachers are scheduled to have a prep time with one another daily. However this is not the case with teachers in fifth through eighth grades. These teachers do not have a scheduled prep time together. Often these staff members try to meet in the morning before school or after school, but due to other commitments, such as coaching or tutoring before or after school, the Professional Learning Community model of face to face communication has not worked for them. A sixth grade teacher noted, “For face-to-face there was sometimes difficulty getting the whole team together at once due to scheduling.” Another respondent explained, “On leadership in supporting collaboration...it is not very supported because there's not enough time given it within the school day, only 30 minutes, it works out to be more like 20 minutes each day, within the teacher collaboration time each supposed day to be able to foster any of that.” Adding to this implication a fourth grade teacher stated, “Time was also a barrier to our communication.” Therefore the implications to education must include a common prep time for all members of the teaching staff as well as allowing a reasonable amount of time to complete required work within the grade level teams.

Research supports this implication. Eaker (2002) explained the importance of finding and allotting time during the school day to enable teachers to meet and collaborate on a regular basis.

Team Member Participation

A second implication for education was the need for equal participation by all members of a grade level team. A third grade teacher noted, “Some barriers we faced were lack of participation by all. . . . It’s hard to plan effectively as a group when not all members of the team are face-to-face.” An similar comment came from a seventh grade teacher, “A weakness of face to face is that, you know, because people who are going to be late, people who are going to leave early. . . .struggling just to meet [and have involvement].” Research supports these implications. Wenger, McDermott, and Snyder (2002), argue that tension is inherent in group work and little educational research explores the difficulties that teachers experience in establishing and sustaining productive learning communities. Consequently, an implication for education is to hold teachers accountable for equal participation within each grade level teams. Assignment of roles within teams may facilitate equal participation. Rotating these assigned teacher roles at specified intervals may encourage added participation. The administrative requirement of team contribution reports can also increase the occurrences of full participation.

On Task Behavior

A third implication for education involved on and off task teacher behavior by members of a teacher team. A seventh grade teacher responded, “Face-to-face you can get off task or talk about something different and change subjects easily.” A sixth grade teacher noted a similar thought, “You are going to get a little off task- every so often,

because we are teachers and we are going to talk about students or change the subject a bit.” Therefore, implications for education may be to have a typewritten agenda available for all members to view. An expectation would be to follow the agenda intently until all points are covered. After which member may then have time to converse on other subjects. Having an administrator visit meeting on a continuous basis would encourage on task participation. Administration should also ask for a record of products or material created as a result of teams meetings. Feedback by the administrator on these products or materials should be a standard practice.

Administrative Support

Similar to the online format, a focus on administrative practices towards the face to face collaborative teams was the last implication for education noted by participants. Four teachers stated that administrators did not give detailed directions on the use of face to face collaborative time nor were the meeting monitored. An eighth grade teacher noted, “Barriers to effective communication would be ...not having directive for using the communication.” A fifth grade teachers noted, “As far as the face-to-face collaboration, there really isn't any -because we are not let to work on the things that we feel are important in our classrooms.” A third grade teacher stated, “ When we are working together there is only one expectation- to meet as a group once a week- but no one ever actually checks to see if these things are being done.” She went on to say, “A weakness of face-to-face is that there is no one monitoring what we're doing or even if we are meeting or on task.” A seventh grade teacher agreed saying, “As far as collaboration, they just really encourage us to really do it. They don't monitor though.” Therefore an implication for education would be to ensure the administrator has complete

understanding and acceptance of the Professional Learning Community Model of leadership. Professional development should include a district mentoring and coaching program specifically geared towards the site administrator. Principals should give detailed descriptions to teacher teams on expectations. All meetings should be monitored by the administrator. Feedback should be given to teachers relaying positive outcomes of team meeting as well as suggestions for improvements. Research supports these findings. McLaughlin and Talbert (2001) state at the school level it is the principal who creates the conditions that allow the Professional Learning Community concept to flourish.

Educational Implications and Suggestions for Future Research

Comparing the online and face to face formats of collaboration, further preparation and training is needed in both cases to ensure success. Training of the site level administrator is paramount in guaranteeing true understanding of the responsibilities and ramifications of the Professional Learning Communities as it relates to teacher communication. Teachers must have initial and ongoing training in the meaning and process of team collaboration to ensure enduring achievement.

Both the online and face to face formats of communication should be made available to administrators and teacher teams. Access to other personnel within the school is a vital resource for teachers and administration as well. Access to counselors, nursing staff, school psychologist, and special education personnel, can greatly increase teacher efficacy. Having these support personnel within the online format only adds to greater awareness and team building capacity. Having the ability to access knowledge from teachers within other grade level teams is an added resource teachers would prize.

Team building activities should be designed and implemented often in both the online and face to face formats. Activities should include professional development that reinforces expectations and outcomes of collaboration goals. Grade level teams as well as teams of teachers from various grade levels should interact together. All members of the school site should participate including special areas teachers. These actions will help to empower the school staff towards further success as a professional learning community.

Another important action the district could take to ensure successful collaboration within both communication formats pertains to school leadership and the focus on shared purpose, continuous improvement, and collaboration. Teachers provided insight into goal instigation. Instead of the site goals originating from the district level in a top down progression, teachers asked to have more input into the goals they are expected to attain from their collaborative efforts. Teacher input would ensure an incentive to accomplish the site goals. The development of these goals can occur in a face to face format or through online surveys and training sessions.

Monitoring of teacher collaborative meeting was a final action needed to improve the collaboration process. Teachers noted that Administrators did not monitor face to face nor online teacher meeting. Teacher accountability was low and often teachers did not participate to their full potential. The important actions a district could take to ensure successful collaboration online and face to face would be to give site administrators the times and training needed to facilitate and monitor team meetings on a continuous basis. If the above actions are implemented, it would positively influence teacher collaborative teams.

Limitations of the Study

The research has limitations that may have affected the outcome of the program evaluation. First, this study was conducted at only one school and was limited to twenty-two teachers at this site. The need for replication of this study to validate findings supports the limitation. Further research would have to be conducted at additional facilities to gain supporting data. Furthermore, teachers involved in the study had varying degrees of teaching experience which may have had an effect on the knowledge and understanding each had about the process and expectations of a Professional Learning Communities. Teachers also had varying degrees of computer literacy, which may have effected how comfortable they were with online communication.

In addition, Teacher participants did not receive training on how to collaborate effectively within grade level teacher collaboration teams. In some cases, there was no common prep time allotted so teachers could meet face to face within their grade level teams. Teachers were simply told to work together and to make sure all members were doing the same thing within their grade level classrooms. Site administrators also lacked training on how to guide and facilitate teacher collaborative teams. Limitations existed in regard to Administrative participation and monitoring of teacher teams, resulting in low or mediocre participation outcomes.

Training with online blog accounts was also limited. Teachers were assigned a team blog account but not given specific directives or extensively trained on how to proceed with the communication collaboration process online.

Another limitation may be found with interviews collected from participating teachers. Teacher perceptions were recorded which may differ from actual happenings as

recorded by others. The need to interview all teachers involved in the program evaluation may have changed the outcome of responses.

Chapter 5

CONCLUSION

In conclusion, perceptions of teachers who had experienced face to face and online delivery systems during Professional Learning Communities were obtained through an individual interview process. Findings were confounded by the apparent lack of understanding of major concepts of the Professional Learning Community on the part of the participants. Assumptions about participant knowledge must be tested prior to investigations of the influence of either face to face or online format as delivery modes. The themes however, appeared to be directed more towards processes involved in PLC's more than a thoughtful examination of online and face to face delivery systems as a means of collaboration within PLC's.

Although formats were mentioned, the underlying issues were related to the process or structure of PLC's. The issues couched in responses to a particular format could clearly apply to either approach; for example, issues to time had little to do with format, and more to do with time involved in collaboration.

First, findings revealed time was an issue with the face to face format. Upper grade level teachers did not have a common prep time, so were unable to effectively communicate collaboratively. Kindergarten through fourth grade teachers were given daily time to meet as a team but described time as limited. Research supports the use of common planning time. Stoll and Louis (2007) found a Professional Learning Community exists where a group of teachers focus on improvement and sharing of knowledge in a collaborative environment on a consistent basis. Respondents in the study

desired the same common planning time with one another and additional time to work together, but due to scheduling conflict this was not a possibility.

A second finding involves participation of members within grade level teams. Lack of accountability was not built into the design of the program evaluation so teachers did not participate fully in either format. Administration did not monitor teacher collaboration meeting within the face to face nor the online collaboration format, so many teachers did not feel responsible for the outcome of online meetings or online collaboration. Research extols a clear vision for teachers as to collaborative expectation. (Bryk & Schneider, 2002; McLaughlin & Talbert, 2001) found major aspects of the Professional Learning Community are; creating a clear vision of expectations, administrative support for teachers and staff, team learning, and shared knowledge, collaboration, and a means towards collective accountability measures.

Lack of clear vision with expectations appeared to be true not just for teachers but for administration as well. Teachers also felt an apparent need of administration to assume responsibility in terms of what and how to address accountability issues. Research supports this finding. Graham (2007) found common planning time provided the opportunity for intensive collaboration, which was identified by teachers as the most important element in the perceived successes of Professional Learning Community. Although teachers may give symbolic attention only when meeting together during common planning time, most often teachers would collaborate on managerial tasks and then return to their individual classroom.

Program evaluation findings revealed administration gave no clear direction on how to carry out online or face to face collaborative meetings, nor were goals given to

members except to meet at least once a week. The findings were contrary to expectations of the transformation required to sustain an effective PLC as established through research conducted by Stoll and Louis (2007) a Professional Learning Community exists where a group of teachers focus on improvement and sharing of knowledge in a collaborative environment. Teachers critically exchange ideas and practices in an ongoing, reflective, inclusive, learning-oriented and growth-promoting way. A second grade teacher noted, “A weakness of face-to-face is that there is no one monitoring what we’re doing or even if we are meeting or on task.” A third grade teacher supports this same sentiment regarding the online format, “The weakness of online is that there is no accountability aspect to making sure everyone is equally participating.” Bond & Fox (2001) revealed productive learning communities are those whose members process collaboration practices together, including administration with teachers. When [teachers and administrators] interaction is high, members generally feel more competent that they can teach in ways that enhance success. Heck and Hallinger (2009) discussed the idea of shared or distributed leadership when building capacity within the school environment. Administration must focus on capacity building and develop teacher leaders who carry on the expectations of a Professional Learning Community.

Because teachers possessed differing level of computer literacy, the online format of team collaboration was more difficult for some. Gregory (2010) found, that teacher capacity may increase as teachers learn new skills. When teachers work together to apply a new skill, they often receive validation from their teammates. Overall teachers within the model of the Professional Learning Community have the opportunity to follow the goals stated by DuFour (2004) “Creating a Professional Learning Community where

members must focus on learning rather than teaching, work collaboratively, and hold themselves accountable for results.”

There is potential for strong and positive results when attention is given to establishing clear individual and group collaborative expectations in both the face to face and online collaborative format. Results may increase to an even higher level with the expectation of administrative leadership training and support for the collaborative work of teachers.

REFERENCES

- Amason, A. C., & Schweiger, D. M. (1997). The effects of conflict on strategic decision making effectiveness and organizational performance. In C. De Dreu, & E. Van de Vliert (Eds.), *Using conflict in organizations* (101–115). London, UK: Sage Publications.
- Antonek, J. L., McCormick, D.E., & Donato, R. (1997). The student teacher portfolio autobiography: Developing a professional identity. *Modern Language Journal*, 81(1), 15-27.
- Barnes, C. A., Camburn, E., Sanders, B. R., & Sebastian, S. (2010). Developing instructional leaders: Using mixed methods to explore the black box of planned change in principals' professional practice. *Educational Administration Quarterly*, 46, 241-279.
- Baumfield, V., & Butterworth, M. (2005). Developing and sustaining professional dialogue about teaching and learning in schools. *Journal of In-service Education*, 31, 297-312.
- Bond, T. G., & Fox, C. M. (2001). *Applying the Rasch model : Fundamental measurement in the human sciences*. Mahwah, New Jersey: L. Erlbaum.
- Borko, H., Wolf, S. A., Simone, G. (2003). Schools in transition: Reform efforts and school capacity in Washington state. *Educational Evaluation and Policy Analysis*, 25 (2), 171-203.
- Bray, B. (2005). Data Can Drive Development. *Technology & Learning*, 25.11-14.
- Bredeson, P.V., & Scribner, J.P. (2000). A statewide professional development conference: Useful strategy for learning or inefficient use of resources? *Educational Evaluation and Policy Analysis*, 8 (13). [On-line]. Available: <http://epaa.asu.edu/epaa/v8n13.html>.
- Brown, P., & Lauder, H. (2001). *Capitalism and social progress: The future of society in a global economy*. New York: Palgrave.
- Bryk, A. S., Schneider, B. (2002). *Trust in schools: A Core Resource for Improvement*. New York: Sage Publishing.
- Chi-kin Lee, J., Zhang, Z., & Yin, H. (2011). A multilevel analysis of the impact of a professional learning community, faculty trust in colleagues and collective efficacy on teacher commitment to students. *Teaching and Teacher Education*, 27, 820-830.

- Chadwick, R. (2000). Colorado Educators Consensus Institute: Beyond conflict to consensus. Terrebonne, OR: Consensus Associates.
- Collins, J. (2001). *Good to Great: Why Some Companies Make the Leap....and Others Don't*. New York: HarperCollins Publishers Inc.
- Cooper, R. (1998). Socio-cultural and Within-school Factors that Affect the Quality of Teachers building a professional community. Implementation of School-wide Programs (Report No. 28). Baltimore, Md: *Centre for Research on the Education of Students Placed at Risk*; ED 426173. New York: Harper Business.
- Craig, C. J. (2009). Research in the midst of organized school reform: Versions of teacher community in tension. *American Educational Research Journal*, 46 (2), 598-619.
- Dooner, A., Mandzuk, D., & Clifton, R.A. (2008). Stages of collaboration and the realities of professional learning communities. *Teaching and Teacher Learning*, 24, 564-574.
- DuFour, R. (2004). Schools as Learning Communities. *Educational Leadership*, 61, 6-11, Retrieved July 20, 2011, from http://pdonline.ascd.org/pd_online/secondary_reading/el200405_dufour.html
- DuFour, R., DuFour, R., Eaker, R., & Karhanek, G. (2010). *Raising the Bar and Closing the Gap Whatever it Takes*. Bloomington, Indiana: The Solution Tree Press.
- DuFour, R., Eaker, R., and DuFour, R. (2005). *On common ground: the power of professional learning communities*. Bloomington, IN: National Educational Service.
- Eaker, R., DuFour, R., & DuFour, R. (2002). *Getting started: restructuring schools to become professional learning communities*. Bloomington, IN: National Education Service.
- Fahey, K. M. (2006). Still learning about leading: A leadership critical friends group. *Journal of Research on Leadership Education*, 46 (1), 1-35.
- Farmer, L. (2007). Principals: Catalysts for Collaboration. *School Libraries Worldwide*, 13 (1). 56-65.
- Fisher, D. (2005) The missing link: Standards, assessment, and instruction, *Voices From the Middle*, 13 (2). 8-11.
- Fullan, M., Hill, P., & Crevola, C. (2006). *Breakthrough*, Sage, Thousand Oaks, CA.
- Fullan, M. (2006). *The development of transformational leaders for educational decentralization*. Toronto, Canada: Michael Fullan.

- Goddard, R. D., Hoy, W. K., & Hoy, A. W. (2004). Collective efficacy beliefs: Theoretical developments, empirical evidence, and future directions. *Educational Researcher*, 33 (3), 3-13.
- Goulet, L., Krentz, C., & Christiansen, H. (2003). Collaboration in education: The phenomenon and process of working together. *The Alberta Journal of Educational Research*, XLIX(4), 325-340.
- Graham, P. (2007). Improving teacher effectiveness through structured collaboration: A case study of a professional learning community. By: *Research in Middle Level Education Online*, 10848959, 31 (1)
- Gregory, A.(2010). Teacher learning on problem-solving teams. *Teaching and Teacher Education*, 26, 608-615.
- Hargreaves, A. (2001). The Emotional Geographies of Teachers' Relations With Colleagues. *International Journal of Educational Research*, 35(5), 503-527.
- Hattie, John (2009). *Visible Learning: A Synthesis of Over 800 Meta-Analyses Relating To Achievement*. New York: Routledge.
- Heck, R. H., & Hallinger, P. (2009). Assessing the contribution of distributed leadership to school improvement and growth in math achievement. *American Educational Research Journal*, 46 (3), 659-689.
- Hoy, A., & Hoy, W. (2006). *Instructional leadership: A research-based guide to learning in school*. Boston, MA: Pearson.
- Hoy, W. K., Sweetland, S. R., & Smith, P. A. (2002). Toward an organizational model of achievement in high schools: the significance of collective efficacy. *Educational Administration Quarterly*, 38, 77-93.
- Huffman, J. (2003). The role of shared values and vision in creating professional learning communities. *NASSP Bulletin*, 87, 21-37.
- King, M. B. (2004). School and district level leadership for teacher workforce development: enhancing teacher learning and capacity. In M. A. Smylie & D. Miretzky (Eds.), *Developing the teacher workforce*, 103rd Yearbook of the National Society for the Study of Education, Part I (pp. 303-325). Chicago: University of Chicago Press.
- Klein, E. J. (2008). Learning, unlearning, and relearning: Lessons from one school's approach to creating and sustaining learning communities. *Teacher Education Quarterly*, 35 (1), 79-97.

- Langer, G.M., Colton, A.B., & Goff, L.S. (2003). Collaborative Analysis of Student Work: Improving Teaching and Learning, *Association for Supervision and Curriculum Development*, Alexandria, VA.
- Leana, C. R., & Pil, F. K. (2006). Social capital and organizational performance: evidence from urban public schools. *Organization Science*, 17 (3), 353-366.
- Levine, T. H. (2011). Experienced teachers and school reform: Exploring how two different professional communities facilitated and complicated change. *Improving Schools*, 14, 30-47.
- Lezotte, L. (2004). *Revolutionary and Evolutionary: The Effective School Movement*. Okemos, MI: Effective School Products.
- Lieberman, A., & Pointer Mace, D. H. (2008). Teacher Learning: the Key to Educational Reform. *Journal of Teacher Education*, 59: 226-234.
- Little, J. W. (1990). The persistence of privacy: Autonomy and initiative in teachers' professional relations. *Teachers College Record*, 91(4), 509–536.
- Little, J. W. (2003). Inside Teacher Community: Representations of Classroom Practice. *Teachers College Record*. 105, 913-945.
- Luna, E., Gonzalez, S., Robitaille, D., Crespo, S., & Wolfe, R. (1995) Improving the teaching and learning of mathematics in the Dominican Republic, *Journal of Curriculum Studies* 27 (1), 67–79.
- Mason, J. (2006). Mixing methods in a qualitatively driven way. *Qualitative Research*, 6 (1), 9–25.
- McKenna M.C. & Walpole, S. (2005). Assessment: How Well Does Assessment Inform Our Reading Instruction? *The Reading Teacher* 59, pp. 84–86.
- McLaughlin, M., & Talbert, J. (2001). *Professional communities and the work of high school teaching*. University of Chicago Press, Chicago, IL.
- McQuillan, P.J., & Salomon–Fernandez, Y. (2008). The impact of state intervention on "underperforming" schools in Massachusetts: Implications for policy and practice. *Education Policy Analysis Archives*. 16(18), 1-43.
- Miles, M., & Huberman, M. (1994). *Qualitative data analysis: An expanded sourcebook* (2nd ed.) Thousand Oaks: Sage.
- Mitchell, C., & Sackney, L. (2000). *Profound improvement: Building capacity for a learning community*. Downington, PA: Swets & Zeitlinger.

- Mitchell, C., & Sackney, L. (2001). Building Capacity For a Learning Community. *Canadian Journal of Educational Administration and Policy*, 19. Retrieved July 21, 2011, from <http://www.umanitoba.ca/publications/cjeap/articles/mitchellandsackney.html>
- Mitgang, L., & Maeroff, G. (2008). *Becoming a leader: Preparing school principals for today's schools*. New York: The Wallace Foundation.
- Mulford, W. (1998). Organizational Learning and Educational Change. In A. Hargreaves, A. Lieberman, M. Fullan, & D. Hopkins (Eds.), *International Handbook of Educational Change* (pp. 616-641). Norwell, MA: Kluwer Academic.
- Namaghi, S.A. O. (2009). A data-driven conceptualization of language teacher identity in the context of public high schools in Iran. *Teacher Education Quarterly*, 36 (2) 111-124.
- Newmann, F., & Wehlage, G. (1995). *Successful school restructuring*. Madison, WI: Center on Organization and Restructuring of Schools.
- Ol'ah, L.N., Lawrence, N.R., & Riggan, M. (2010). Learning to learn from benchmark assessment data: How teachers analyze results. *Peabody Journal of Education*, 85, 226-245.
- Pang, N. S. K. (2006). *Schools as learning organizations*. In J. C. K. Lee, & M. Williams (Eds.), *School improvement: International perspectives* (pp. 65-86). New York: Nova Science Publishers, Inc.
- Printy, S. M. (2008). Leadership for teacher learning: A community of practice perspective. *Educational Administration Quarterly*, 44 (2), 187-226.
- Roehrig, A. D., Duggar, S. W., Moats, L., Glover, M. & Mincey, B. (2008). When teachers work to use progress monitoring data to inform literacy instruction : Identifying potential supports and challenges. *Remedial and Special Education*, 29, 364-382.
- Rhodes, C., & Brundrett, M. (2005). Leadership succession in schools: A cause for concern. *Management in Education: Education Publishing Worldwide Ltd.*, 19 (5), 15-19.
- Roman, B., & Miller, R. J. (2007). Organizational strategies for promoting instructional change: Implementation dynamics in schools working with comprehensive school reform providers. *American Educational Research Journal*, 44 (2), 252-297.

- Safer, N. & Fleischman, S. (2005). How Student Progress Monitoring Improves Instruction, *Educational Leadership* 62 (5), 81–83.
- Seidman, I. E. (1991). *Interviewing as qualitative research: A guide for researchers in education and the social sciences*. New York: Teachers College Press.
- Sergiovanni, T. (2000). *The Lifeworld of Leadership: Creating Culture, Community, and Personal Meaning in Our Schools*. San Francisco: Jossey-Bass.
- Serva, M. A., Fuller, M. A., & Mayer, R. C. (2005). The reciprocal nature of trust: A longitudinal study of interacting teams. *Journal of Organizational Behavior*, 26, 625- 648.
- Servage, L. (2008). Critical and transformative practices in professional learning communities. *Teacher Education Quarterly*, 35, 63-77.
- Stamps, D. (1998). Learning ecologies. *Training*, 35 (1), 32-38.
- Stiggins, R., & DuFour, R. (2009). Maximizing the Power of Formative Assessments. *Phi Delta Kappan*, 90(9), 640-644.
- Stoll, L., & Louis, K. S. (2007). Professional learning communities: Elaborating new approaches. In L. Stoll, & K. S. Louis (Eds.), *Professional learning communities: Divergence, Depth, and Dilemmas* (pp. 1-14). Berkshire, England: Open University Press.
- Talley, W. K. & Keedy, J. L. (2006). Assessing school council contribution to the enabling conditions for instructional capacity building : An urban district in Kentucky. *Education and Urban Society*, 38, 419-454.
- Thessin, R. A., Starr, J. P. (2011) Supporting the Growth of Effective Professional Learning Communities Districtwide. *Phi Delta Kappan* 92(6) 48-54.
- Thompson, S., Gregg, L., & Niska, J.M. (2004). Professional learning communities, leadership, and student learning. *RMLE Online: Research in Middle Level Education*, 28 (1), 1-15.
- Tichy, N. (1997). *The Leadership Engine: How Winning Companies Build Leaders at Every Level*. New York: Harper Business.
- Toole, J., & Louis, K.S. (2002). The role of professional learning communities in international education. In K. Leithwood & P. Hallinger (Eds.), *The second international handbook of educational leadership*, (245-279). Dordrecht, Neth.: Kluwer.

- Tucker, M., & Coddling, J. (2002). *The principal challenge: Leading and managing schools in an era of accountability*. San Francisco: Jossey Bass.
- Vaughn, S., & Coleman, M. (2004). The role of mentoring in promoting use of research-based practices in reading. *Remedial and Special Education, 25*, 25–38.
- Wayne, A. J., Yoon, K.S., Zhu, P., Cronen, S., & Garet, M. S. (2008). Experimenting with teacher professional development: Motives and methods. *Educational Researcher, 37*, 469-479.
- Wells Lindson Feun, C. (2007). Implementation of learning community principles: A study of six high schools. *NASSP Bulletin, 91* (2), 141-160.
- Wenger, E. (1998). *Communities of practice*. New York: Cambridge University Press.
- Wenger, E., McDermott, R., & Snyder, W. (2002). *Cultivating Communities of Practice: A Guide to Managing Knowledge*. Boston, MA: Harvard Business School Press.
- Wong, J.L.N. (2010): Searching for good practice in teaching: A comparison of two subject-based professional learning communities in a secondary school in Shanghai. *Journal of Comparative and International Education, 40* (5), 623-639.
- Wood, D. (2007). Teachers' learning communities: Catalyst for change or a new infrastructure for the status quo? *Teachers College Record, 109* (3), 699-739.

APPENDIX A
LETTER OF CONSENT

Consent Form
Parents' Perspective of Parental Involvement in the Elementary School

Dear _____ :

I am a doctoral student under the direction of Dr. Kathleen McCoy at Arizona State University, Tempe Campus. For my dissertation in the doctoral program in Educational Leadership, I am conducting research which explores the efficacy of using online and face to face formats in professional development activities. The purpose of this form is to provide you information that may affect your decision as to whether to participate in this research and to record the consent of those who agree to be involved in the study.

I am conducting one to one interviews of one time with participants in this study. The interviews are anticipated to take no longer than 30 to 40 minutes and would be conducted in your room at Madison Elementary School. I would like to audiotape this focus group interview. You will not be recorded unless you give your permission. If you give your permission to be taped, you have the right to ask for the recording to be stopped. Your responses will be confidential. Because a randomization process will be used to select teachers for this interview, even if you do give your consent you may not be chosen. The results of this study may be used in reports, presentations, or publications but your name will not be used. Since you will be interviewed individually by a member of the teaching staff, complete confidentiality cannot be maintained, however, interviews and recordings will be coded immediately during the interview by grade level. No names will be used. I will construct a written narrative of the interview so that voice recognition will not be possible. The tape recordings will be erased at the completion of the study and heard only by the interviewer.

Your participation in this project is voluntary. If you choose not to participate or to withdraw from the project at any time even if you have previously said yes, it will not affect you in any way. The results of the research will be used to fulfill my dissertation assignment and to inform the district and others of the benefits and drawbacks of the online and face to face formatting for in-service education in our district. Your name and identity will be anonymous and will not be used without your permission. All data will be kept confidential and stored in a password-protected computer.

Although no direct benefit to you may occur, the possible benefit of your participation includes improvements to district-wide in-service programs.

If you have any questions concerning the research or your participation in the study, before or after consent, you can contact me at 602.971.1933 or Pamela.tucker@asu.edu. In the event that you have any questions about the dissertation, please contact Dr. Kathleen McCoy by phone at 480-966.2091 or by email at Kathleen.mccoy@asu.edu.

Sincerely,

Pamela Tucker

With my signature, I give consent to participate in the above study.

Name (printed) _____

Signature _____ Date _____

With my signature, I give consent to be audiotaped during the interview.

Signature _____ Date _____

If you have any questions about your rights as a subject/participant in this research, or if you feel you have been placed at risk, you can contact the Chair of the Human Subjects Institutional Review Board at 480-965-2179.

APPENDIX B

INSTITUTIONAL REVIEW BOARD/HUMAN SUBJECTS APPROVAL FORM

PROJECT SUMMARY : A comparison of teacher perception of online and face to face formats for professional learning community Interactions

2. Provide a **brief** description of the **background, purpose, and design** of your research. Avoid using technical terms and jargon. Describe all interactions with potential study participants (e.g., how identified, how recruited) including all of the **means you will use to collect data** (e.g. instruments, measures, tests, questionnaires, surveys, interview schedules, focus group questions, observations). Provide a short description of the tests, instruments, or measures. (If you need more than a few paragraphs, please attach additional sheets.) **Attach copies of all instruments and questionnaires. FOR ALL OF THE QUESTIONS, WRITE YOUR ANSWERS ON THE APPLICATION RATHER THAN SAYING “SEE ATTACHED”.**

The proposed research is an interview that will be conducted to elicit feedback about two types of formats, online or face to face, for participation in professional learning groups. Teachers who participated in the two format versions of a professional learning group will be asked to provide their thoughts about their experiences with the online and face to face format presented in Spring 2012. The process is as follows. First the teachers will be provided with information about the follow up interview at a faculty meeting. At this meeting a letter requesting their consent will be distributed. The researcher will answer the participants’ questions. The letter informs the teachers of their role and rights in the study. To avoid any appearance of possible coercion in recruiting interview respondents by the interviewer, a member of the school district will collect the consent letters from the faculty. The Co-PI will not be present when respondents complete the letter of consent. Teachers who agree to participate will be chosen, if need be, using a randomized stratification approach, that is, if 5 teachers at the third grade level agree to participate, only one of those 5 will be selected. If only one teacher from a grade level volunteers to participate, that teacher is likely to be chosen. If no teacher from a particular grade level chooses to participate, then no teacher from that grade level will be included. The randomization procedure will use a table of random numbers as the

determinant for who will be picked to participate. Informed consent forms will be signed by each participant before the interview.

For those teachers who agree to participate in the interview, individual meeting times will be arranged with them by the interviewer. Depending on the response numbers a maximum of 11 teachers will be randomly chosen from the set of teachers who provided consent for their participation in the interview. All interviews will be conducted on the school campus and will be individual, that is, one teacher with the interviewer. The interviewer will take notes as well as record responses from a predetermined set of interview questions. Participants will be asked guiding questions related to their views on online and face to face professional meetings relative to practices, perspectives on teacher involvement and functionality of each format. Participants will be encouraged to elaborate upon their answers and provide specific examples. Interview questions are found attached to this proposal. The one time interview should take no longer than 30 to 40 minutes of the teacher's time. Transcriptions of each interview will be made from the recordings and supplemented with notes taken by the interviewer. The tapes and the transcriptions will be coded by grade level not by name. As multiple teachers exist at each grade level and teachers will be selected randomly from each grade level, the only person who will know the names of the teachers interviewed will be the interviewer. No master list will be kept of the people being interviewed. A team of 2 to 3 people will transcribe interviews. One of the transcribers will be the interviewer and the other two will be teachers from other districts who have had no interaction with the participants. The next step will be to code and categorized the data from the transcriptions as per the Miles and Huberman (1994) model of qualitative

data analysis. Any identifying information will be deleted in all written records.

Transcripts may be reviewed by participants if they so choose to ensure accuracy of content.

APPENDIX C
TEACHER SURVEY FORM

Teacher Survey

Teachers completed two on-line surveys, one at the beginning of the program evaluation and the other 10 weeks later. The surveys were designed to analyze perceptions of teachers relative to online and face to face formats for collaboration. A total of twenty-two questions focused on the major factors associated with the Professional Learning Community.

Professional Learning Community Survey

Date: _____

Name: _____

Grade/Subject Taught: _____

Years of Teaching Experience ____ 1st year, ____ 2nd - 4th year, ____ 5th -10th year
____ 11 or more years

Age ____ 20-29 years, ____ 30-39 years, ____ 40-49 years, ____ 50 and over

Experience with Technology (please check all that apply)

____ Personal e-mail, ____ Teacher Web, ____ Facebook, ____ My Space,

____ Google, ____ Google Docs, ____ Skype,

____ Utube, ____ Cloud, ____ Dropbox, ____ Blackboard, ____ e-college,

____ online courses/professional development

List any

others _____

Directions: This survey is designed to provide the program developer with insight about the extent to which each of the factors associated with the Professional Learning Community could be provided best in your school.

Using a multiple choice response please answer the following questions.

1) At this time, I believe faculty/staff members effectively communicate with each other about their situations and their specific challenges face to face.
1. Strongly Agree
2. Agree
3. Disagree
4. Strongly Disagree
2) At this time, I believe faculty/staff members effectively communicate with each other about their situations and their specific challenges through online resources.
1. Strongly Agree
2. Agree

3. Disagree
4. Strongly Disagree
3) At this time, I believe teacher share, observe, & discuss each others teaching methods & philosophies face to face.
1. Strongly Agree
2. Agree
3. Disagree
4. Strongly Disagree
4) At this time, I believe teachers share, observe, & discuss each others teaching methods & philosophies through online resources.
1. Strongly Agree
2. Agree
3. Disagree
4. Strongly Disagree
5) At this time, I believe teachers work together to develop shared understanding of students, curriculum, & instructional practices face to face.
1. Strongly Agree
2. Agree
3. Disagree
4. Strongly Disagree
6) At this time, I believe teachers work together to develop shared understanding of students, curriculum, & instructional policy through online resources.
1. Strongly Agree
2. Agree
3. Disagree
4. Strongly Disagree
7) At this time, I believe teachers produce materials & activities that improve instruction, curriculum, & assessments face to face.
1. Strongly Agree
2. Agree
3. Disagree
4. Strongly Disagree
8) At this time, I believe teachers produce materials & activities that improve instruction, curriculum, & assessments through online resources.
1. Strongly Agree
2. Agree
3. Disagree

4. Strongly Disagree
9) At this time, I believe teachers make efforts to learn about their profession through face to face contact (site level classes, district professional development classes, seminars, etc.)
1. Strongly Agree
2. Agree
3. Disagree
4. Strongly Disagree
10) At this time, I believe teachers make efforts to learn about their profession online (online professional development classes, online seminars, etc.).
1. Strongly Agree
2. Agree
3. Disagree
4. Strongly Disagree
11) At this time, I believe within the school there are formal methods for sharing expertise among faculty members face to face.
1. Strongly Agree
2. Agree
3. Disagree
4. Strongly Disagree
12) At this time, I believe within the school there are formal methods for sharing expertise among faculty members online.
1. Strongly Agree
2. Agree
3. Disagree
4. Strongly Disagree
13) At this time, I believe the school leadership keeps the school focused on shared purpose, continuous improvement, and collaboration through face to face contact.
1. Strongly Agree
2. Agree
3. Disagree
4. Strongly Disagree
14) At this time, I believe the school leadership keeps the school focus on shared purpose, continuous improvement, and collaboration through online resources.
1. Strongly Agree
2. Agree

3. Disagree
4. Strongly Disagree
15) At this time, I believe there is a formal process that provides substantial, regularly scheduled blocks of time for educators to conduct on-going self-examinations & self-renewal in face to face settings.
1. Strongly Agree
2. Agree
3. Disagree
4. Strongly Disagree
16) At this time, I believe there is a formal process that provides substantial & regularly scheduled blocks of time for educators to conduct on-going self-examination & self-renewal through online resources.
1. Strongly Agree
2. Agree
3. Disagree
4. Strongly Disagree
17) At this time, I believe teachers have common spaces, or areas for discussion of educational practices face to face.
1. Strongly Agree
2. Agree
3. Disagree
4. Strongly Disagree
18) At this time, I believe teachers have common spaces, or areas for discussion of educational practices online.
1. Strongly Agree
2. Agree
3. Disagree
4. Strongly Disagree
19) At this time, I believe there are recurring formal situations in which teachers work together (assessment development, lesson planning, etc.) face to face.
1. Strongly Agree
2. Agree
3. Disagree
4. Strongly Disagree
20) At this time, I believe there are recurring formal situations in which teachers work together (assessment development, lesson planning, etc.) online.
1. Strongly Agree
2. Agree
3. Disagree

4. Strongly Disagree
21) At this time, I believe there are structures & opportunities for an exchange of ideas, both within and across such organizational units as teams, grade levels, & subject departments in face to face meetings.
1. Strongly Agree
2. Agree
3. Disagree
4. Strongly Disagree
22) At this time, I believe there are structures & opportunities for an exchange of ideas, both within and across such organizational units as teams, grade levels, & subject departments in online settings.
1. Strongly Agree
2. Agree
3. Disagree
4. Strongly Disagree

APPENDIX D

TEACHER DESCRIPTIVE DATA

Table 4.3. Statistical Data of the 8 Individual Teachers Who Were Interviewed

Teacher	Grade(s) Taught	Teaching Experience	Age	Experience with Technology
A.B.	Kindergarten	5-10 yrs.	20-29	Personal e-mail, Teacher web, Facebook, Google, Skype, Utube, Online Courses
J.W.	1 st Grade	2-4 yrs.	20-29	Personal e-mail, Teacher web, My Space, Google, Blackboard
C.D.	2 nd Grade	2-4yrs.	20-29	Personal e-mail, Teacher Web, Facebook, Google, Utube, Blackboard, Online Courses
M.J.	3 rd Grade	1 st year	30-39	Personal e-mail, Teacher Web, Facebook, Google, Google Docs, Skype, Utube, Blackboard, Online Courses
S.W.	4 th Grade	11 or more yrs.	40-49	Personal e-mail, Facebook, My Space, Google, Skype, Utube, Dropbox, Online Courses
A.H.	7 th -8 th Math	5-10 yrs.	20-29	Personal e-mail, Teacher Web, Facebook, My Space, Google, Google Docs, Skype, Utube, Cloud, Dropbox, Blackboard, E-college, Online Courses
T.M.	5 th -6 th Language Arts	5-10 yrs.	30-39	E-mail, Teacher web, Google, Google Docs, Skype, Utube, Online courses
R.W.	5 th Science 6 th Language Arts 5 th -8 th Technology	5-10 yrs.	30-39	Personal e-mail, Teacher Web, Google, Google Docs, Skype, Utube, Online Courses
J.S.	6 th -7 th Science 8 th Geometry	2-4 yrs.	20-29	Personal e-mail, Teacher Web, Facebook, My Space, Google, Google Docs, Skype, Utube, Dropbox, Online Courses

APPENDIX E
INTERVIEWER SCRIPT

Script

Thank you for participating in this interview process. Since you were one of the teachers involved in last Spring's program evaluation you were randomly chosen to participate in an interview describing your experiences.

I am going to ask a series of five questions designed to gather further information from you about your participation experiences with the online versus face to face collaboration.

I will be recording your voice. This voice recording is confidential. After I record your responses, this data will be turned over to an independent coder. The data will be transcribed into word documents. These documents will then be given to the researcher and used for the purpose of determining teacher perceptions regarding online versus face to face collaboration within your professional learning community.

All recording and word documents will be destroyed after completion of this process.

Do you have any questions? If you have questions please write them down and I will ask the researcher to write you with the answer(s) within the day.

If you wish to stop at any time please signal to me by raising your hand and I will stop the recorder. If you wish to delete any portion of your recording, signal by raising your hand and we will begin again.

Do you need any further clarification?

Let's proceed.

Question 1	Given your participation in the district's Professional Learning community groups in Spring 2012, what examples can you provide of challenges and strengths of the face to face and online formats.
Quest 2a	Describe the effectiveness of a "face to face" vs "online" interaction (communication).

2b	In what area(s) do you believe “Online” was more effective? Why?
2c	In what area(s) do you believe “face to face” was more effective? Why?
Question 3a	Describe how each method, face to face and online, increased your professional practices.
3b	Describe how each method, face to face and online, influenced development of products to be used with your students.
3c	Provide some examples of how within the face to face format, teachers worked together towards a shared understanding of curriculum policies and practices.
3d	What, if any, practices and/or products were developed and utilized as a result of the online experience?
3e	What, if any, practices and/or products were developed and utilized as a result of the face to face experience?
Question 4a	How does school leadership/administration keep the focus on a shared purpose, related to professional learning groups through “face to face” contact?
4b	How does school leadership/administration keep the focus on continuous improvement, related to professional learning groups through “face to face” contact?
4c	How does school leadership/administration keep the focus on collaboration related to professional learning groups through “face to face” contact?
4d	How does school leadership/administration keep the focus on continuous improvement related to professional learning groups through “online” sessions?
4e	How does school leadership/administration keep the focus on collaboration related to professional learning groups through “online” sessions?
4f	Describe your experience with leadership in supporting ongoing improvement and collaboration through a face to face and online environment?
Question 5a	Having participated in online and face to face professional development formats, please provide your insight as to the strengths and/or weaknesses of the two formats.
5b	What suggestions for improvement for these two formats would you suggest?
5c	What else would you like to add about face to face or online communication within your Professional Learning Community experience?