TEACHER COLLABORATION IN THE AGE OF TEACHING STANDARDS:
THE STUDY OF A SMALL, SUBURBAN SCHOOL DISTRICT

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DEDICATION

I would like to dedicate this dissertation to my loving wife Lilliana, whose patience and support throughout this rigorous writing process and doctoral degree program I could not have gone without. In addition, to my daughter Adriana, who is still too young to understand just how much I appreciate her blissful and inspiring outlook towards life.
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ABSTRACT

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In the wake of new teaching standards and evaluation systems introduced in the United States, teacher collaboration has emerged as a common theme. However, despite these recent changes, teaching is still largely a private act, in which teachers are often secluded from their colleagues. This study investigated the range and variation of the characteristics of teacher collaboration and their impact in a small, suburban school district in Westchester County, NY. These data were initially gathered through a survey and later through interviews and focus groups. The results were analyzed through a mixed methods lens, using both quantitative and qualitative approaches. This study found that district teachers have some of the structural and many of the interpersonal characteristics favorable to collaboration, the impact of which has led to a strong sense of efficacy and some instructional change. In terms of teacher groups, there was a positive association between the structural and interpersonal characteristics of teacher collaboration and a positive correlation between teacher collaboration and its impact on sense of efficacy and instructional change. It was concluded that the District should enhance the structural characteristics favorable to teacher collaboration in order to impact further instructional change.
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CHAPTER I: Introduction

According to the United Nations Educational, Scientific and Cultural Organization (UNESCO), many countries have a centralized education system (2007). The United States, on the other hand, has delegated authority to individual states (UNESCO, 2006). This is particularly challenging during an era in which states are charged with implementing numerous common initiatives, such as those associated with No Child Left Behind (NCLB), Race to the Top (RTTT), Response to Intervention (RTI), Common Core State Standards (CCSS), the Interstate Teacher Assessment and Support Consortium (InTASC) and the Partnership for Assessment of Readiness of College and Careers (PARCC). Many states, in turn, defer to local municipalities and school boards (UNESCO, 2006).

For some states, the unit for the school district is at the county level. For other states, it is the towns or villages within the county that serve as the organizational entity. This fragmentation often leads to isolationism, privatization, redundancy and duplication of effort (Spillane, 1998). While schools and school districts largely cannot control the organizational structure of their state system nor the mandates they must implement, they can control the extent to which they perpetuate this fragmentation. Instead of isolationism, privatization, redundancy and duplication of effort, schools and school districts can foster unity, deprivatization, sharing, joint effort and collaboration. This concept of collaboration, specifically at the teacher level, was the focus of this dissertation. The setting for this study was Aragon (pseudonym) School District, where I serve as the Assistant Principal of the middle school. Aragon is just one of 48 small,
suburban school systems within the county of Westchester, New York, just north of New York City (NewYorkSchools.com, 2013).

In order to examine teacher collaboration in Aragon, this study explored the structural and interpersonal characteristics most favorable to teacher collaboration, as determined by recent teaching standards, evaluation systems and previous studies. This enabled me to gauge the degree to which teacher collaboration was present in the District. Based on these data, the study then explored the relationship between the range and variation of these structural and interpersonal characteristics among teachers and teacher subgroups and considered their impact on teachers’ own sense of efficacy and instructional practice. Given these goals and interests, the research questions that guided this study were as follows:

1. What is the range and variation of teacher collaboration within and across schools in a small, suburban district?

2. From the teachers’ perspectives, how does teacher collaboration impact them and their teaching?

**Rationale and Significance**

Just over 10 years ago, D.K. Cohen and Ball (1999) wrote about the problem of fragmentation and isolation at the teacher level, which they believe had become all too prevalent:

Teacher education rarely provides teachers with common language, standards, and norms that would join them with colleagues, linking their interpretations, judgments, and decisions. Instead, teachers are intermittently offered bits of theoretical and practical knowledge, and left to learn mostly on their own. (pp. 12-13)
D.K. Cohen and Ball, Hansen, Hill, McWalters, Paliokas and Stumbo (2010), Hart (1998) and Saunders, Goldenberg and Gallimore (2009) separately identified the lack of understanding over what teacher collaboration might look like or how it could be codified, thus relegating educators to figure it out separately from one another. They cite different factors, such as the lack of time, training and teachers’ desire for individualism as the major drivers of this phenomenon.

Since that time, standards were developed at both the national and state levels that have given teacher collaboration a more formal role. Perhaps the most commonly recognized were those developed by the InTASC. This group is a subsidiary of the Council of Chief School State Officers (CCSSO), whose mission is devoted to “the reform of the preparation, licensing, and on-going professional development of teachers” (CCSSO, 2012, para. 1). The most recent standards they have created, updated in 2011, are intended to serve as a guide for states in the creation of their own teaching standards. They are broad enough to encompass all grade levels and subject areas and are meant to “outline what all teachers should know and be able to do to help all students reach the goal of being college and career ready in today’s world” (CCSSO, 2010, p. 1). This theme of college and career readiness is aligned with both the CCSS and the PARCC, the next generation of student standards and assessment, respectively (Achieve, 2012; CCSS Initiative, 2011).

New York State was among the states that adopted teaching standards and has cited the InTASC Teaching Standards as a major influence (New York State Education Department Workgroup, 2011b). The creation of these standards in New York was at the direction of the Board of Regents, who supervises all educational activities within the
state. In May, 2010, they charged the New York State Education Department (NYSED) with the formation of the Teaching Standards Workgroup, who were commissioned to create a draft version of teaching standards (Frey, 2010). This Workgroup began to create their standards just prior to the submission of New York State’s RTTT application, which it later won (Office of Communications, 2010). Much like the InTASC Teaching Standards, New York State’s Teaching Standards serve a variety of purposes. In its RTTT application, NYSED (2010) wrote the following:

New York has begun to develop teaching standards that will serve as the foundation for…the transformation of teacher preparation programs, new performance-based assessments for required initial and professional certification, a new induction program for beginning teachers, a high-quality evaluation system that incorporates student growth, and a career ladder which will differentiate teachers and principals based upon their effectiveness in the classroom particularly their ability to improve student achievement. (p. 165)

Thus, these new teaching standards were intended to operate as the basis for measuring teacher efficacy and the ability to impact student learning. Their timely development within the last few years formed the basis and the rationale for this study.

Now that teaching standards have emerged to fill the void described by D.K. Cohen and Ball (1999), Hansen et al. (2010), Hart (1998) and Saunders et al. (2009), teacher collaboration has become a more prominent topic in the field. With the new requirements, teachers are not only expected to collaborate with their colleagues, they will also be evaluated on this competency on an annual basis in New York (NYSED, 2012). The InTASC’s Standard 10 is entitled Leadership and Collaboration and states, “The teacher seeks appropriate leadership roles and opportunities to take responsibility for student learning, to collaborate with learners, families, colleagues, other school professionals, and community members to ensure learner growth, and to advance the
profession” (CCSSO, 2011a, p. 21). This statement clearly indicates that teachers will be measured not only by their ability to meet with their colleagues, but to leverage this collaboration to improve student achievement and the field of education itself.

Similar to the InTASC Teaching Standards, the New York State Teaching Standards have also outlined a broad statement about teacher collaboration. Their Standard Six is entitled Professional Responsibilities and Collaboration; it asserts, “Teachers demonstrate professional responsibility and engage relevant stakeholders to maximize student growth, development, and learning” (NYSED Workgroup, 2011a, p. 12). The standards further refine this description in Standard Six, Element Two: “Teachers engage and collaborate with colleagues and the community to develop and sustain a common culture that supports high expectations for student learning” (NYSED Workgroup, p. 12). Much like the InTASC Teaching Standards, the New York State Teaching Standards require teachers to interact with fellow educators in order to benefit students. It is clear that teacher collaboration, while not as emphasized in years past, now comprises a significant portion of what teachers will be expected to demonstrate nationally, in New York State and in our school district in Westchester County.

It is important to note that in addition to the implementation of the New York State Teaching Standards, each district was also responsible for engaging in collective bargaining with their respective teachers’ union to decide which of the NYSED’s pre-approved rubrics they would use to evaluate a teacher’s performance (NYSED, 2011). According to the NYSED Workgroup (2011b), all of the rubrics were “valid predictors of student achievement gains” (p. 6). Our school district chose to adopt Charlotte Danielson’s Framework for Teaching Rubric: 2011 Revised Edition. In Danielson’s
model, teacher collaboration can be evaluated through two components: Participating in a Professional Community (D) and Growing and Developing Professionally (E). These two components are a subset of her fourth domain, entitled Professional Responsibilities.

The integration of Danielson’s rubric has become a critical aspect of our school district’s work. We have engaged administrators and teachers in several trainings around the use of The Framework for Teaching. For example, principals have discussed the essential attributes of teacher collaboration and have used the rubric to assist in their formal and informal observations and evaluations. Teachers have conducted mock evaluations of their own professional responsibility. They have also considered the evidence they might self-identify to demonstrate their own collaboration with colleagues. While Danielson’s rubric is only in its second year of implementation in our school district, it has become the proxy for our measurement of teacher collaboration through the New York State Teaching Standards.

The use of Danielson’s rubric in professional development and the introduction of the New York State Teaching Standards caused teachers to think about collaboration not just as another tool in their repertoire, but also as an essential skill that will now be subject to evaluation. Teachers must now be mindful of the characteristics of teacher collaboration that will best support their interactions with colleagues. In our district, this is evident by the increased number of staff who have requested substitute coverage to have common planning time or the desire by teachers to work with a colleague to set common goals for the school year. In this study, I intended to understand the nature of these relationships in this new age of teaching standards.
**Conceptual Framework**

Early conceptual theories of labor in the 20th century emphasized a factory model and objective structure within organizations in which increased efficiency and the decrease of waste by the individual was the primary focus. As Gantt (1919) explains, “A man who is not making success, knows about it as soon as anybody else…it is very seldom that he has any desire to hold on to the job and advertise his incompetency to his fellows” (p. 94). Taylor (1911) articulates a similar view:

> The most important object of both the workmen and the management should be the training and development of each individual in the establishment, so that he can do (at his fastest pace and with the maximum of efficiency) the highest class of work for which his natural abilities fit him. (p. 12)

These theories did not account for the collaboration that is a part of everyday organizational life, particularly in schools.

This more nuanced notion of the workplace can be understood through micropolitical theory. According to Blase (1991), “Micropolitics refers to the use of formal and informal power by individuals and groups to achieve their goals in organizations” (p. 11). As Kelchtermans (1996) describes, these goals and interests can be thought of in the context of the work environment:

> Different members of the school strive for or try to maintain different workplace conditions. These workplace conditions include material needs or resources (time, information, funds, infrastructure facilities) and organizational and social interests (e.g. procedures, roles and positions in the organization, types of interpersonal relations). (p. 310)

Thus, this power can be defined both in terms of the structural conditions that increase or mitigate conflict and the interpersonal dynamics between people, given their role.
Malen (1994) believes that schools are an appropriate organization to examine micropolitics. She points out, “The school is certainly a sensible place to anchor effort. It is an institution for political socialization, an object of political contest and an arena of political negotiation” (p. 160). Achinstein (2002) narrows this scope even further to focus on teachers and argues that micropolitics are “particularly relevant in a study of teacher community-building initiatives because teachers activate micropolitical processes as they increase their interactions and expectations for coordination” (p. 423). Therefore, teacher collaboration in the context of schools is a suitable place to analyze this micropolitical theory.

Indeed, micropolitics, as described above by Blase (1991), Kelchtermans (1996), Malen (1994) and Achinstein (2002) were used as the conceptual lens through which teacher collaboration was understood in this dissertation and displayed as a conceptual map (Figure 1). Here, the continuum from teacher isolation to teacher collaboration is envisioned as a rectangular picture in which teacher isolation and teacher collaboration are presented as opposing sides (forces) that are influenced by structural conditions and interpersonal dynamics to determine the extent to which teachers are more isolated or collaborative in their practice.

As discussed in the introduction and symbolized in the conceptual map, the InTASC Teaching Standards and New York State Teaching Standards now require teacher collaboration. In addition, teachers in New York are now annually evaluated on their ability to collaborate through a pre-approved state rubric, such as Danielson’s Framework for Teaching, which our district is using. The presumption, as indicated in both standards documents and The Framework for Teaching, is that teachers who are
more collaborative with their colleagues in their practice will have a greater impact on student learning and the field of education (CCSSO, 2011a; Danielson, 2011; NYSED Workgroup, 2011a). To be sure, the literature on this topic (Chapter II), corroborates this link and contends that teacher collaboration has a positive impact on a teacher’s sense of efficacy and instructional practice (Andrews & Lewis, 2007; Cordingley, Bell, Rundell, & Evans, 2003; R. D. Goddard, Hoy, & Hoy, 2000; Y. Goddard, Goddard, & Tschannen-Moran, 2007; Gorodetsky & Barak, 2008; Louis & Kruse, 1995). These potential effects of teacher collaboration are displayed in the center of the graphic.

Figure 1. *Conceptual Map*

Ultimately, I sought to recognize which micropolitical structural conditions and interpersonal dynamics favorable to teacher collaboration were present in our district, identify the range and variation in teachers and teacher groups within schools and across the District and explore their impact upon a teachers’ own sense of efficacy and instructional practice. This approach to understanding the nature of the workplace relies on the value of human interaction among colleagues, with the possibility for new learning to take place as a result. This is a significant departure from the paradigm offered by
Gantt (1919) and Taylor (1911). In their view, conformity by individuals around a specific approach taught by the manager was the way in which to measure effectiveness in the workplace.

**Dissertation Chapters**

The remainder of this dissertation contains the literature and prior research on teacher collaboration, including how it is defined and occurs in practice, in addition to the characteristics and impact of teacher collaboration (Chapter II). Following will be the methodology and research design, which describes the type of study, context and setting, participant selection, data collection and data analysis plans (Chapter III). Next, the results are presented using both a quantitative and qualitative lens. First, the study demographics, range and variation of teacher collaboration, the relationships by teacher and teacher groups, the identification of interview and focus group candidates, a priori and inductive codes, in addition to the qualitative relationships by teacher collaboration level are discussed. Then, the perspectives and opinions of study participants are shared in terms of their views on teacher collaboration, mandated collaboration, the characteristics and the impact of teacher collaboration (Chapter IV). The conclusion discusses final thoughts on the characteristics and the impact of teacher collaboration, in addition to superintendent recommendations, an updated conceptual framework and implications for further study (Chapter V). The appendices follow, which include the recruitment email, survey, interview and focus group consent form, generic interview and focus group protocol and the full list of a priori and inductive codes. The references constitute the rest of the document.
CHAPTER II: Literature Review

Introduction

This literature review will define teacher collaboration, discuss its application in the field, describe its characteristics and examine its impact on students and teachers. It begins by defining teacher collaboration both in formal teaching standards, *The Framework for Teaching* and in recent research into the topic. Shared decision making and interdependence through largely voluntary *communities of practice* and professional *learning communities* for the sake of improving teacher instruction and student learning are at the heart of the definition (CCSSO, 2011b; Danielson, 2011; Y. Goddard et al., 2007; Saunders et al., 2009; Smith, Wilson, & Corbett, 2009; Stoll, Bolam, McMahon, Wallace, & Thomas, 2006; Wenger & Snyder, 1999). However, while various descriptions of teacher collaboration have emerged in recent years, teachers have historically been unable to engage with their colleagues in practice, largely due to the way in which schools are structured (Bryk & Schneider, 2002; D. K. Cohen & Ball, 1999; Hansen et al., 2010; Saunders et al., 2009). Ultimately, this could hurt teacher instruction and student learning might suffer (Hart, 1998; Smylie, Lazarus, & Brownlee-Conyers, 1996).

What follows is a discussion of the characteristics (forces) that determine the extent to which teachers are more isolated or collaborative in their practice. These are defined as structural conditions and interpersonal dynamics (Kelchtermans, 1996). From a structural standpoint, schools that offer formal and informal times for teachers to meet, have teachers who develop shared norms, who engage in group goal setting, model lessons with one another, regularly meet with an experienced colleague, research and
analyze student work, use technology to coordinate curriculum, organize school space appropriately and have a relationship with an institution of higher education can maximize teacher collaboration (Berk & Hiebert, 2009; D. K. Cohen & Ball, 1999; CCSSO, 2011a; Y. Goddard et al., 2007; Gorodetsky & Barak, 2008; NYSED Workgroup, 2011a; Rust & Meyers, 2006; Rust, 2009; Saunders et al., 2009; Smith et al., 2009; Stoll et al., 2006; Strahan, 2003). From an interpersonal standpoint, teachers who are active participants, interactive, positive, constructive, show initiative and openness, seek to find shared beliefs, have respect for minority viewpoints and have relational trust will be most likely to engage in teacher collaboration (Brownell, Yeager, Rennells, & Riley, 1997; Bryk & Schneider, 2002; CCSSO, 2011a; Danielson, 2011; Hansen et al., 2010; NYSED Workgroup, 2011a; Smith et al., 2009; Smylie, 1994; Stoll et al., 2006; Westheimer, 1999).

The next portion of the literature review discusses the impact of teacher collaboration in previous studies. First is the presentation of evidence that shows that teacher collaboration improves student achievement (Y. Goddard et al., 2007; Pounder, 1998b; Saunders et al., 2009; Smylie et al., 1996). Next is the evidence that shows the relationship between teacher collaboration and improved student behavior (Pounder, 1998a; Shachar & Shmuelevitz, 1997). It has also been shown that teacher collaboration has a positive influence on a teacher’s sense of efficacy (Bandura, 1977; Cordingley et al., 2003; R.D. Goddard et al., 2000; Gorodetsky & Barak, 2008; Louis & Kruse, 1995; Shachar & Shmuelevitz, 1997). Lastly, the discussion shifts to the impact of teacher collaboration and its positive effect on teacher practice (Andrews & Lewis, 2007; D. Cohen & Hill, 2000; Y. Goddard et al., 2007).
Ultimately, these literatures serve as the conceptual, theoretical and research basis upon which this dissertation is based. They provide evidence of how teacher collaboration is defined, the ways in which it is actualized in the field, its essential structural and interpersonal characteristics, in addition to the impact of these characteristics upon both students and teachers in prior studies. These concepts, theories and research were then converted to a priori codes, which served as the basis for the design of the teacher survey and the interview and focus group protocol (Appendix B & D).

**Teacher Collaboration Defined**

The Interstate Teacher Assessment and Support Consortium (InTASC) has provided a definition of teacher collaboration in which they emphasize group thinking around a joint vision, with each member of the group having a specific role to further its overall objectives. By participating in this group, each member becomes responsible for the results that are achieved. The InTASC defines teacher collaboration as follows:

> Collaboration is a style of interaction between individuals engaged in shared decision making as they work toward a common goal. Individuals who collaborate have equally valued personal or professional resources to contribute and they share decision-making authority and accountability for outcomes. (CCSSO, 2011b, p. 20)

This broad description of teacher collaboration serves as the basis for its inclusion in the InTASC’s Teaching Standards, discussed in the introduction.

Y. Goddard et al. (2007) discuss how the act of working with a group of teachers can help activate thinking beyond oneself. They reason, “collaboration…encourages teachers to move beyond reliance on their own memories and experiences with schooling and toward engagement with others around important questions of teaching and learning”
Saunders et al. (2009) point towards the power of teacher collaboration to prevent teacher isolation. They observe that such groups of educators are often characterized as “professional learning teams or communities, and their central goals include deprivatizing teaching through school-based collaboration and reflective dialogue to improve classroom instruction and student learning” (p. 1006). Interestingly, both this definition and the InTASC definition share the objective of helping students. Teacher collaboration is not simply for its own sake; it has been shown to have an impact on students’ learning.

The professional learning teams that foster the teacher collaboration referenced by Saunders et al. (2009) are often referred to as communities of practice within the business field. This term is described by Wenger and Snyder (1999) who explain, “they’re groups of people informally bound together by shared expertise and passion for a joint enterprise…people in communities of practice share their experiences and knowledge in free-flowing, creative ways, that foster new approaches to problems” (pp. 139-140). They specifically distinguish this term from teams since a team is created to “complete specific projects…and the group disbands once the project has been finished” (p. 142). Communities of practice, on the other hand, are intended to have a lasting impact across multiple projects and organizational challenges.

In education, the term most often used for these communities of practice is a professional learning community (PLC). While there does not appear to be a single way to define a PLC, there is extensive agreement on some of its major features. Stoll et al. (2006) explain, “at the heart of the concept…is the notion of community. The focus is not just on individual teachers’ professional learning but of professional learning within a
community context – a community of learners, and the notion of collective learning” (p. 225). Thus, this description includes not only the interactions between each teacher and his or her colleagues, but also the culture of the group as a whole.

One additional question to consider, regardless of whether teachers coming together are through simple collaborations, *communities of practice* or *professional learning communities* is if teacher collaboration ought to be mandated. In their study of *collaborative learning communities* (CLCs), Smith et al. (2009) reveal, “Participants were convinced that the learning community approach works best when teachers join willingly…advocates agreed that obligatory participation violated the spirit of the project” (p. 24). While voluntary participation may best foster this notion of community among a certain group of teachers, it is reasonable to think about the implications of these collaborations for those teachers who do not join.

Ultimately, this idea of collective learning can impact the entire school. In *The Framework for Teaching*, Danielson (2011) urges the following:

> Teachers must work with their colleagues to share strategies, plan joint efforts, and plan for the success of individual students. Schools are, in other words, professional organizations for teachers, with their full potential realized only when teachers regard themselves as members of a professional community. (p. 48)

This cannot be a superficial effort; it must be deeply embedded in the school’s practice. Danielson argues that it is only through this culture of collaboration, in which teachers can self-identify as members of a learning community, that a school can truly become a PLC.
Teacher Collaboration in Practice

As Y. Goddard et al. (2007), Saunders et al. (2009) and Danielson (2011) have each asserted, teacher collaboration is important because it prevents teachers and schools from functioning in isolation. Nevertheless, the education field itself seems to perpetuate this isolation. As Hansen et al. (2010) note, “our current system of education tends to separate teachers, which makes instruction largely a private act” (p. 3). D.K. Cohen and Ball (1999) suggest that the way education is organized tends to cause teachers to work by themselves:

The culture of teaching is individualistic, with each teacher developing his or her own style, even within the same schools...They primarily work alone, with their own students, and their interpretations and decisions are tailored to the specifics of their situations. There is little sense of an accumulation of practical professional knowledge. (p. 11)

Indeed, the notion of community discussed as part of a PLC seems to be elusive in many school settings.

One of the obstacles suggested by Saunders et al. (2009) is related to the most finite of resources, which is time. They acknowledge, “willingly or not, most teachers spend the overwhelming majority of their work time in the classroom, with limited paid time to interact with other professionals” (pp. 1007-1008). This is an important point to consider because even if a teacher wants to engage in collaboration with their fellow teachers, they may simply not have an opportunity to do so during the school day. This means that teacher collaboration becomes an extra part of their responsibility, going beyond their daily professional and monetary commitment.

Another potential source for this systemic isolation may derive from the way in which teachers are trained. As Y. Goddard et al. (2007) report, “collaboration is neither
taught nor modeled in university coursework (indeed, few professors teach collaboratively), nor do practicing teachers receive substantial support from colleagues or administrators” (p. 878). Their contention is that teachers are rarely given an example of what teacher collaboration looks like in practice. As a result, they cannot be expected to demonstrate skills that they have not acquired from their instructors, who tend to work in isolation.

Bryk and Schneider (2002) point out another obstacle that increases isolation in schools, particularly in urban areas: teachers are not usually hired with the “purpose of creating coherence around a shared school vision” (p. 30). Instead, it is their credentials and rank that are often the predominant factors in hiring:

The idea of a faculty as a deliberately formed instructional team or high-performing work group simply does not enter into this equation. Rather, teaching slots typically are filled based on an individual’s holding the appropriate teaching certificate and in accordance with seniority rights. (p. 30)

Thus, when a teacher is hired on his or her own merits and not according to the context or the other teachers with whom they will work, the potential for teacher collaboration is minimized.

The end result of a system that maintains a pattern of teacher isolation is that it may be detrimental to children. Hart (1998) observes that when many different professionals work alone, they each have their own approach. This may cause the child’s experience to be fragmented and their needs may go unmet. She writes, “this division of labor can lead to the compartmentalization of a student’s problems and school experience” (p. 90). Not only might this impact the affective experience of a child, it may also impact their academic experience. This is corroborated by a study conducted
by Smylie et al. (1996). They found that teacher autonomy is negatively correlated with student achievement. In essence, the more isolated a teacher is in their professional practice, the less their students do well academically. Indeed, poor student achievement may be the most unfavorable effect when teachers or the system in which they work do not facilitate a collaborative environment.

**Characteristics of Teacher Collaboration**

Having defined teacher collaboration and described the challenges to its implementation in practice, it is evident that the presence of teacher collaboration requires a combination of many different micropolitical factors. It is important to identify these elements that are most favorable to the enactment of teacher collaboration in schools. As described in the conceptual theory, these features can be separated into two domains (Kelchtermans, 1996). One domain is structural conditions, which are those factors present at the school or district level that are most likely to facilitate teacher collaboration. Another domain is interpersonal dynamics, which are those behaviors at the individual level that are most likely to facilitate teacher collaboration.

**Structural Conditions.** The first structural condition that supports teacher collaboration is having a formal meeting time set-aside during the school day for discussing students. For example, “Middle school teachers may follow a team model in which they collaborate to improve instruction” (Y. Goddard et al., 2007, p. 880). Saunders et al. (2009) explain the importance of *instructional learning teams* (ILTs) for teacher collaboration. These have at least one representative from each grade level, the principal, and other appropriate school administrators, coaches or coordinators. They meet monthly to “collectively set direction for and lead schoolwide efforts to improve
instruction and student achievement” (p. 1013). Another formal venue is the grade-level meeting, described by Strahan (2003). In this context, these forums “provide a regular means for identifying needs, developing strategies for improvement, and linking school based staff development to daily practice” (p. 142). Notably, each of these formal meetings is purposeful, because they connect back to what happens in the classroom.

Informal time, such as planning periods, during which time discussions with colleagues can take place, is another essential structural condition. Y. Goddard et al. (2007) emphasize, “Collaboration can occur when teachers talk often about their professional work” (p. 880). This is also a formal InTASC Teaching Standards Indicator in which “The teacher works with other school professionals to plan and jointly facilitate learning on how to meet diverse needs of learners” (CCSSO, 2011a, p. 21). Strahan (2003) also endorses the importance of informal time and observes, “participants stressed the importance of the time they spent conversing…and informal get-togethers” (p. 143). If this structure is a feature within a school’s schedule, then there is the potential for these sorts of conversations to take place.

Another structural condition in support of teacher collaboration is having professional norms. These can “help to socialize new teachers to high standards of professional performance” (D. K. Cohen & Ball, 1999, p. 11). When observing professional learning communities, Smith et al. (2009) observe, “setting norms for community behavior, using protocols, and reaching shared agreements about next steps turned passing conversations into satisfying professional growth” (p. 22). The InTASC Teaching Standards supports this idea, describing them not as norms, but as mutual expectations. They require teachers to work “collaboratively…to establish mutual
expectations and ongoing communication to support learner development and achievement” (CCSSO, 2011a, p. 21). Once again, there is a nexus between these norms or expectations and their relation back to the classroom.

Similar to sharing professional norms of interactions is having collaborative goals in place from the beginning of the school year. D.K. Cohen and Ball (1999) emphasize that it is important to “set common goals for instruction within or among classrooms, or among schools” (p. 16). The InTASC Teaching Standards explain, “The teacher engages collaboratively to…identify common goals, and monitor and evaluate progress toward those goals” (CCSSO, 2011a, p. 21). Thus, it is not simply the establishment of the goals at the beginning of the school year, but also the self-assessment towards reaching them.

Another structural condition is having the opportunity to demonstrate lessons for a fellow teacher. D.K. Cohen and Ball (1999) characterize this as “presenting lessons to other practitioners” (p. 37). This can be done in a variety of ways. The InTASC Teaching Standards contend, “the teacher seeks appropriate opportunities to model effective practice for colleagues” (CCSSO, 2011a, p. 22). It could also be accomplished, as D.K. Cohen and Ball point out, by discussing videotapes of teaching (p. 37). Ultimately, there should be a mechanism through which teachers can observe one another.

Another structural condition that supports teacher collaboration is not just the ability to share with a colleague, but with one who is more experienced and knowledgeable who can critique their practice. Berk and Hiebert (2009) clearly believe in the importance of this concept:

By collaborating with colleagues who are more experienced at representing what is learned in forms useful for others, we believe teacher educators can acquire the skills needed to participate in this knowledge-building process. In our opinion,
these skills are exactly those that all teacher educators must develop over time. (p. 354)

In some contexts, this person may be a formal mentor, but in other settings, it may be an informal mentor, or someone the teacher has sought out to help them to advance their craft. Rust (2009) reiterates this notion with respect to adult learning and explains, “they [adults] need to be able to practice new skills and receive feedback from respected others…we now understand that ways of knowing are informed by interaction with others who are trying similar things and confronting similar issues” (p. 1889). The New York State Teaching Standards verify the importance of these relationships and state, “teachers share information and best practices with colleagues to improve practice” (NYSED Workgroup, 2011a, p. 12). This underscores the importance of collaboration with colleagues not just for its own sake, but also to improve instruction.

Much like it is important to share lessons and ideas with a range of colleagues, it is similarly relevant to share student data with colleagues based upon action research conducted in one’s own school or classroom. Rust and Meyers (2006) observe how teacher research and collaboration can galvanize change within a school:

When teachers engage in enquiry around issues of teaching and learning in their own schools and classrooms and come together in the process of doing this work and, once it is complete, share their results, a new set of narratives can emerge. When woven together by teachers, these stories from the field can spur changes in personal, professional knowledge and in political awareness and acumen. (p. 70)

According to D.K. Cohen and Ball (1999), this process could also be described as a joint analysis of student performance. These interactions occur during formal or informal meetings, as described earlier.
In the 21st century, another important structural condition that supports teacher collaboration is technology. The InTASC Teaching Standards contend, “The teacher uses technological tools and a variety of communication strategies to build local and global learning communities that engage learners, families, and colleagues” (CCSSO, 2011a, p. 21). D.K. Cohen and Ball (1999) have identified one such tool as curriculum mapping software, which enables teachers to both construct and examine curriculum in a collective way (p. 37). This is but one of a variety of technological means through which teachers can collaborate.

Another structural characteristic that supports teacher collaboration is the appropriate organization of the physical space in the school to enable colleague interaction. As Stoll et al. (2006) suggest, “a school structure where it is easier to have coffee and professional discussions in a subject workroom rather than go to the staffroom located in another building, is likely to inhibit school-wide collegiality” (p. 234). Indeed, it is helpful to have the school physically organized in such a way that teacher collaboration can occur within reasonable proximity of one another.

An additional structural characteristic conducive to teacher collaboration is to have an established partnership between the school and an institution of higher education. Gorodetsky and Barak (2008) explore one such relationship and found that this relationship is highly productive:

Such communities provide a facilitative environment, practical knowledge and conceptual frameworks for reflection, knowledge negotiation and understandings of the processes that are undergoing in this context. The different understandings and new professional activities that were developed in the participative edge community touched on the very essence of the teaching profession. The culture of equality and respect in the edge community proved itself to be an encouraging
context for each of the participants to become engaged in professional learning processes, and to progress. (p. 1917)

The mere existence of this partnership seems to impact the potential for a collaborative ethos within a school.

**Interpersonal dynamics.** One of the most commonly referenced dynamics that support teacher collaboration is active participation. According to Hansen et al. (2010), “this includes participating actively as a team member in decision-making processes” (p. 3). The New York State Teaching Standards cite the importance of active participation, endorsing the idea that “teachers participate actively as part of an instructional team” (NYSED Workgroup, 2011a, p. 12). The InTASC Teaching Standards include active participation as one of the interpersonal dynamics of teachers and explain, “the teacher takes an active role on the instructional team, giving and receiving feedback on practice, examining learner work, analyzing data from multiple sources, and sharing responsibility for decision making and accountability for each student’s learning” (CCSSO, 2011a, p. 21). This last description clarifies that active teacher participation is not simply about involvement in an activity, but an investment and obligation for its results.

Another dynamic that supports teacher collaboration that is closely connected with active participation is interaction. As Westheimer (1999) notes, “A community without interaction…is a contradiction” (p. 75). The InTASC Teaching Standards assert, “The teacher knows how to work with other adults and has developed skills in collaborative interaction appropriate for both face-to-face and virtual contexts” (CCSSO, 2011a, p. 22). This is a relevant statement because it includes a teacher’s ability to interact not just with colleagues in school, but on-line or through social networking. In
The Framework for Teaching, Danielson (2011) describes this interaction as “mutual support and cooperation” (p. 48). In her estimation, this collaboration needs to be shared and supportive.

Brownell et al. (1997) hold that the teacher must have a positive attitude towards teaching. Inherent in this positive attitude are great aspirations for students, described by the InTASC Teaching Standards in which they express, “The teacher knows how to contribute to a common culture that supports high expectations for student learning” (CCSSO, 2011a, p. 22). In a study of teachers in PLCs, Smith et al. (2009) find, “The process of forming learning communities benefitted tremendously from settings in which staff members already viewed colleagues as caring, cooperative, and intellectually curious” (p. 22). This upbeat and constructive stance by teachers is imperative because it transfers from them to their students in the classroom.

An additional interpersonal dynamic that supports teacher collaboration is when teachers demonstrate initiative. As the InTASC Teaching Standards describe, “The teacher takes initiative to grow and develop with colleagues through interactions that enhance practice and support student learning” (CCSSO, 2011a, p. 23). Similar to active participation, the teacher who has initiative will intentionally cultivate relationships with their peers to improve student achievement. In The Framework for Teaching, Danielson (2011) envisions the distinguished teacher as one who takes initiative to “take a leadership role in promoting a culture of professional inquiry” (p. 48). This often describes a crucial difference between the passive teacher in comparison to one who is active and motivated to work with their colleagues.
Another relational trait is the idea of openness and receptiveness. Smylie (1994) explains, “interactions characterized by open communication and examination of assumptions and beliefs about practice increase the likelihood of learning and improvement” (p. 159). Teachers who are open and willing to deprivatize their practice will certainly enhance their ability to collaborate with peers. In *The Framework for Teaching*, Danielson (2011) alludes to the distinguished teacher as someone who “seeks out feedback on teaching from both supervisors and colleagues” (p. 50). This combines both initiative on the part of the teacher and a sincere desire to learn from others.

Shared beliefs and understandings are another dynamic fundamental to support teacher collaboration. As Westheimer (1999) explains, “Most theorists agree that community must be built on a foundation of shared understandings” (p. 75). In education, this most often translates into having a shared vision or belief about education. The New York State Teaching Standards endorse this idea and assert, “Teachers support and promote the shared school and district vision and mission to support school improvement” (NYSED Workgroup, 2011a, p. 12). The InTASC Teaching Standards require the following: “The teacher actively shares responsibility for shaping and supporting the mission of his/her school as one of advocacy for learners and accountability for their success” (CCSSO, 2011a, p. 22). Notably, this connects the teacher’s shared beliefs with the students they teach.

As much as shared beliefs, mission and vision are important in supporting teacher collaboration, there may not always be uniformity of thought. Therefore, another interpersonal dynamic that supports effective teacher collaboration is having concern for individual and minority views. As Westheimer (1999) describes, “Members of a
community, while sharing interests and a commitment to one another, don’t always agree. Ideally, communities provide forums for exchange, which lead to growth as new perspectives are considered” (p. 75). This is closely related to one of the InTASC Teaching Standards competencies in which “The teacher respects families’ beliefs, norms, and expectations and seeks to work collaboratively with learners and families in setting and meeting challenging goals” (CCSSO, 2011a, p. 23). Thus, even if a teacher philosophically disagrees with another, it is important that they respect a differing view, preserving the chance to engage collaboratively on a future issue.

Each of the interpersonal dynamics mentioned above are only possible when predicated upon trust and a symbiosis between colleagues, which are the final interpersonal dynamics. Stoll et al. (2006) argue, “feelings of interdependence are central to such collaboration: a goal of better teaching practices would be considered unachievable without collaboration, linking collaborative activity and achievement of shared purpose” (p. 227). Their contention is that teacher improvement is inextricably connected to working with other teachers who have similar motives. Bryk and Schneider (2002) describe this phenomenon as relational trust:

Relational trust, so conceived, is appropriately viewed as an organizational property in that its constitutive elements are socially defined in the reciprocal exchanges among participants in a school community, and its presence (or absence) has important consequences for the functioning of the school and its capacity to engage in fundamental change. (p. 22)

Without this notion of relational trust, no other interpersonal dynamics that facilitate teacher collaboration can exist.
Impact of Teacher Collaboration

Having presented some of the structural conditions and interpersonal dynamics favorable to teacher collaboration described by the literature, the InTASC Standards and New York State Teaching Standards and The Framework for Teaching, it is important to show the effect this collaboration has on students and teachers in previous studies. Both sets of standards suggest that teacher collaboration is important because it promotes students’ academic growth (CCSSO, 2011a; NYSED Workgroup, 2011a). There is a research basis to support this claim that teacher collaboration does indeed further student achievement (Y. Goddard et al., 2007; Pounder, 1998b; Saunders et al., 2009; Smylie et al., 1996). There is also evidence that shows a positive relationship between teacher collaboration and improved student behavior (Pounder, 1998a; Shachar & Shmuelevitz, 1997). In addition, there are studies that have shown a positive connection between teacher collaboration and a teacher’s own sense of efficacy and instructional practice, which is the primary focus of this dissertation (Andrews & Lewis, 2007; D. Cohen & Hill, 2000; Cordingley et al., 2003; R.D. Goddard et al., 2000; Y. Goddard et al., 2007; Gorodetsky & Barak, 2008; Louis & Kruse, 1995; Shachar & Shmuelevitz, 1997; Strahan, 2003).

Student achievement. Y. Goddard et al. (2007) present a study in which fourth grade teachers and their students’ data in math and reading were gathered from large urban districts across the United States, particularly focused in the Midwest. After controlling for numerous demographic characteristics they found, “teacher collaboration for school improvement was positively related to differences among schools in both mathematics and reading achievement” (p. 891). They go on to share that these results
are of particular importance because most studies analyze the effect of teacher collaboration on teachers and not on student results. As they note, “this study thus offers original evidence of a positive and statistically significant relationship between teacher collaboration and student achievement” (p. 891).

In their study of primary school, Saunders et al. (2009) compare a treatment and comparison group among 15 urban elementary schools. The results of their study show, “significant achievement gains were achieved when grade-level teams were provided with consistent meeting times, schoolwide instructional leadership, and explicit protocols that focused meeting time on students’ academic needs and how they might be instructionally addressed” (p. 1007). From these two studies, it appears as though there is a positive relationship between elementary school teacher collaboration and student achievement.

At the secondary level, Pounder (1998b) studied middle school teams who coordinated curriculum, interventions, management and parent communication in comparison to those teachers who did not. Pounder found that when teachers work together on formal teams, there is a “tighter connection between teachers’ work and student outcomes” (p. 66). Yet another study was conducted in the Midwest United States in metropolitan kindergarten through eighth grade schools, in which 116 teachers were surveyed. Smylie et al. (1996) found, “teacher participation in school-based decision making is related positively to instructional improvement and to student academic outcomes” (p. 191). In particular, their findings reveal “gains in scores on standardized tests of student achievement for some schools with the most participative, instructionally oriented building councils. They also reveal declines in scores in schools
with the least participative, non-instructionally oriented councils” (pp. 193-194). Therefore, the cost of not engaging in teacher collaboration may not simply have a negligible effect on student achievement, but a negative one. These two studies show that the positive relationship between students’ achievement and teacher collaboration continues at the secondary level.

**Student behavior.** Other studies have shown a positive relationship between teacher collaboration and student behavior. According to Pounder (1998a), in schools where teaming occurs, fewer office-level behavioral problems (such as student referrals and suspensions) are reported than schools in which teaming does not occur. This benefit of teacher collaboration is directly tied to student achievement because the less time teachers spend managing classroom conflict, the more time they are able to devote to instruction, thus improving students’ academic outcomes. In another study, Shachar and Shmuelevitz (1997) looked at 121 social studies’ teachers of the seventh and eighth grades from nine junior high schools in the central district of Israel. They found that teacher collaboration “promoted students’ social relations” (p. 67). It appears as though the link between teacher collaboration and student performance extends not just to academics, but to students’ behavior as well.

**Teacher sense of efficacy.** Another domain that has been documented to improve with teacher collaboration is a teacher’s own sense of efficacy. This notion of self-efficacy is discussed by Bandura (1977) in the context of psychological treatments. Bandura identifies sources of efficacy, several of which are dependent upon others to be enacted. One example of this is through what he refers to as a *vicarious experience*:
Seeing others perform threatening activities without adverse consequences can generate expectations in observers that they too will improve if they intensify and persist in their efforts. They persuade themselves that if others can do it, they should be able to achieve at least some improvement in performance. (p. 197)

This conception of collaboration is quite similar to modeling and is often evident with mentor teachers and their mentees. Another source of efficacy that is mediated through collaboration is what Bandura describes as *verbal persuasion*:

> It can contribute to the successes achieved through corrective performance. That is, people who are socially persuaded that they possess the capabilities to master difficult situations and are provided with provisional aids for effective action are likely to mobilize greater effort than those who receive only the performance aids. (p. 198)

This idea of collaboration is one in which a teacher is given both the verbal and physical resources to navigate a challenging circumstance. For example, a colleague may offer verbal coaching in addition to a physical curriculum to address a difficult lesson with students.

Other studies confirm this connection between social interaction and efficacy in the field of education. In Shachar and Shmuelevitz’s (1997) study, they corroborate this connection:

> Teachers who reported a higher level of collaboration with colleagues also expressed a higher level of general teaching efficacy...Regression analyses demonstrated that frequency of implementing cooperative learning and collaboration with colleagues explained the largest portion of the variance in teachers’ sense of efficacy. (p. 53)

Their assertion is that teacher collaboration is not just positively related to a teacher’s sense of effectiveness, but it is actually the most important factor.

Another study by Cordingley et al. (2003) found a similar effect of teacher collaboration on sense of efficacy:
Collaborative professional development was found to have a positive impact on teachers...greater confidence; enhanced beliefs among teachers of their power to make a difference to pupils’ learning; development of enthusiasm for collaborative working…and, greater commitment to changing practice and willingness to try new things. (p. 17)

Importantly, their results extend the importance of teacher collaboration not only to a teacher’s sense of effectiveness, but to its further associations with supporting student growth and a teacher’s own inclination to engage in professional learning.

Interestingly, R.D. Goddard et al. (2000) document a very similar result not just at the teacher level, but also at the school level:

The culture of a school is the construct of ‘collective efficacy’…as school staff's beliefs that they can work collaboratively to bring about change. These beliefs emerge over time from the shared perceptions of teachers and shape the normative environment of the school. This process occurs as teachers discuss their work with each other. As teachers hear about their colleagues’ successes as well as those of other schools, they incorporate these into their beliefs in positive outcomes…When these conversations are positive and persuasive, the culture of the school grows more optimistic and encouraging. (p. 465)

Strahan (2003) noticed a similar trend when teachers formally spoke with one another during grade-level meetings. He notes, “These dialogue sessions seemed to encourage a stronger sense of agency and collective efficacy” (p. 142). Louis and Kruse (1995) also found this effect at the macro level where schools with a genuine sense of community led to an increased sense of work efficacy, which led to increased classroom motivation, work satisfaction and greater collective responsibility for student learning. Thus, teacher collaboration can impact teacher efficacy not just on the individual level, but also at the whole school level, reinforcing a positive school culture and climate.
In Gorodetsky and Barak’s (2008) study of the partnership between a school and an institution of higher education, they also found a connection between the presence of collaboration and a teacher’s sense of efficacy:

The school teachers became more critical and skeptical regarding their ways of being in the classroom. The realization that teaching can be manifested in different ways and that there are many possible answers to school problems, actually increased teachers’ confidence in their professional activities. As a result, the teachers were no longer hiding behind closed doors and they suggested opening their classrooms to teacher colleagues from the same or different schools. (p. 1917)

This effect of opening up one’s classroom can combat the challenge of teacher isolation discussed in an earlier section.

**Teacher instructional practice.** The more conventional research around teacher collaboration has looked at the connection between teacher collaboration and teacher instructional practice. D. Cohen and Hill (2000) share some of their findings about the link between teachers’ collective analysis of student work and teaching:

Wherever teachers came into contact with the new assessment, they had opportunities to examine student work closely, to think about children’s mathematical thinking…These effects tend to support our conjecture that teachers’ opportunities to learn can be a crucial link between instructional policy and classroom practice. (p. 319)

Y. Goddard et al. (2007) believe professional development can augment instruction. Their contention is “When teachers have opportunities to engage in professional discourse, they can build upon their unique content, pedagogical, and experiential knowledge to improve instruction” (p. 880). In a study of PLCs in Australia, Andrews and Lewis (2007) found that being part of this group “not only enhanced their knowledge base, but also had a significant impact on their classroom work” (p. 140). It certainly seems reasonable that if teacher collaboration has an effect on student achievement and a
teacher’s sense of efficacy, that it would also impact teachers’ instructional approach in the classroom.

**Conclusion**

While some teachers and schools may not have every structural condition or interpersonal dynamic that fosters teacher collaboration, those that have more than others may be able to generate greater teacher sharing and therefore see improvement in student achievement, student behavior, their own sense of efficacy and their own instructional practice (Andrews & Lewis, 2007; Bandura, 1977; D. Cohen & Hill, 2000; Cordingley et al., 2003; R.D. Goddard et al., 2000; Y. Goddard et al., 2007; Gorodetsky & Barak, 2008; Louis & Kruse, 1995; Pounder, 1998a; Pounder, 1998b; Saunders et al., 2009; Shachar & Shmuelevitz, 1997; Smylie et al., 1996; Strahan, 2003). As mentioned earlier, our current system of education tends to isolate teachers and treat teaching as a secluded profession. However, research in the field, teaching standards and evaluation systems are increasingly requiring that teacher collaboration become a part of daily practice. As the InTASC declares, “The standards recognize that teaching is no longer a private act. Improvement of instruction requires transparency of practice and ongoing, embedded professional learning where teachers collaborate and engage in collective inquiry to ensure each student learns” (CCSSO, 2010, p. 3). If teacher collaboration is the outcome of these new standards and evaluation systems, then improved student academic achievement, student behavior, teacher sense of efficacy and teacher instructional practice may indeed be the result.
CHAPTER III: Methodology and Research Design

Introduction

The overall purpose of this study was to examine teacher collaboration in a small, suburban school district in Westchester County, NY. As described in the rationale and significance section, this study is important and timely because of the recent inclusion of teacher collaboration in both the Interstate Teacher Assessment and Support Consortium (InTASC) Teaching Standards and New York State Teaching Standards (CCSSO, 2011a; NYSED Workgroup, 2011a), in addition to the District’s selection of Danielson’s (2011) Framework for Teaching rubric.

More specifically, this study explored whether the relevant features of teacher collaboration were present in this school district. The first research question was framed in the following way: What is the range and variation of teacher collaboration within and across schools in a small, suburban district? The micropolitical conceptual theory and the research described in the literature review have shown that teacher collaboration can be analyzed from both a systemic standpoint (structural conditions) and from a behavioral standpoint (interpersonal dynamics) (Berk & Hiebert, 2009; Brownell et al., 1997; Bryk & Schneider, 2002; D. K. Cohen & Ball, 1999; CCSSO, 2011a; Y. Goddard et al., 2007; Gorodetsky & Barak, 2008; Hansen et al., 2010; NYSED Workgroup, 2011a; Rust & Meyers, 2006; Rust, 2009; Saunders et al., 2009; Smith et al., 2009; Smylie, 1994; Stoll et al., 2006; Strahan, 2003; Westheimer, 1999). The data derived from this first question enabled me to place teachers on the continuum of collaboration throughout our school district. From the resulting profile, I also developed strategic recommendations for change, which will be shared with the Superintendent of the District (Chapter V).
The data from the first research question also revealed differences in teacher collaboration that exist on the teacher level within schools and across the District. The identification of these individual teachers provided me with the opportunity to further probe those who exist on either end and in the middle of the spectrum, whether they are classified as high collaborative, medium collaborative or low collaborative in their professional practice. The data also exposed distinctions that exist across demographic groups, such as those teachers with tenure, teachers in a particular area of instruction or teachers at the high school level.

Further, this study explored the nexus between teachers or groups of teachers who are situated along the continuum in relation to how they view themselves. It is this self-evaluation of the relative effects of their collaboration that led me to the final research question: From the teachers’ perspectives, how does teacher collaboration impact them and their teaching? The research described in the literature review from previous studies has demonstrated that there is a positive relationship between teacher collaboration and one’s own sense of efficacy and instructional practice (Andrews & Lewis, 2007; Bandura, 1977; D. Cohen & Hill, 2000; Cordingley et al., 2003; R.D. Goddard et al., 2000; Y. Goddard et al., 2007; Gorodetsky & Barak, 2008; Louis & Kruse, 1995; Shachar & Shmuellevitz, 1997; Strahan, 2003). As discussed in the results (Chapter IV) and conclusion (Chapter V), the data collected from this study would either corroborate these earlier findings, refute them or a combination of the two. In addition, the data might provide new contributions to the study of teacher collaboration, as it relates to my particular setting in a small, suburban school district in Westchester County, NY.
It is important to note that the two research questions described above were intentionally sequenced. That is, the first question primarily deals with the characteristics of teacher collaboration and identifying those teachers who matched these criteria. The final question primarily deals with the impact of teacher collaboration to determine whether those teachers who matched these criteria have effects that are consistent with previous studies. As such, answering each question required a distinct set of methods and tools, which I will describe in greater detail below.

Type of Study

This study was a concurrent mixed methods study. Some of the tools produced results that were measured quantitatively, whereas other instruments produced results that were analyzed qualitatively. Creswell (2009) defines this particular type of study as follows:

The researcher converges or merges quantitative and qualitative data in order to provide a comprehensive analysis of the research problem. In this design, the investigator collects both forms of data at the same time and then integrates the information in the interpretation of the overall results. (pp. 14-15)

The first tool was a survey (Appendix B) to answer each of the two research questions, from which both descriptive and numerical data emerged to help determine those teachers who were classified as high collaborative, medium collaborative and low collaborative in their professional practice. This portion of the study was largely etic, from my perspective as the researcher conducting the study (Marshall & Rossman, 2011).

The next tool was an interview and focus group protocol (Appendix D) that provided a more in-depth understanding of the second research question, from which I determined how teachers experience their collaboration. This part of the study was
phenomenological, a form of qualitative research in which the researcher "identifies the essence of human experiences about a phenomenon as described by participants" (Creswell, 2009, p. 13). In this study, I attempted to understand how teachers experience collaboration and its impact from their perspective. This portion of the study was largely **emic**, from the perspective of the participants in the study (Marshall & Rossman, 2011).

I chose this mixed methods approach because I sought to gather data from as many different sources as possible in as many different ways as I could to understand the nature of teacher collaboration and its effects on instructional practice and efficacy. This mixed methods strategy, whereby I used multiple instruments and data analysis approaches is known as triangulation and is discussed in greater depth in a subsequent section in this chapter. Creswell (2009) describes this mixed methods approach as a concurrent triangulation strategy in which, “the researcher collects both quantitative and qualitative data concurrently and then compares the two databases to determine if there is convergence, differences or some combination” (p. 213). I did just this at the end of the data collection process because it allowed for the various measures of teacher collaboration used in this study to be scrutinized through multiple lenses.

**Context and Setting**

For this study, I researched my own school district of Aragon, which is used as pseudonym in order to protect the confidentiality of participants. I currently serve as the Assistant Principal of Aragon Middle School, one of three schools in our district (eChalk, 2013). By engaging in this inquiry within my own setting, this is the very definition of practitioner research (Anderson, Herr, & Nihlen, 2007). Although I discussed the importance of understanding teacher collaboration in the District in the previous section
from an *emic* perspective using interviews and focus groups, I already have an insider’s knowledge of many structures, which I will describe throughout this section.

With respect to our student data, there were 2,042 students in the entire District in the elementary, middle and high school, as reported by the New York State Education Department’s (NYSED) Office of Information and Reporting Services (IRS) in 2010-2011 (IRS, 2012b, p. 2). One unique structure that defines our setting is the fact that the elementary school houses students in kindergarten through grade four and the middle school houses students in grades five through eight (eChalk, 2013). Most elementary schools in the area are kindergarten through grade five and most middle schools in the area are grades six through eight (NewYorkSchools.com, 2013).

In 2009-2010, the average annual expenditures per pupil were $26,948, which ranked 14th in Westchester County (School Meter, 2013). Of these average annual expenditures per pupil, $13,216 were spent annually on the average general education student and $55,828 were spent annually on the average special education student (IRS, 2012a, p. 1). The District’s academic achievement is disproportionately higher than its peers throughout the County in comparison to its average annual expenditures per pupil. On the 2011-2012 New York State English Language Arts Exam in grades three through eight, the District ranked 12th in Westchester County and on the 2011-2012 New York State Math Exam in grades three through eight, the District ranked eighth in Westchester County (School Meter, 2013). On the 2010-2011 New York State High School Regents Exams in English, science, history, math and world language, the District ranked 10th in Westchester County (School Meter, 2013). Student acceleration or honors begin in sixth
grade in mathematics, eighth grade in science and at the high school level in English language arts, social studies and world language.

In terms of adult personnel, each school in Aragon has a principal, assistant principal, guidance counselors and school psychologists as well as approximately 65 teachers and 30 teaching assistants or teacher aides (IRS, 2012b). Our teacher leadership includes full-time teachers who double as department chairs, who represent every one of the four major domains (English language arts, mathematics, social studies and science), special education and world language at the high school. At the elementary level, teachers are generalists, instructing heterogeneous classes. At the secondary level in both the middle and high schools, teachers are all content-specific in their assignments. A unique model that is used within each of the three schools is *co-teaching* for classes that contain a mixture of general education and special education students. One teacher is the content-area specialist and the other teacher is a special educator. They coordinate with one another to differentiate their instruction in order to meet the varied academic needs of their students.

With respect to informal structures that support collaboration in addition to the *co-teaching* model, teachers have the latitude to work with their colleagues to create and modify lessons based on the recently adopted Common Core Curriculum and the New York State Standards for students (CCSS Initiative, 2011; NYSED, 2010). In fact, many classes and content areas do not have a formal textbook or a scripted series, which further enables teachers to customize and collaborate with their fellow teachers about their instructional practice. During the last two school years, teachers have worked with their peers to refine the scope and sequence of their courses using Rubicon Atlas, a “web-
based curriculum management tool” (Rubicon International, 2013). This tool has created a transparent database in which teachers can search, develop and browse their own curriculum maps or those of their colleagues. Ultimately, this tool is intended to facilitate greater horizontal and vertical alignment in instruction, curriculum and assessment throughout the District (eChalk, 2013).

With regard to formal structures that support teacher collaboration, another unique feature in the District is the curriculum hour, in which students are dismissed one hour early at the elementary and middle schools and arrive one hour later at the high school one day each week (eChalk, 2013). During this time, the department chairs within each of the three buildings facilitate a collaborative meeting devoted to curricular goals, which are developed annually with building and district administration. Goals might include aligning curriculum with the Common Core State Standards, writing lessons within Rubicon Atlas, developing shared assessments across the department or learning how to use diagnostic reading programs. The intent of these meetings is that they be used for professional development purposes only.

The faculty meeting is another collaborative structure in each school that occurs once or twice every month. During the last two years, the focus of the meetings has largely been the implementation of Charlotte Danielson’s Framework for Teaching Rubric: 2011 Revised Edition. Several teachers and administrators in each building have attended out-of-district training sessions about the rubric and have then acquainted their colleagues with it by modeling interactive protocols and exercises during the faculty meetings. For example, teachers work with one another to determine what Danielson means by student engagement, teachers brainstorm what student engagement might look
like in practice or they work to self-assess whether they are unsatisfactory, developing, proficient or distinguished in implementing student engagement in their own classroom.

Other formal teacher collaboration within the District includes the weekly team meeting, in which student support specialists and teachers of the same grade level come together to discuss a specific student’s needs across the disciplines. It is within this context that teachers will engage in Response to Intervention (RTI) or Child Study Team (CST). These meetings discuss specific strategies for general education students that teachers agree to implement in their classrooms prior to a referral for special education (RTI). In the case of those who are already special education students, teachers confer to implement additional modifications and accommodations to be used in the classroom (CST).

It is within this milieu described above that I conducted my research as a practitioner. For this particular study, as described earlier, I strategically combined both quantitative and qualitative tools to engage in a concurrent mixed methods inquiry. By examining the data from both perspectives, I was able to triangulate in a way that allowed me to corroborate the results from different vantage points for internal generalizability. This refers to “the generalizability of a conclusion within the setting or group studied” (Maxwell, 2005, p. 115). In essence, by gathering robust data within Aragon about a large number of teachers, I was able to draw conclusions that could logically be applied to all teachers throughout the District. Of course, this study only examined one school district, so the limitations of external generalizability are important to acknowledge. The extent to which the results of my approach could be replicable in other Districts would require a much broader study (Maxwell, 2005).
Participant Selection

In Aragon School District, the teachers in the three schools were the participants for this study. Since the District is relatively small, I did not need to sample for the survey in order to draw conclusions about the overall population of teachers. As Robson (2002) explains, “there are some circumstances where it is feasible to survey the whole of a population” (p. 260). Thus, in order for me to develop a profile of the structural conditions and interpersonal dynamics favorable to teacher collaboration that are present in Aragon, I needed to have broad participation. Once these conditions and dynamics were gleaned from as many teachers as possible, I began to narrow the participants for further study through purposive sampling, which is “the deliberate choice of an informant due to the qualities the informant possesses” (Tongco, 2007, p. 147). As such, I identified those teachers who could be classified as high collaborative, medium collaborative or low collaborative in their professional practice. A critical feature of this process was that I be able to confidentially track those teachers who participated in the initial stage of this research, so that I had the ability to include them in subsequent stages based upon their collaboration level. This will be discussed in greater detail below.

Characteristics of participants. In a preliminary investigation of data publicly available as of 2010-2011, there were 181 teachers in the District (IRS, 2012b, p. 4). Zero percent had no valid teaching certificate. In addition, 1% were teaching out of their certification area, though 0% taught classes without any appropriate certification. The staff was mostly experienced, with only 3% having fewer than three years of teaching. The education level among the teachers was high, with 62% having attained a master’s degree plus thirty hours or a doctorate. The state has also deemed that 0% of common
branch classes were taught by those teachers not considered highly qualified. As of 2009-2010, the turnover rate of teachers with fewer than five years of experience was 6%, with a 9% turnover rate among all teachers. Thus, it can be said that the typical Aragon teacher is certified, teaches within his or her certification area, has more than three years of teaching experience within the District, has an advanced degree, is highly qualified and does not leave the District.

These characteristics were coupled with the data collected from the survey, in which the intent was for high participation, as described above. This data collection included demographic information about each teacher, including gender, race, years of experience, type of experience, education level, etc. In addition, data specific to this study were solicited as it relates to teacher collaboration. Teachers self-identified the extent to which they have the structural conditions or interpersonal dynamics conducive to teacher collaboration in addition to their own sense of efficacy and instructional practice. An opportunity was also provided for open-ended responses in which a teacher could describe additional characteristics, either structural or interpersonal, that they believe are favorable to their own collaboration level with colleagues.

**Selection criteria.** Next, these initial data were disaggregated by the various structural conditions and interpersonal dynamics to calculate a composite score of the teachers and groups of those teachers classified as high collaborative, medium collaborative and low collaborative in their professional practice across the District, in order to select them for interviews and focus groups. This approach is validated by Creswell (2009), in which he explains, “researchers may first survey a large number of individuals and then follow up with a few participants to obtain their specific language
and voices about the topic” (p. 19). This technique in which quantitative data is used as the basis for targeted participant selection is known as purposive sampling (Tongco, 2007). Of course, the actual number of teachers selected for further participation in the interviews and focus groups depended entirely on the total number of initial participants.

While there is no limit to the number of teachers to use in a purposive sample, it should be a sufficient number to acquire the desired data (Bernard, 2011). In this study, approximately 30% of those surveyed were selected for the qualitative portion of the study. Of those 30%, about half were interviewed and the other half participated in a focus group. Of the half that were interviewed, around one third of the teachers were classified as *high collaborative* in their professional practice, one third of the teachers were classified as *medium collaborative* in their professional practice and another third were classified as *low collaborative* in their professional practice. Of the half that participated in a focus group, around one fifth were identified as part of the demographic group of teachers classified as *high collaborative* in their professional practice, three fifths were identified as part of the demographic group of teachers classified as *medium collaborative* in their professional practice and one fifth were identified as part of the demographic group of teachers classified as *low collaborative* in their professional practice. The reason there were fewer teachers identified from the demographic groups of teachers classified as *high collaborative* and *low collaborative* is because there were fewer teachers identified as part of these groups as compared to those teachers classified as *medium collaborative*.

**Diversity of the participant pool.** In this study, diversity was defined by the representation of every demographic of teachers within Aragon (as opposed to a broader
definition of diversity within society). An inability to attain this standard for diversity was only limited by those teachers who chose not to participate. For example, it may be true that those teachers who did not participate are also the least collaborative teachers in the District, thus eliminating the possibility for further study of an important subgroup (teachers who are less collaborative in their instructional practice). Therefore, it was just as critical that I track those teachers who did not partake in this study as I was about those teachers who did. This only reinforced the importance of encouraging as much participation as possible from the beginning.

As the study progressed, the diversity became more recognizable once the initial data collection was completed. Subgroups of teachers that aligned with specific demographic characteristics, structural conditions and interpersonal dynamics were classified from the survey results through purposive sampling (Tongco, 2007) to identify participants for interviews and focus groups based upon their level of collaboration, as described earlier. Of course, to reiterate what was mentioned above, I attempted to encourage as much participation as possible such that no demographic group was absent from the results, which might threaten the level of diversity or impact the validity of how the study itself was constructed (Creswell, 2009).

In reflection, I wish the demographic characteristics of non-participants were clearer. While I had access to archival data from New York State that suggested that the traits of non-participants were no different than those who chose to participate, these data were broad (Chapter IV). In the end, it may be a near impossibility to ascertain specific demographics of those teachers who chose not to take the survey. While I was comforted to know that there appeared to be no difference, it may be the case that those teachers
who did not participate are significantly less collaborative than their peers who chose to respond to the survey, who were then identified to participate in the interviews and focus groups.

**Data Collection Plan**

The visual representation of how the research design and methods map onto the research questions through the conceptual framework can be found below (Figure 2).

The conceptual map, which was introduced earlier, is displayed along with the instruments that were used to measure each phase of the study.

![Conceptual Map with Instruments](image)

**Figure 2. Conceptual Map with Instruments**

I first assessed the demographic characteristics, structural conditions and interpersonal dynamics favorable to teacher collaboration present in our district through a survey based upon themes and topics identified in the literature review. I also gauged teachers’ own sense of efficacy and instructional practice through this same instrument. These results were then disaggregated in order to identify individual teachers and teacher
subgroups that could be classified as high collaborative, medium collaborative and low collaborative in their professional practice. Using purposive sampling, these teachers were then identified for interviews or focus groups to further probe their relative level of collaboration in comparison with their own sense of efficacy and instructional practice. Ultimately, the research design and methods helped to answer the research questions:

1. What is the range and variation of teacher collaboration within and across schools in a small, suburban district?
2. From the teachers’ perspectives, how does teacher collaboration impact them and their teaching?

This data collection plan to answer the research questions not only had a variety of instruments that triangulated the results, but the questions themselves were purposefully ordered to align with each stage of the process, as described below.

**Archival data.** Important to recognize is one of the least intrusive forms of data collection, which was already used towards this study. Archival data provided the preliminary demographic information about the students and teachers in the District and the nature of how the schools are arranged, each of which was discussed earlier. As Marshall and Rossman (2011) point out, “The greatest advantage of using documents…is that these materials can be gathered without disturbing the setting” (p. 161). These documents were found on the NYSED, Board of Cooperative Educational Services (BOCES), New York Schools.com and Aragon School District web pages (eChalk, 2013; NewYorkSchools.com, 2013; IRS, 2011; IRS, 2012a; IRS, 2012b; School Meter, 2013). These included the directories of all teachers in each of the three schools in Aragon, Westchester County Schools information, the New York State District Report Card for
Aragon, the Fiscal Accountability Supplement for Aragon, Information about Students with Disabilities for Aragon and Aragon’s Elementary State Test and Regents Rankings. All of this information had already been gathered and verified by others. I was able to extract the relevant details even before any formal data collection for this study had taken place.

**Instruments.** As described in the visual representation of how the research design and methods map onto the research questions through the conceptual framework, I used three instruments to collect data for this study. I first used a survey to gather preliminary information. Next, I determined the candidates for the interviews and focus groups from the survey results through purposive sampling (Tongco, 2007). These three tools are described in further detail below.

**Survey.** For the initial measurement stage, in which I intended to have broad participation, I designed a survey (Appendix B). The survey was constructed using Qualtrics (2013), an online software tool for making surveys. Anderson et al. (2007) explain the appeal for gathering this sort of data:

> Surveys and questionnaires are a common instrument of practitioner research because they are interviews by proxy and are therefore easy to administer, they provide direct responses to factual and attitudinal questions, and they make tabulation and analysis of response almost effortless. (p. 180)

In this survey, I incorporated demographic information, structural conditions and interpersonal dynamics that are favorable to teacher collaboration, as identified in the literature review (Chapter II). I also included initial questions regarding teachers’ own sense of efficacy and instructional practice, also grounded in the research. For example,
ethnicity, certification, common planning time, taking initiative and confidence in
instruction were among the topics covered.

I previewed this survey with colleagues, my dissertation committee and my
family in the field of education. Robson (2002) offers, “the draft questionnaire is best
pre-tested informally, initially concentrating on individual questions. Colleagues, friends
and family can usually be cajoled into reading them through and providing (hopefully)
constructive comments on wording” (p. 254). This stage of the process enabled me to
refine and revise the survey tool until it was ready for formal distribution to teachers
throughout the District. Additional information about the scope and structure of the
survey can be found later in this chapter in the data analysis plan.

After this stage, I gathered the names and email addresses of all the teachers in the
District by way of the faculty directory, which was available on each school’s home page
(eChalk, 2013). These email addresses were inputted into Qualtrics’ (2013) Panels tool,
which allowed me to trace participant responses and participation through a unique link.
This link was included in the confidential recruitment email (Appendix A) to all teachers
in the District. A consent to participate was also included in the first portion of the
survey. The unique link ultimately enabled me to identify participants for the interviews
and focus groups. Although it is was my expectation that the software worked properly,
in the event that it did not, I also included a formal solicitation for participation in the
interviews and focus groups at the end of the survey, by way of teachers typing their
actual email addresses.

**Interview and focus group protocol.** As discussed in the introduction to the
literature review (Chapter II), the concepts, theories and research were converted to a
priori codes, which served as the basis for the design of a generic interview and focus group protocol (Appendix D). Like the survey, this protocol was previewed with my dissertation committee and my family in the field of education. The questions were intended to be open-ended and provide the opportunity for participant elaboration in the interview or among the three teachers in the focus group. When appropriate, follow-up questions were asked. As Rubin and Rubin (2005) suggest, “If the interviewee introduces new ideas, unanticipated themes, or perspectives that contradict what you have concluded from other interviews, a follow-up is usually in order” (p. 174). Indeed, new questions emerged during the interviews and focus groups based upon these unique teacher viewpoints. In addition, I added several questions that were not part of the generic protocol, depending upon the role of the teacher. For example, if the teacher was a special educator, I would ask, “How do you think your role as a special educator impacts the extent to which you collaborate with your colleagues?” These nuanced questions helped me to draw more specific conclusions about individual participants. Additional information about the research questions and concepts addressed by the interview and focus group protocol can be found later in this chapter in the data analysis plan.

*Interviews.* From this initial survey, I identified the individual teachers throughout the District who were classified as *high collaborative, medium collaborative* and *low collaborative* in their professional practice. I conducted interviews with these teachers to further refine my understanding of the impact of their particular collaboration level. Rubin and Rubin (2005) confirm, “Each conversational partner has a distinct set of experiences, a different construction of the meaning of those experiences and different
areas of expertise” (p. 34). This tool therefore enabled me to uncover greater detail about the structural conditions or interpersonal dynamics that are characteristic of their level of collaboration that was not captured in the survey. In addition, I further probed the impact their level of collaboration had on their sense of efficacy and instructional practice. With participant consent, these sessions were recorded using the Voice Memos application on my iPhone (Apple Inc., 2013) and transcribed using the transcription service Transcribe It Quick (2013), from which a coded examination of the documents was performed using Dedoose (SCRC, 2013), a qualitative research analysis software.

Focus groups. Also from the initial survey, I identified entire demographic cross-sections of the teachers classified as high collaborative, medium collaborative and low collaborative who were then chosen to participate in a focus group. The advantage of bringing these groups together in a focus group, rather than individual interviews, is explained by Marshall and Rossman (2011). They point out, “the strengths of focus-group interviews are that this method is socially oriented, studying participants in an atmosphere more natural than artificial experimental circumstances and more related than a one-to-one interview” (p. 149). Krueger (1988) notes that a focus group is “a carefully planned discussion designed to obtain perceptions in a defined area of interest in a permissive, non-threatening environment” (p. 18). Thus, the focus group had the potential to expose insights I might not realize through the interviews alone. Like the interviews, these sessions were recorded using the Voice Memos application on my iPhone (Apple Inc., 2013) and transcribed using the transcription service Transcribe It Quick (2013), from which a coded examination of the documents was performed using Dedoose (SCRC, 2013), a qualitative research analysis software. Unlike the interviews,
each time participants spoke during a focus group, they self-identified on the recording by a pre-assigned number in order for the transcription service to distinguish between participants on the audio soundtrack.

**Issues of validity.** A potential threat to validity was the timing of this study, which may have depressed the number of teachers who actually participated in the survey. There are moments within the school year that are busier than others. Due to the requirements for IRB approval, the survey for this study was distributed just prior to the final week of the school year on June 16, 2012. At this time of year, teachers were finalizing students’ grades for report cards or completing procedures for the end of the school year. To address this issue, I intentionally addressed the poor timing in my recruitment email by acknowledging, “I know this is a busy (or perhaps crazy) time of year and I do not take anyone’s participation for granted” (Appendix A). I also sent repeated personal reminders to participants who did not complete the survey during its initial distribution. Lastly, I allowed for survey responses to be submitted during a three-week span, ending on July 7, 2012, in order to maximize the response time.

**Positionality.** As the Assistant Principal of Aragon Middle School, I found that one advantage of my positionality was having knowledge of district structures that might not be understood by an outside researcher, as I discussed in the context and setting section earlier in this chapter. For example, when teachers discussed the curriculum hour, Rubicon Atlas mapping software or Project Adventure, I immediately knew what they were referring to. On the other hand, my positionality also influenced a higher rate of participation on the survey within my own school, as compared to the rates of the elementary and high school, which will be shared in the results (Chapter IV). In
retrospect, aside from researching another school district altogether, I might have considered an incentive for participation in the other two buildings, until their rates were aligned with the middle school. I tried to mitigate the relevance of school affiliation in the results by focusing on other demographics, such as years of experience, content area or level of education (Chapter IV).

Another potential issue of validity related to my positionality might have been my role as a supervisor of the teachers I studied. Anderson et al. (2007) write, “Administrators have formal power over teachers…Carefully thinking through one’s positionality within an organization is important in understanding how it may impact the trustworthiness of the findings and the ethics of the research process” (p. 9). As a result of my formal role within the school, participants might have been reluctant to share their insights with me during the survey, interviews or focus groups. They may have done this out of concern that I might use their responses for this study in an evaluative way as their supervisor.

To address this potential threat to validity, I included a statement about confidentiality in my recruitment email for the survey (Appendix A). I also had an introductory paragraph to the survey itself in which participants read the following:

Your identity will be kept strictly confidential and your responses will be used solely for the purpose of this study towards my graduate degree and not shared with any other staff member in the District. This survey is entirely voluntary and has no bearing whatsoever on your employment within Aragon School District. (Appendix B)

Lastly, with the approval of the Institutional Review Board (IRB), I distributed a consent form for the interviews and focus groups in which I read the following statement to each participant:
Your responses will be used solely for the purpose of this study towards my graduate degree and not shared with any other staff member in the District. This [interview/focus group] is entirely voluntary and has no bearing whatsoever on your employment within Aragon School District. For those of you that I supervise, my evaluations of you will not be affected by your participation or non-participation in this study. (Appendix C)

Nevertheless, some teachers may still have not completed the initial survey or may have answer differently than they might otherwise, with the presumption that I could have used these results to evaluate them. One possible symptom of this issue I noticed is that teachers rarely considered themselves to have negative interpersonal dynamics during interviews or focus groups. Despite the confidentiality of my process, a teacher would often describe a colleague who is closed off or judgmental, but rarely did they ever admit to being disrespectful or dismissive themself. Of course, this phenomenon may not have been different, even if there was an outside researcher, as District teachers may always wish to portray themselves in the best way possible. I will discuss these issues in greater depth within the further study section of the conclusion (Chapter V).

**Sequencing.** As mentioned in the introduction to this chapter, the research questions for this study were intentionally sequenced. So too was the order in which I administered the various tools for this study. Creswell (2009) emphasizes, “Proposal developers need to consider the timing of their qualitative and quantitative data collection, whether it will be in phases (sequentially) or gathered at the same time (concurrently)” (p. 206). In this study, first was the initial survey, which enabled me to collect data on the largest number of teachers possible within our school district at the elementary, middle and high school level. Doing so facilitated the development of a profile of the school district in terms of teachers’ structural conditions and interpersonal dynamics favorable to
teacher collaboration. This survey was confidential, which provided me with the opportunity to identify the actual teachers who were classified as high collaborative, medium collaborative and low collaborative within the District. These teachers who were identified were examined further through an interview or collectively in a focus group.

**Triangulation.** In addition to ordering the methods in a particular fashion to best suit the purpose of this study, I also chose a concurrent mixed methods approach in order to triangulate the data. As Marshall and Rossman (2011) explain, “Triangulation is the act of bringing more than one source of data to bear on a single point” (p. 252). Having these multiple lenses enabled me to have greater confidence in the results, since they were corroborated through both statistical and non-statistical measures. Maxwell (2005) further develops this concept and points out, “this strategy reduces the risk of chance associations and of systemic biases due to a specific method, and allows a better assessment of the generality of the explanations that one develops” (p. 112). The diversity of tools, initially through a broad survey and then narrowed through interviews and focus groups, ensured a robust data set. Ultimately, using triangulation as an approach to data collection enabled me to draw specific conclusions about teacher collaboration within Aragon School District because I employed multiple data-gathering methods.

**Data Analysis Plan**

The first research question was as follows: What is the range and variation of teacher collaboration within and across schools in a small, suburban district? In order to analyze this question, I needed to examine the results from the survey questions and later,
the interviews and focus groups. These questions and the interview and focus group protocol were developed using a priori codes (Table 1) based on structural conditions and interpersonal dynamics outlined in the literature review. Miles and Huberman (1994) believe this is the best technique to use. They argue, “one method of creating codes—the one we prefer—is that of creating a provisional ‘start list’ of codes” (p. 58). This is precisely how I approached the instrument design, by incorporating many a priori codes that were gleaned from previous research.

Table 1

List of A Priori Codes by Structural Conditions and Interpersonal Dynamics

<table>
<thead>
<tr>
<th>SC: Structural Conditions</th>
<th>ID: Interpersonal Dynamics</th>
</tr>
</thead>
<tbody>
<tr>
<td>SC-FOR: Formal Meeting Time</td>
<td>ID-PAR: Participate</td>
</tr>
<tr>
<td>SC-FADV: Takes Advantage of SC-FOR</td>
<td>ID-RES: Responsibility</td>
</tr>
<tr>
<td>SC-IST: Instructional Support Team</td>
<td>ID-F2F: Face-to-Face</td>
</tr>
<tr>
<td>SC-GLT: Grade Level Team</td>
<td>ID-TECH: Technology</td>
</tr>
<tr>
<td>SC-CAT: Content Area Team</td>
<td>ID-COOP: Cooperative</td>
</tr>
<tr>
<td>SC-IFOR: Informal Meeting Time</td>
<td>ID-SUPP: Supportive</td>
</tr>
<tr>
<td>SC-IADV: Takes Advantage of SC-IFOR</td>
<td>ID-ATT: Attitude</td>
</tr>
<tr>
<td>SC-BEF: Before School</td>
<td>ID-EXP: Expectations</td>
</tr>
<tr>
<td>SC-AFT: After School</td>
<td>ID-INI: Initiative</td>
</tr>
<tr>
<td>SC-NORM: Professional Norms</td>
<td>ID-LEAD: Leadership</td>
</tr>
<tr>
<td>SC-GOAL: Common Goals</td>
<td>ID-CHA: Change in Practice</td>
</tr>
<tr>
<td>SC-OBSC: Observe a Colleague</td>
<td>ID-FEED: Receptive to Feedback</td>
</tr>
<tr>
<td>SC-COBS: Colleague Observes You</td>
<td>ID-SHA: Shared Understanding</td>
</tr>
<tr>
<td>SC-VID: Video Observation</td>
<td>ID-RES: Respect</td>
</tr>
<tr>
<td>SC-SHA: Shared a Lesson</td>
<td>ID-TRUS: Trust</td>
</tr>
<tr>
<td>SC-COLL: Meet with a Colleague</td>
<td></td>
</tr>
<tr>
<td>SC-STWK: Student Work</td>
<td></td>
</tr>
<tr>
<td>SC-TECH: Technology</td>
<td></td>
</tr>
<tr>
<td>SC-LOC: Location</td>
<td></td>
</tr>
<tr>
<td>SC-HED: Higher Education</td>
<td></td>
</tr>
<tr>
<td>SC-PNET: Professional Network</td>
<td></td>
</tr>
</tbody>
</table>
These codes became the basis for my survey design and interview and focus group protocol. Below is the table that shows where the items are located in my instruments that address this first question:

Table 2

*Items per Concept and Instrument for Research Question One*

<table>
<thead>
<tr>
<th>Research Question</th>
<th>Concept</th>
<th>Survey</th>
<th>Interview</th>
<th>Focus Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is the range and variation of teacher collaboration within and across schools in a small, suburban district?</td>
<td>Structural Conditions</td>
<td>37 items</td>
<td>23 items</td>
<td>23 items</td>
</tr>
<tr>
<td></td>
<td>Interpersonal Dynamics</td>
<td>16 items</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

From these initial survey questions, I generated a collaboration index, which was a composite score from an average of the items related to structural conditions and those related to interpersonal dynamics. This process enabled me to identify the teachers classified as *high collaborative, medium collaborative* and *low collaborative* throughout the District. These teachers became the candidates for the interviews. The composite scores were further analyzed by cross-referencing them with demographic characteristics, such as years of experience or area of instruction. This process enabled me to identify the teacher groups classified as *high collaborative, medium collaborative* and *low collaborative* throughout the District. These groups of teachers then became the candidates for the focus groups. This portion of the study was largely *etic*, from the perspective of the researcher conducting the study (Marshall & Rossman, 2011).

Not knowing which teachers or groups of teachers would be identified for further study ahead of time, I created a generic interview and focus group protocol (Appendix D). I inevitably added follow-up questions and modified the main questions, given the
specific circumstances of those who participated in this stage of data collection. Rubin and Rubin (2005) affirm this approach and emphasize the following:

Depth is achieved by going after context…To get that depth, the researcher has to follow up, asking more questions about what he or she initially heard. Research design and questioning must remain flexible to accommodate new information, to adapt to the actual experiences that people have had, and to adjust to unexpected situations. (p. 35)

Indeed, these unplanned questions helped me to understand how these teachers experience the structural conditions and interpersonal dynamics in the context of their own professional practice. It was through the unique circumstances of each of the individual participants in the interviews and focus groups that additional inductive codes emerged, which will be discussed in the results and conclusion (Chapters IV & V).

The final research question was as follows: From the teachers’ perspectives, how does teacher collaboration impact them and their teaching? To analyze this question, I once again included a priori codes (Table 3) in the instruments based upon previous studies mentioned in the literature review.

Table 3

*List of A Priori Codes by Sense of Efficacy and Instructional Practice*

<table>
<thead>
<tr>
<th>SE: Sense of Efficacy</th>
<th>IP: Instructional Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>SE-EFF: Effectiveness</td>
<td>IP-PRAC: Practice Change</td>
</tr>
<tr>
<td>SE-CON: Confidence</td>
<td>IP-CON: Content Knowledge Change</td>
</tr>
<tr>
<td>SE-DIFF: Made a Difference</td>
<td>IP-PED: Pedagogical Knowledge Change</td>
</tr>
<tr>
<td>SE-ENTH: Enthusiastic</td>
<td>IP-TC: Relationship Between</td>
</tr>
<tr>
<td>SE-SAT: Satisfied</td>
<td>Collaboration and Practice</td>
</tr>
<tr>
<td>SE-TC: Relationship Between</td>
<td></td>
</tr>
<tr>
<td>Collaboration and Efficacy</td>
<td></td>
</tr>
</tbody>
</table>
These codes also become the basis for my survey design and interview and focus group protocol. Below is the table that shows where the items are located in my instruments that address this second question:

Table 4

*Items per Concept and Instrument for Research Question Two*

<table>
<thead>
<tr>
<th>Research Question</th>
<th>Concept</th>
<th>Survey</th>
<th>Interview</th>
<th>Focus Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>From the teachers’ perspectives, how does teacher collaboration impact them and their teaching?</td>
<td>Sense of Efficacy</td>
<td>10 items</td>
<td>9 items</td>
<td>9 items</td>
</tr>
<tr>
<td></td>
<td>Instructional Practice</td>
<td>6 items</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Much like the first research question, I added follow-up questions to the interviews and focus groups related to teachers’ sense of efficacy and instructional practice, based upon their particular experience. Additional inductive codes emerged once again, which will be discussed in the results and conclusion (Chapters IV & V). This portion of the study was largely *emic*, from the perspective of the participants in the study (Marshall & Rossman, 2011).

**Determining correlation coefficients.** Upon completion of the data collection process, I exported the results from Qualtrics (2013) into an Excel spreadsheet, which enabled me to manipulate the numerical data. Initially, I calculated averages by survey concept, which is discussed further in the results (Chapter IV). I also looked for relationships between survey concepts. This relationship between two concepts is also known as a correlation coefficient, which “is a numerical index that reflects the relationship between two variables. The value of this descriptive statistic ranges between -1 and +1” (Salkind, 2007, p. 74). Values approaching +1 represent a very strong
positive relationship, values approaching -1 represent a very strong negative relationship and values close to 0 represent a weak relationship or no relationship. This process enabled me to determine possible correlations between structural conditions, interpersonal dynamics, in addition to teacher sense of efficacy and instructional change for individual teachers and teacher groups in Aragon. These relationships are explained further in the results and conclusion (Chapters IV & V).

**Reading and coding for analysis.** After completing the statistical examination of the survey data, I began the analysis of a priori codes and the identification of inductive codes in a more explicit fashion, using Dedoose (SCRC, 2013). As Maxwell (2005) states, “The initial step in qualitative analysis is *reading* the interview transcripts, observational notes, or documents that are to be analyzed” (p. 96). This is precisely what I did as I began the sense-making process. Through an iterative approach, I read and reread the qualitative survey results and interview and focus group transcripts. I sorted and resorted the data, coding for themes and finding the supporting excerpts, which were then tagged accordingly. This stage of the process, also described by Maxwell (2005), requires the disaggregation of the data into “categories that facilitate comparison between things in the same category” (p. 96). From this data analysis process, I was able to determine the results and conclusions in a structured and ordered way (Chapters IV & V).

One difficulty I experienced was determining how to tag excerpts in an interview or focus group transcript when teachers discussed concepts in hypothetical terms. For example, if a teacher shared, “It is always great to work with a colleague in the department,” this may be different than another teacher who offered, “I always work with a colleague in the department.” One teacher alludes to having worked with a colleague,
whereas the other teacher directly confirms having worked with a colleague. Due to the limited resources for this study and the fact that I did not have member checks as part of the design, I was not able to establish the distinction between these theoretical and actual experiences. Therefore, I chose to tag excerpts within documents in the same way regardless of the response type. Moving forward, it may be helpful to build member checks into the design of the study itself. As Marshall and Rossman point out, “In member checking the researcher devises a way to ask the participants whether he ‘got it right.’ Most often, he gives summaries before writing up his study and asks for reactions, corrections, and further insights” (p. 221). This possibility will be discussed as part of a future design in further study within the conclusion (Chapter V).

**Memos and journaling.** As I went through the iterative process of data collection and analysis, I recorded thoughts and impressions through formal analytic memos, which were shared with my dissertation chair and committee. Marshall and Rossman (2011) urge this form of examination and explain, “Writing prompts the analyst to identify categories that subsume a number of initial codes. It helps to identify linkages among coded data” (p. 213). I also kept an informal journal since the formative stages of this dissertation. I maintained a personal dissertation blog since the summer of 2011, which helped to refine my thinking for each section of the literature review and methodology and research design (Chapters II & III). I continued using this tool throughout the remainder of the dissertation process.

**Conclusion**

This chapter began by providing the purpose for embarking upon this investigation and how the data gathered from the research questions will contribute to a
deeper understanding of teacher collaboration in Aragon. A concurrent mixed methods study was the ideal approach to conduct this research, which strategically combines quantitative and qualitative methods. All teacher participants work within the Aragon School District, a high achieving system in Westchester County, NY. Teachers were solicited to participate in a survey, from which purposive sampling was used to identify interview and focus group candidates. A protocol was constructed to further explore the characteristics and impact of teacher collaboration upon participants. My role as the Assistant Principal was carefully considered in the design of the study so as to minimally influence the results gleaned from the survey, interviews and focus groups. Ultimately, these results were analyzed from both a quantitative and qualitative perspective using averages, correlations and coding, respectively.
CHAPTER IV: Results

Introduction

As discussed in the methodology and research design (Chapter III), this study used a concurrent mixed methods approach. As Creswell (2009) clarifies, this requires the collection of multiple layers of data:

The researcher converges or merges quantitative and qualitative data in order to provide a comprehensive analysis of the research problem. In this design, the investigator collects both forms of data at the same time and then integrates the information in the interpretation of the overall results. (pp. 14-15)

Also mentioned was the fact that the research questions and instruments were deliberately sequenced, shifting from a quantitative to a qualitative lens and therefore, from my perspective as the researcher (etic) to the perspective of the teachers in the study as the participants (emic) (Marshall & Rossman, 2011). As such, this chapter is organized first by analyzing the quantitative survey data and then by analyzing the qualitative survey, interview and focus group data.

For the quantitative survey results, I present the demographics of Aragon, the range and variation of teachers in the District by survey concept, the statistical relationships by teachers and teacher groups in terms of the characteristics and impact of teacher collaboration and the identification of teacher interview and focus group candidates. For the qualitative survey, interview and focus group results, I present the a priori codes determined prior to the data collection and the inductive codes that emerged from the experiences of the participants, the distribution of qualitative results by teacher collaboration level and the perspectives of the teachers in terms of the characteristics and impact of teacher collaboration in Aragon.
Quantitative Survey Results

The first research question was as follows: What is the range and variation of teacher collaboration within and across schools in a small, suburban district? In order to investigate this first question, I looked at the results from the survey that I administered to the teachers throughout the District during a three-week period from June 16 through July 7. These data were obtained using the Results tab in the Qualtrics database (2013). The original recruitment email was sent to all 181 teachers in Aragon Elementary School, Aragon Middle School and Aragon High School. Of those teachers, 96 respondents started the survey and had usable data, which represents a 53% response rate. Of those 96 respondents, 88 teachers completed the survey in its entirety, which represents a 92% completion rate among those who responded. Only 7% of participants started the survey after the first week of its distribution, so the vast majority of respondents were able to start the survey soon after its launch, despite the poor timing at the end of the school year. Teachers took an average of 31 minutes to complete the survey, which was aligned with my introduction to the survey itself in which I stated, “This survey will take approximately 30 minutes to complete” (Appendix B).

Demographics. The following table shows the range and variation of the demographic characteristics among those teachers who started the survey:

Table 5

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Number (n = 96)</th>
<th>Percent (% = 100)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>20</td>
<td>20.8</td>
</tr>
<tr>
<td>Female</td>
<td>76</td>
<td>79.2</td>
</tr>
<tr>
<td>Race or Ethnic background</td>
<td>White/Caucasian</td>
<td>89</td>
</tr>
<tr>
<td>---------------------------</td>
<td>----------------</td>
<td>----</td>
</tr>
<tr>
<td>African American</td>
<td>1</td>
<td>1.0</td>
</tr>
<tr>
<td>Hispanic</td>
<td>5</td>
<td>5.2</td>
</tr>
<tr>
<td>Asian</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td>1.0</td>
</tr>
<tr>
<td>Highest education level completed</td>
<td>Bachelor’s degree</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Master’s degree</td>
<td>38</td>
</tr>
<tr>
<td></td>
<td>Beyond a master’s degree</td>
<td>57</td>
</tr>
<tr>
<td></td>
<td>Doctoral degree</td>
<td>1</td>
</tr>
<tr>
<td>Years teaching overall&lt;sup&gt;ab&lt;/sup&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-3</td>
<td>2</td>
<td>2.1</td>
</tr>
<tr>
<td>4-10</td>
<td>28</td>
<td>29.5</td>
</tr>
<tr>
<td>11-20</td>
<td>41</td>
<td>43.2</td>
</tr>
<tr>
<td>21-30</td>
<td>19</td>
<td>20.0</td>
</tr>
<tr>
<td>31 or more</td>
<td>5</td>
<td>5.3</td>
</tr>
<tr>
<td>Years teaching in Aragon&lt;sup&gt;ac&lt;/sup&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-3</td>
<td>5</td>
<td>5.3</td>
</tr>
<tr>
<td>4-10</td>
<td>38</td>
<td>40.4</td>
</tr>
<tr>
<td>11-20</td>
<td>36</td>
<td>38.3</td>
</tr>
<tr>
<td>21-30</td>
<td>14</td>
<td>14.9</td>
</tr>
<tr>
<td>31 or more</td>
<td>1</td>
<td>1.1</td>
</tr>
<tr>
<td>Primary building of instruction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aragon Elementary School</td>
<td>20</td>
<td>20.8</td>
</tr>
<tr>
<td>Aragon Middle School</td>
<td>46</td>
<td>47.9</td>
</tr>
<tr>
<td>Aragon High School</td>
<td>30</td>
<td>31.3</td>
</tr>
<tr>
<td>Primary area of instruction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elementary</td>
<td>11</td>
<td>11.5</td>
</tr>
<tr>
<td>English language arts</td>
<td>17</td>
<td>17.7</td>
</tr>
<tr>
<td>Mathematics</td>
<td>8</td>
<td>8.3</td>
</tr>
<tr>
<td>Science and technology</td>
<td>12</td>
<td>12.5</td>
</tr>
<tr>
<td>Social studies</td>
<td>5</td>
<td>5.2</td>
</tr>
<tr>
<td>World languages</td>
<td>9</td>
<td>9.4</td>
</tr>
<tr>
<td>Health and physical education</td>
<td>5</td>
<td>5.2</td>
</tr>
<tr>
<td>The arts</td>
<td>8</td>
<td>8.3</td>
</tr>
<tr>
<td>Special education</td>
<td>15</td>
<td>15.6</td>
</tr>
<tr>
<td>Other</td>
<td>6</td>
<td>6.3</td>
</tr>
</tbody>
</table>

<sup>a</sup>The year in which the survey was completed counted as one year.  
<sup>b</sup>Included one non-response.  
<sup>c</sup>Included two non-responses.

It is important to note whether the 96 teachers who started this survey were markedly different than the 85 teachers who did not. While I was not able to obtain the precise demographic characteristics of those teachers who did not start the survey, I compared...
the features of those who started the survey with the District’s publicly available archival data shared in the participant selection (Chapter III) from 2010-2011. It was stated, “The staff was mostly experienced, with only 3% having fewer than three years of teaching” (IRS, 2012b, p. 4). Among survey respondents, a similar 2.1% had between one and three years of teaching experience. It was also reported, “The education level among the teachers was high, with 62% having attained a master’s degree plus thirty hours or a doctorate” (IRS, 2012b, p. 4). Among survey respondents, a similar 60.4% had completed coursework beyond a master’s degree or a doctorate. These similarities suggest that the demographic characteristics of those teachers who started the survey were not markedly different than those teachers who did not participate at all.

The one characteristic that was noticeably different than the District’s profile was the fact that 47.9% of respondents were from Aragon Middle School even though they represented only 32.6% of the 181 teachers initially solicited for participation. As the Assistant Principal of this particular building, my positionality clearly influenced a higher response rate. I mitigated this effect in my results by emphasizing other demographic characteristics beyond building affiliation, which will be described in greater detail in the sections below in addition to the conclusion (Chapter V).

**Range and variation.** To further understand the range and variation of teacher collaboration within and across schools, I downloaded all the survey data from the *Initial Report* in Qualtrics into a Comma Separated Values (CSV) format, intentionally representing the answers as numerical values. For example, Always = 1, Frequently = 2, Sometimes = 3, Rarely = 4 and Never = 5. I then imported this document into an Excel file, which enabled me to easily sort and filter the results. The spreadsheet was formatted
to list each teacher participant by row, with his or her response to each survey item listed numerically by column. I also removed the survey items that contained teachers’ qualitative responses for the purpose of initially compiling the quantitative data only. I further organized the spreadsheet columns by survey concept, as described in the data collection plan (Chapter III): Structural Conditions (33 items), Interpersonal Dynamics (15 items), Sense of Efficacy (5 items) and Instructional Practice (3 items). The difference between the number of items for each concept as compared to those presented in methodology and research design (Chapter III: Tables 2 & 4) can be explained by the fact that the qualitative survey items were taken out for later analysis, as explained above. For example, there were 37 items on the survey related to structural conditions and four of those items were qualitative. Therefore, only 33 items were represented on the spreadsheet.

Once the spreadsheet was arranged in this manner, I was able to calculate an average by teacher for each survey concept related to teacher collaboration characteristics. The lower the average, the greater number of favorable structural conditions and interpersonal dynamics are present. The potential range for structural conditions was 1.00 to 3.15, with a potential average value of 2.08. The actual overall average for structural conditions in Aragon was 2.11, 1.6% above the potential average, with an actual range from 1.30 to 2.82. This signifies that the typical Aragon teacher has an average number of structural conditions favorable to teacher collaboration present in their professional practice. The potential range for interpersonal dynamics was 1.00 to 4.73, with a potential average value of 2.87. The actual overall average for interpersonal dynamics in Aragon was 2.01, 23.0% below the potential average, with an actual range
from 1.20 to 3.20. This signifies that the typical Aragon teacher has a high number of interpersonal dynamics favorable to teacher collaboration present in their professional practice.

I was also able to calculate an average by teacher for each survey concept related to the impact of teacher collaboration. The lower average represents a higher sense of efficacy and instructional practice (change) among teacher participants. The potential range for sense of efficacy was 1.00 to 5.00, with a potential average value of 3.00. The actual overall average for sense of efficacy in Aragon was 1.85, 28.8% below the potential average, with an actual range from 1.00 to 3.20. This signifies that the typical Aragon teacher has a high sense of efficacy present in their professional practice. The potential range for instructional change was 1.00 to 4.00, with a potential average value of 2.50. The actual overall average for instructional change in Aragon was 2.31, 6.3% below the potential average, with an actual range from 1.00 to 3.67. This signifies that the typical Aragon teacher has an average sense of instructional change in their professional practice.

The following table summarizes these preliminary results from the survey data:

Table 6

*Average Range and Variation of Survey Concepts*

<table>
<thead>
<tr>
<th>Survey Concept</th>
<th>Potential Range</th>
<th>Actual Range</th>
<th>Potential Average</th>
<th>Actual Average</th>
<th>Percent + or -</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structural Conditions</td>
<td>1.00 3.15</td>
<td>1.30 2.82</td>
<td>2.08</td>
<td>2.11</td>
<td>+ 1.6</td>
<td>Avg.</td>
</tr>
<tr>
<td>Interpersonal Dynamics</td>
<td>1.00 4.73</td>
<td>1.20 3.20</td>
<td>2.87</td>
<td>2.01</td>
<td>- 23.0</td>
<td>High</td>
</tr>
<tr>
<td>Sense of Efficacy</td>
<td>1.00 5.00</td>
<td>1.00 3.20</td>
<td>3.00</td>
<td>1.85</td>
<td>- 28.8</td>
<td>High</td>
</tr>
</tbody>
</table>
The typical Aragon teacher has an average amount of structural conditions present that are favorable to teacher collaboration, as compared to those conditions outlined in the literature review. The typical Aragon teacher has a high number of interpersonal dynamics favorable to teacher collaboration, as compared to those dynamics outlined in the literature review. The typical Aragon teacher has a high sense of efficacy, as compared to those features outlined in the literature review. Finally, the typical Aragon teacher has an average sense of instructional change, as compared to those features outlined in the literature review.

**Relationships by teacher.** Having developed a sense of the overall range and variation by survey concept, I analyzed the relationship between teachers’ average structural conditions and interpersonal dynamics to see if there was an association between the two. That is, does working in a school with strong structural conditions necessarily correlate with strong interpersonal dynamics favorable to teacher collaboration? Conversely, does working in a school with weak structural conditions necessarily correlate with weak interpersonal dynamics favorable to teacher collaboration? The figure below shows the line of best fit in the relationship between structural conditions and interpersonal dynamics for each of the teacher participants:
Figure 3. *Relationship Between Structural Conditions and Interpersonal Dynamics*

When calculating the coefficient represented by the line of best fit in the graph, the $R^2 = 0.178$, a slightly positive correlation. However, as the coefficient is close to $R^2 = 0$, this means that the regression line does not particularly fit the data. There was a weak relationship or no relationship between teachers’ structural conditions favorable to teacher collaboration and their interpersonal dynamics favorable to teacher collaboration.

I then began to analyze my second research question using the quantitative survey results: From the teachers’ perspectives, how does teacher collaboration impact them and their teaching? In order to compare the teacher collaboration characteristics with the impact of teacher collaboration, I calculated a composite collaboration average for each teacher, which was the average of their structural conditions value and their interpersonal dynamics value. Next, I examined the relationship between teachers’ level of collaboration and their sense of efficacy to test the theory in the literature review that there would be a positive relationship between the two. The figure below shows the line
of best fit in the relationship between teacher collaboration and sense of efficacy for each of the teacher participants:

![Graph showing the relationship between teacher collaboration and sense of efficacy.](image)

Figure 4. *Relationship Between Teacher Collaboration and Sense of Efficacy*

When calculating the coefficient represented by the line of best fit in the graph, the $R^2 = 0.134$, a slightly positive correlation. However, as the coefficient is close to $R^2 = 0$, this means that the regression line does not particularly fit the data. There was a weak relationship or no relationship between teachers’ level of collaboration and their sense of efficacy.

Once again using the composite collaboration average, I examined the relationship between teachers’ level of collaboration and their instructional change to test the theory in the literature review that there would be a positive relationship between the two. The figure below shows the line of best fit in the relationship between teacher collaboration and instructional change for each of the teacher participants:
When calculating the coefficient represented by the line of best fit in the graph, the $R^2 = 0.106$, a slightly positive correlation. However, as the coefficient is close to $R^2 = 0$, this means that the regression line does not particularly fit the data. There was a weak relationship or no relationship between teachers’ level of collaboration and their instructional change.

**Relationships by teacher groups.** Having analyzed the relationship between structural conditions and interpersonal dynamics, teacher collaboration and sense of efficacy in addition to teacher collaboration and instructional change at the individual teacher level, I grouped the same data by demographic characteristic, as presented in an earlier section in this chapter (Table 5). This enabled me to investigate potential relationships by averages among teacher groups. The threshold for a group’s inclusion in the data set was at least five participants. I first analyzed the relationship between a
teacher group’s average structural conditions and interpersonal dynamics to see if there was a correlation between the two. That is, if members of the same teacher group have strong structural conditions, does this necessarily correlate with members of the same group having strong interpersonal dynamics favorable to teacher collaboration? Conversely, if members of the same group have weak structural conditions, does this necessarily correlate with members of the same group having weak interpersonal dynamics favorable to teacher collaboration? The figure below shows the line of best fit in the relationship between a teacher group’s average structural conditions and interpersonal dynamics:

Figure 6. Relationship Between Group Structural Conditions and Interpersonal Dynamics

When calculating the coefficient represented by the line of best fit in the graph, the $R^2 = 0.403$, a positive correlation. This indicates that there was a moderate relationship
between a group’s average structural conditions and the same group’s average interpersonal dynamics. Those groups with relatively strong structural conditions also had relatively strong interpersonal dynamics and those groups with relatively weak structural conditions also had relatively weak interpersonal dynamics. I will further explore the implications of this moderate correlation in the conclusion (Chapter V).

I then continued to analyze my second research question using the quantitative survey results: From the teachers’ perspectives, how does teacher collaboration impact them and their teaching? In order to compare the teacher collaboration characteristics with the impact of teacher collaboration, I used the composite collaboration average, this time by teacher groups. I first examined the relationship between a teacher group’s average level of collaboration and their sense of efficacy to again test the theory in the literature review that there would be a positive relationship between the two. The figure below shows the line of best fit in the relationship between a teacher group’s average level of collaboration and sense of efficacy:
When calculating the coefficient represented by the line of best fit in the graph, the $R^2 = 0.314$, a positive correlation. This indicates that there was a weak relationship between a group’s average level of collaboration and the same group’s average sense of efficacy. Those groups with relatively strong levels of collaboration also had a relatively strong sense of efficacy and those groups with relatively weak levels of collaboration also had a relatively weak sense of efficacy. I will further explore the implications of this weak correlation in the conclusion (Chapter V).

Once again using the composite collaboration average for each teacher group, I examined the relationship between a teacher group’s average level of collaboration and their instructional change to again test the theory in the literature review that there would be a positive relationship between the two. The figure below shows the line of best fit in
the relationship between a teacher group’s average level of collaboration and instructional change:

![Figure 8](image_url)

Figure 8. Relationship Between Teacher Group Collaboration and Instructional Change

When calculating the coefficient represented by the line of best fit in the graph, the $R^2 = 0.698$, a positive correlation. This indicates that there was a strong relationship between a group’s average level of collaboration and the same group’s average instructional change. Those groups with relatively strong levels of collaboration also had relatively strong instructional change and those groups with relatively weak levels of collaboration also had relatively weak instructional change. I will further explore the implications of this strong correlation in the conclusion (Chapter V).
Identification of interview and focus group candidates. Having analyzed the quantitative data from the survey in terms of individual teachers, I then identified interview candidates who would represent the range and variation shown in the survey.

Using the composite collaboration average, which merged teachers’ structural conditions and interpersonal dynamics into one metric, I ranked all the teachers in the District and determined those who could be classified as high collaborative, medium collaborative and low collaborative. This resulted in an additional demographic characteristic from the results of the survey, displayed in the table below:

Table 7

Teacher Composite Collaboration Rankings

<table>
<thead>
<tr>
<th>Teacher Tier</th>
<th>Composite Average Ranges</th>
<th>Number ( (n = 93)^a )</th>
<th>Percent ( (% = 100) )</th>
<th>Collaboration Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top</td>
<td>1.49 – 1.90</td>
<td>29</td>
<td>31.2</td>
<td>High</td>
</tr>
<tr>
<td>Middle</td>
<td>1.90 – 2.32</td>
<td>48</td>
<td>51.6</td>
<td>Medium</td>
</tr>
<tr>
<td>Bottom</td>
<td>2.32 – 2.73</td>
<td>16</td>
<td>17.2</td>
<td>Low</td>
</tr>
</tbody>
</table>

\(^a\)Three of the 96 teachers did not have enough survey data to produce a composite collaboration average.

This process of ranking the teachers enabled me to determine the candidates for the follow-up interviews. The table below represents those who were chosen based upon their composite collaboration averages from the survey:

Table 8

Teacher Interview Candidates

<table>
<thead>
<tr>
<th>Teacher ID Number</th>
<th>Structural Conditions</th>
<th>Interpersonal Dynamics</th>
<th>Composite</th>
<th>Collaboration Rank</th>
<th>Collaboration Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>85</td>
<td>1.57</td>
<td>1.40</td>
<td>1.49</td>
<td>1</td>
<td>High</td>
</tr>
<tr>
<td>48</td>
<td>1.58</td>
<td>1.40</td>
<td>1.49</td>
<td>2</td>
<td>High</td>
</tr>
<tr>
<td>89</td>
<td>1.61</td>
<td>1.40</td>
<td>1.50</td>
<td>3</td>
<td>High</td>
</tr>
<tr>
<td>42</td>
<td>1.55</td>
<td>1.47</td>
<td>1.51</td>
<td>4</td>
<td>High</td>
</tr>
<tr>
<td>72</td>
<td>1.62</td>
<td>1.40</td>
<td>1.51</td>
<td>5</td>
<td>High</td>
</tr>
</tbody>
</table>
Fifteen teachers were selected for interviews and all consented to participate, which represents 15.6% of all the teachers who took the survey. Based on their composite collaboration averages, these teachers were the five most collaborative teachers among those classified as *high collaborative*, the five teachers of an average collaboration level among those classified as *medium collaborative* and the five least collaborative teachers among those classified as *low collaborative* identified in the District from the survey.

Next, having analyzed the quantitative data from the survey in terms of teacher groups, I then identified focus group candidates who would represent the range and variation shown in the survey. Using the teacher group composite collaboration average, which merged teacher group structural conditions and interpersonal dynamics into one metric, I ranked all teacher groups in the District, using a threshold of at least five teachers, and determined those groups who could be classified as *high collaborative*, *medium collaborative* and *low collaborative*. The results of this teacher group ranking are shown in the table below:

*Table 9*

*Teacher Group Composite Collaboration Rankings*

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Lower</th>
<th>Upper</th>
<th>Number</th>
<th>Percent</th>
<th>Teacher Group</th>
<th>Collaboration</th>
</tr>
</thead>
<tbody>
<tr>
<td>69</td>
<td>2.07</td>
<td>2.00</td>
<td>2.04</td>
<td>45</td>
<td>Medium</td>
<td></td>
</tr>
<tr>
<td>75</td>
<td>1.96</td>
<td>2.13</td>
<td>2.05</td>
<td>46</td>
<td>Medium</td>
<td></td>
</tr>
<tr>
<td>38</td>
<td>1.67</td>
<td>2.47</td>
<td>2.07</td>
<td>47</td>
<td>Medium</td>
<td></td>
</tr>
<tr>
<td>67</td>
<td>2.14</td>
<td>2.00</td>
<td>2.07</td>
<td>48</td>
<td>Medium</td>
<td></td>
</tr>
<tr>
<td>63</td>
<td>2.15</td>
<td>2.00</td>
<td>2.08</td>
<td>49</td>
<td>Medium</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>2.48</td>
<td>2.67</td>
<td>2.57</td>
<td>89</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>73</td>
<td>2.43</td>
<td>2.89</td>
<td>2.65</td>
<td>90</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>54</td>
<td>2.82</td>
<td>2.60</td>
<td>2.71</td>
<td>91</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>70</td>
<td>2.71</td>
<td>2.71</td>
<td>2.71</td>
<td>92</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>93</td>
<td>2.27</td>
<td>3.20</td>
<td>2.73</td>
<td>93</td>
<td>Low</td>
<td></td>
</tr>
<tr>
<td>Group Tier</td>
<td>(n = 24) (% = 100)</td>
<td>Name Rank</td>
<td>Level</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td>---------------------</td>
<td>-----------</td>
<td>-------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Middle</td>
<td>1.93 2.08 11 45.8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bottom</td>
<td>2.08 2.23 10 41.7</td>
<td></td>
<td>Low</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Teacher groups were only included if they had at least five teachers as part of that demographic characteristic.

This process of ranking the teacher groups enabled me to determine the candidates for the follow-up focus groups. The table below represents those who were chosen based upon the teacher group composite collaboration averages from the survey:

Table 10

*Teacher Focus Group Candidates*

<table>
<thead>
<tr>
<th>Teacher Group</th>
<th>Teacher ID Number</th>
<th>Teacher Group Collaboration Averages</th>
<th>Group Collaboration Rank</th>
<th>Group Collaboration Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teachers with 1-3 years in Aragon</td>
<td>1</td>
<td>1.97</td>
<td>1</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>25</td>
<td>1.60</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>33</td>
<td>1.79</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teachers with 4-10 years in Aragon</td>
<td>29</td>
<td>2.11</td>
<td>12</td>
<td>Medium</td>
</tr>
<tr>
<td></td>
<td>79</td>
<td>2.01</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>96</td>
<td>2.06</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>27</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>35</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>57</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health &amp; Physical Education Teachers</td>
<td>23</td>
<td>2.22</td>
<td>24</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>50</td>
<td>2.24</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>97</td>
<td>2.23</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*The reason the medium collaborative teacher group had nine selections is because there were 38 teachers in this group, whereas there were only five teachers in both the high and low collaborative teacher groups. Teacher was unable to attend the focus group at the last minute due to an emergency situation.*
Fifteen teachers were selected for five different focus groups composed of three teachers each and 14 consented to participate, which represents 14.6% of all the teachers who took the survey. Based on their composite collaboration averages, these teachers were three participants from the most collaborative teacher group classified as *high collaborative*, eight participants from the teacher group of an average level of collaboration classified as *medium collaborative* and three participants from the least collaborative teacher group classified as *low collaborative* identified in the District from the survey. Overall, there were 29 different teachers that consented to participate in the interviews and focus groups, which represents 30.2% of all teachers who took the survey, the exact percentage desired as articulated in the selection criteria (Chapter III).

**Etic Qualitative Survey, Interview and Focus Group Results**

The second research question was as follows: From the teachers’ perspectives, how does teacher collaboration impact them and their teaching? In order to begin to investigate this second question, I looked at the results from the interviews and focus groups that I administered to the teachers throughout the District during an approximately five-week period from October 2 through November 9. These data were obtained using the Analyze tab in the Dedoose database (SCRC, 2013). In addition to the interview and focus group transcription documents, I was also able to upload the qualitative survey responses by each of the 96 participants, which were not represented in the data previously shared. In all, I coded 121 different documents, from which 1,126 excerpts were selected. Many of these excerpts were tagged with several different codes, totaling 2,874 unique tags.
A priori and inductive codes. As discussed in the methodology and research design (Chapter III), I began to construct my instruments using a priori codes from the literature review (Chapter II), which reflect an etic understanding of teacher collaboration, from the perspective of the researcher (Marshall & Rossman, 2011). Through an iterative process of coding the interviews, focus groups and qualitative survey response documents for themes, I developed additional inductive codes, which were added to this preliminary list and reflect an emic understanding of teacher collaboration, from the perspective of the teacher participants (Marshall & Rossman, 2011). These codes were sorted and resorted multiple times, while simultaneously excerpting and tagging, until the list was finalized. Below is an abbreviated version of the final list of a priori and inductive codes that were developed from the qualitative data, the full version of which can be found in Appendix E:

Table 11

Final List of A Priori and Inductive Codes

| I. Teacher Collaboration                       |   |
| I. Teacher Collaboration                       |   |
| II. Mandated Collaboration                     |   |
| a. Positive Impact                             |   |
| b. Negative Impact                             |   |
| c. Ambivalent about Impact                     |   |
| III. Structural Conditions                     |   |
| a. Positive Structural Conditions              |   |
| i. Time                                        |   |
| ii. Proximity                                  |   |
| iii. Content Area                              |   |
| iv. Role                                       |   |
| v. Resources                                   |   |
| IV. Interpersonal Dynamics                     |   |
| a. Positive Interpersonal Dynamics             |   |
| i. External                                    |   |
| ii. Internal                                   |   |
| b. Negative Interpersonal Dynamics             |   |
| i. External                                    |   |
| ii. Internal                                   |   |
| V. Impact of Teacher Collaboration             |   |
| a. Instructional Change                        |   |
| i. Positive Impact                             |   |
| ii. Negative or No Impact                      |   |
| b. Sense of Efficacy                           |   |
| i. Positive Impact                             |   |
| ii. Negative or No Impact                      |   |
**A priori and inductive code tag frequency.** Once the final list of codes, excerpts and tags were applied to the qualitative data, I analyzed the frequency of tags within each code and theme. For example, if certain codes within a particular theme had more tags than others, it may mean that these codes were more relevant to teacher collaboration in Aragon. It may also indicate that these codes are more relevant to teacher collaboration in general. A preliminary display of the relative frequency of certain codes was generated in Dedoose (SCRC, 2013) and is represented by the code cloud below (Figure 9), which shows all codes in the study, with the size of each code dependent on the number of associated tags:

![Code Cloud](image)

Figure 9. *Code Strength by Tag Frequency*

In this particular figure, the codes *Not Cooperative* and *Higher Education* appear in the foreground. Their size is larger than the codes *Duties* and *Teacher Leader*, which in turn are larger than the codes *Consultant* and *Solidarity*. This means that each of these groups of codes had more tags than the next group, respectively. This initial display of code
frequency is limited in its benefit because the codes are not separated by research concept.

A more in-depth analysis is required.

Upon further review of the data by research concept and theme, a much clearer picture of the relative frequency of certain code tags emerges. The table below (Table 12) shows an abbreviated version of the final list of a priori and inductive codes that were developed from the qualitative data, with the number of tags for each code and their relative percentage. It is important to note that sub-code data are included in parent code data. For example, the number of tags represented in the code Time includes the sum of its sub-codes not included in the abbreviated code list, but which can be found in the full list of the a priori and inductive codes in Appendix E:

Table 12

<table>
<thead>
<tr>
<th>A Priori and Inductive Codes</th>
<th>Excerpt Tags</th>
<th>Number</th>
<th>Percent (% = 100)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mandated Collaboration</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive Impact</td>
<td></td>
<td>25</td>
<td>41.0</td>
</tr>
<tr>
<td>Negative Impact</td>
<td></td>
<td>21</td>
<td>34.4</td>
</tr>
<tr>
<td>Ambivalent about Impact</td>
<td></td>
<td>15</td>
<td>24.6</td>
</tr>
<tr>
<td><strong>Structural Conditions</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive Structural Conditions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td></td>
<td>188</td>
<td>18.4</td>
</tr>
<tr>
<td>Proximity</td>
<td></td>
<td>10</td>
<td>1.0</td>
</tr>
<tr>
<td>Content Area</td>
<td></td>
<td>13</td>
<td>1.3</td>
</tr>
<tr>
<td>Role</td>
<td></td>
<td>383</td>
<td>37.5</td>
</tr>
<tr>
<td>Outcomes</td>
<td></td>
<td>101</td>
<td>9.9</td>
</tr>
<tr>
<td>Resources</td>
<td></td>
<td>325</td>
<td>31.9</td>
</tr>
<tr>
<td>Negative Structural Conditions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td></td>
<td>132</td>
<td>55.9</td>
</tr>
<tr>
<td>Proximity</td>
<td></td>
<td>17</td>
<td>7.2</td>
</tr>
<tr>
<td>Content Area</td>
<td></td>
<td>6</td>
<td>2.5</td>
</tr>
<tr>
<td>Role</td>
<td></td>
<td>52</td>
<td>22.0</td>
</tr>
<tr>
<td>Resources</td>
<td></td>
<td>29</td>
<td>12.3</td>
</tr>
</tbody>
</table>

**Interpersonal Dynamics**
<table>
<thead>
<tr>
<th>Positive Interpersonal Dynamics</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>External</td>
<td>608</td>
<td>72.4</td>
</tr>
<tr>
<td>Internal</td>
<td>232</td>
<td>27.6</td>
</tr>
<tr>
<td>Negative Interpersonal Dynamics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>External</td>
<td>131</td>
<td>54.6</td>
</tr>
<tr>
<td>Internal</td>
<td>109</td>
<td>45.4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Impact of Teacher Collaboration</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sense of Efficacy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive Impact</td>
<td>147</td>
<td>79.0</td>
</tr>
<tr>
<td>Negative or No Impact</td>
<td>39</td>
<td>21.0</td>
</tr>
<tr>
<td>Instructional Change</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive Impact</td>
<td>243</td>
<td>88.7</td>
</tr>
<tr>
<td>Negative or No Impact</td>
<td>31</td>
<td>11.3</td>
</tr>
</tbody>
</table>

When looking at mandated teacher collaboration, those who felt it would have a positive impact were most common. In terms of positive structural conditions, the highest numbers of tags were in the category of *Role*, within which the specific role of a colleague from the same or a similar content area was most frequently mentioned. With respect to negative structural conditions, the highest numbers of tags were in the category of *Time*, which indicates that participants felt time was a barrier to collaborating. When looking at positive interpersonal dynamics, the highest numbers of tags were in the category of *External*, within which the proactive trait of being communicative was most frequently mentioned. In terms of negative interpersonal dynamics, the highest numbers of tags were also in the category of *External*, within which a lack of reciprocity was most often mentioned.

With respect to the impact of teacher collaboration on sense of efficacy, the code *Positive Impact* was most frequently referenced, within which the idea of working with others to build a stronger school culture was most frequently shared. Finally, when looking at the impact of teacher collaboration on instructional change, the code *Positive Impact* was again most often cited, within which the idea of horizontal alignment
between colleagues on the same grade level or same course was most often referenced. These results will be explored in greater depth in the sections that follow.

**Distribution of qualitative relationships by teacher collaboration level.** Once the codes and corresponding excerpts and tags were organized, I began to look at the distribution of tags by collaboration level determined from the composite averages in the survey. Each participant was classified as *high collaborative, medium collaborative* or *low collaborative* within the database. Of course, there was an overrepresentation of teachers classified as *medium collaborative*, as compared to those classified as *high collaborative* or *low collaborative*. The analytics in Dedoose account for this disproportionate representation of certain groups by *normalizing* the data. As it explains on their website, “Normalization adjusts…based on the relative number of cases in each sub-group. Simply, a graphical representation for code application frequency by sub-group is relatively meaningless if there are unequal numbers of individual cases across each sub-group” (SCRC, 2013). This *normalization* enabled me to corroborate the quantitative and qualitative data.

I determined if the teachers classified as *high collaborative* in the survey also had the highest ratio of the positive characteristics of teacher collaboration and the lowest ratio of the negative characteristics of teacher collaboration. In addition, I determined if the teachers classified as *high collaborative* in the survey also had the highest ratio of the positive impact of teacher collaboration and the lowest ratio of the negative impact of teacher collaboration. Similarly, I determined if the teachers identified as *medium collaborative* or *low collaborative* in the survey also had the medium or lowest ratio of the positive characteristics and the impact of teacher collaboration and whether they had
the medium or highest ratio of the negative characteristics and the impact of teacher collaboration. The following table (Table 13) represents the normalized distribution of code tags by high, medium and low teacher collaboration level percentage. Once again, sub-code data are included in parent code data. For example, the percentages represented in the code *Positive Structural Conditions* include the sum of its six sub-codes in addition to other sub-sub codes not included in the abbreviated code list:

Table 13

*Representation of Code Tags by Collaboration Level Percentage*

<table>
<thead>
<tr>
<th>A Priori and Inductive Codes</th>
<th>Teacher Collaboration Level Percentage (%)</th>
<th>High</th>
<th>Medium</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mandated Collaboration</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive Impact</td>
<td></td>
<td>39.8</td>
<td>24.1</td>
<td>36.1</td>
</tr>
<tr>
<td>Negative Impact</td>
<td></td>
<td>32.1</td>
<td>38.8</td>
<td>29.1</td>
</tr>
<tr>
<td>Ambivalent about Impact</td>
<td></td>
<td>36.9</td>
<td>18.6</td>
<td>44.6</td>
</tr>
<tr>
<td><strong>Structural Conditions</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive Structural Conditions</td>
<td></td>
<td>37.7</td>
<td>30.9</td>
<td>31.4</td>
</tr>
<tr>
<td>Time</td>
<td></td>
<td>40.9</td>
<td>30.2</td>
<td>28.8</td>
</tr>
<tr>
<td>Proximity</td>
<td></td>
<td>22.6</td>
<td>9.1</td>
<td>68.3</td>
</tr>
<tr>
<td>Content Area</td>
<td></td>
<td>84.7</td>
<td>15.3</td>
<td>0.0</td>
</tr>
<tr>
<td>Role</td>
<td></td>
<td>40.0</td>
<td>28.3</td>
<td>31.8</td>
</tr>
<tr>
<td>Outcomes</td>
<td></td>
<td>38.9</td>
<td>34.9</td>
<td>26.2</td>
</tr>
<tr>
<td>Resources</td>
<td></td>
<td>31.5</td>
<td>34.9</td>
<td>33.7</td>
</tr>
<tr>
<td>Negative Structural Conditions</td>
<td></td>
<td>19.5</td>
<td>27.0</td>
<td>53.5</td>
</tr>
<tr>
<td>Time</td>
<td></td>
<td>16.5</td>
<td>28.7</td>
<td>54.8</td>
</tr>
<tr>
<td>Proximity</td>
<td></td>
<td>24.2</td>
<td>14.6</td>
<td>61.3</td>
</tr>
<tr>
<td>Content Area</td>
<td></td>
<td>0.0</td>
<td>14.3</td>
<td>85.7</td>
</tr>
<tr>
<td>Role</td>
<td></td>
<td>30.6</td>
<td>27.8</td>
<td>41.6</td>
</tr>
<tr>
<td>Resources</td>
<td></td>
<td>16.5</td>
<td>29.8</td>
<td>53.7</td>
</tr>
<tr>
<td><strong>Interpersonal Dynamics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Positive Interpersonal Dynamics</td>
<td></td>
<td>44.4</td>
<td>26.6</td>
<td>29.1</td>
</tr>
<tr>
<td>External</td>
<td></td>
<td>42.8</td>
<td>28.8</td>
<td>28.5</td>
</tr>
<tr>
<td>Internal</td>
<td></td>
<td>48.4</td>
<td>21.1</td>
<td>30.5</td>
</tr>
<tr>
<td>Negative Interpersonal Dynamics</td>
<td></td>
<td>22.4</td>
<td>26.9</td>
<td>50.7</td>
</tr>
<tr>
<td>External</td>
<td></td>
<td>21.3</td>
<td>35.8</td>
<td>42.9</td>
</tr>
<tr>
<td>Internal</td>
<td></td>
<td>23.6</td>
<td>18.0</td>
<td>58.4</td>
</tr>
<tr>
<td><strong>Impact of Teacher Collaboration</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sense of Efficacy</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

87
Several of these results are important to highlight because they substantiate relationships identified from the survey. This is the essence of triangulation in this concurrent mixed methods study (Creswell, 2009; Marshall & Rossman, 2011; Maxwell, 2005). Teachers classified as *high collaborative* had the strongest feelings that mandatory collaboration would have a positive impact. Teachers classified as *medium collaborative* had the strongest feelings that mandatory collaboration would have a negative impact. Teachers classified as *low collaborative* had the strongest feelings of ambivalence about mandatory collaboration.

In terms of the characteristics that are favorable to teacher collaboration, teachers classified as *high collaborative* had the strongest representation of positive structural conditions in their professional practice, whereas teachers classified as *low collaborative* had the strongest representation of negative structural conditions in their professional practice by a wide margin. Teachers classified as *high collaborative* had the strongest representation of positive interpersonal dynamics in their professional practice by a wide margin, whereas teachers classified as *low collaborative* had the strongest representation of negative interpersonal dynamics in their professional practice by a wide margin.

With respect to the impact of teacher collaboration, teachers classified as *high collaborative* had the strongest representation of a positive impact of teacher collaboration on their sense of efficacy by a wide margin, whereas teachers classified as *low collaborative* had the strongest representation of a negative or no impact of teacher collaboration on their sense of efficacy.
collaboration on their sense of efficacy. Teachers classified as high collaborative had the strongest representation of a positive impact of teacher collaboration on changes in their instructional practice, whereas teachers classified as low collaborative had the strongest representation of a negative or no impact of teacher collaboration on changes in their instructional practice. These results will be explored in greater depth in the conclusion (Chapter V).

**Emic Qualitative Survey, Interview and Focus Group Results**

The second research question was as follows: From the teachers’ perspectives, how does teacher collaboration impact them and their teaching? What follows are the views and opinions of those teachers in the Aragon School District who had qualitative survey responses in addition to those who participated in the interviews and focus groups. These particular viewpoints furthered my understanding of teacher collaboration from an *emic* perspective, which is from the vantage point of the study participants. This aspect of the study was critical because it provided nuanced data that was distinct from the quantitative survey results and qualitative survey, interview and focus group results presented thus far from an *etic* perspective. The main difference, as Marshall and Rossman (2011) clarify, is that “The participant’s perspective on the phenomenon of interest should unfold as the participant views it, not as the researcher views it” (p. 144). This was precisely my intent as I tried to make meaning of how these teachers experience collaboration and its impact in Aragon.

**Rationale for organization and excerpt selection.** The sections below are organized by the full list of final a priori codes selected prior to the study and inductive codes that emerged from this study (Appendix E). I chose to arrange this section by
codes rather than by participant because the sequence of the research questions requires an understanding of the themes and concepts related to the characteristics and impact of teacher collaboration. Within each section are carefully selected excerpts of the qualitative survey, interview and focus group results. I introduce each excerpt with the associated demographic characteristics of the participant in an effort to provide additional context for the quoted text. If any excerpt includes a person’s name, it is abbreviated with initials to protect the confidentiality of the participant. While all 1,126 excerpts that were tagged with different codes cannot be shared, I have chosen a representative sample based on their relative percentage, as displayed in an earlier table in this chapter (Table 12). The threshold for inclusion of a code was if it was tagged with at least 5% of the total number of tags for a particular theme or concept. As such, every 5% tagged within structural conditions, interpersonal dynamics, sense of efficacy and instructional change corresponds with a single excerpt for a code. For example, the code Proximity was only tagged within Positive Structural Conditions 1.0% of the time. Therefore, I did not include any excerpts from this code. However, the code Outcomes, also within Positive Structural Conditions, was tagged 9.9% of the time, so I included two excerpts from this code.

Teacher collaboration defined. The Interstate Teacher Assessment and Support Consortium define teacher collaboration as “a style of interaction between individuals engaged in shared decision making as they work towards a common goal” (CCSSO, 2011b, p. 20). When I spoke with study participants, they also understood the value in working with others. A female, middle school math teacher with a master’s degree and 1 to 3 years of experience in Aragon and classified as high collaborative offers, “The
combination of our ideas was always bigger than our own individual ideas” (Teacher 85, personal communication, October 4, 2012). She sees the importance in having added perspectives from colleagues. Another female, middle school English teacher with education beyond a master’s degree and 4 to 10 years of experience in Aragon and classified as medium collaborative believes, “Collaboration in and of itself is a great thing because it leads to a sense of teamwork and belonging and I think there’s an emotional aspect to work that’s very important” (Teacher 67, personal communication, October 22, 2012). Much like teacher 85, this teacher also appreciates working with her peers because of the solidarity that results.

Teacher collaboration with colleagues is also seen as critical because of its benefit to children. Saunders et al. (2009) mention the importance of “deprivatizing teaching through school-based collaboration and reflective dialogue to improve…student learning” (p. 1006). This is also the view of a female, elementary school third grade teacher with a master’s degree and 11 to 20 years of experience in Aragon and classified as low collaborative who recognizes, “It enriches what you do and that’s for the kids. So whatever you can get from other people that will help the kids is what you should want to do” (Teacher 24, personal communication, October 5, 2012). For some teachers, this goal of helping students should be the ultimate purpose of teacher collaboration.

Others suggest collaboration is important not just for working with colleagues or for the benefit of students, but that it is the very essence of the job and is essential to being effective. In The Framework for Teaching, Danielson (2011) argues that schools can only reach their full capacity “when teachers regard themselves as members of a professional community” (p. 48). She believes teachers “must work with their colleagues
to share strategies, plan joint efforts and plan for the success of individual students”

(p.48). Some teachers in this study hold a similar opinion. A female, middle school math
teacher with education beyond a master’s degree and 4 to 10 years of experience in
Aragon and classified as medium collaborative considers the following:

I think teaching, in and of itself, is a collaborative profession. You cannot be a
masterful teacher without relying on others; that is [the] relationship with parents,
relationship with administrators, relationship with guidance, with other teachers
either within your department or outside your department, just to collaborate
about learning. (Teacher 96, personal communication, November 9, 2012)

She sees teacher collaboration as inextricably linked to working with others. A
comparable view is held by a male, middle school world language teacher with a master’s
degree and 1 to 3 years of experience in Aragon and classified as high collaborative who
expresses this sentiment:

They [teachers] see intrinsically valued that it is worth someone’s time and not a
waste of time, even though it’s not written necessarily in your job description that
you have to work together—it’s assumed…We’re here to do a job and provide a
service, and your job and your effectiveness is increased when you actually help
and collaborate with each other. (Teacher 89, personal communication, October 5,
2012)

This teacher feels that teacher collaboration is so important and inherent to being a
quality teacher that it should be a default practice within the profession.

Some teachers have even stronger views about the importance of collaboration
and the potential consequences of not collaborating with colleagues. A female, middle
school special education teacher with education beyond a master’s degree and 4 to 10
years of experience in Aragon and classified as high collaborative insists, “I think it’s
absolutely necessary. Personally, I couldn’t accomplish what I do in the classroom as a
teacher…without collaborating with other members of the department and the grade”
(Teacher 42, personal communication, October 3, 2012). For her, teacher collaboration is an indispensible part of doing her job. Another male, high school science teacher with a doctoral degree and 11 to 20 years of experience in Aragon and classified as medium collaborative asserts, “I think you have to collaborate to survive as a teacher. If you don’t collaborate, you’re just going to be burnt up alive. So it makes sense, if you’re a good teacher, to collaborate” (Teacher 75, personal communication, October 26, 2012).

From this teacher’s perspective, the stakes of not collaborating could have dire results.

**Mandated collaboration.** Having discussed the ways in which teacher collaboration was defined and viewed as important by study participants, the notion of whether or not it should be mandated is controversial. With the implementation of the New York State Teaching Standards and *The Framework for Teaching* in Aragon as part of a teacher’s evaluation, collaboration is now mandated across New York (Danielson, 2011; NYSED Workgroup, 2011a). The standards (NYSED Workgroup, 2011a) state, “Teachers engage and collaborate with colleagues and the community to develop and sustain a common culture that supports high expectations for student learning” (p. 12). However, the views of teachers were varied in this area, with some having a positive view of compulsory collaboration, some having a negative view and others showing real ambivalence about whether teachers should be forced to collaborate with one another.

**Positive impact.** While mandating collaboration might not completely change a teacher’s practice, some believe it would have an important role. Based on the qualitative data, this view is most often held among teachers who are classified as high collaborative, female, from the middle school, with education beyond a master’s degree and 4 to 10 years of experience in Aragon. One female, middle school health teacher with education
beyond a master’s degree and 4 to 10 years of experience in Aragon and classified as medium collaborative estimates, “It’s not going to make somebody that didn’t [collaborate] now become an amazing collaborator, but it might, like we try with students, just move them a little bit, a little growth, a little change, which is better than nothing” (Teacher 50, personal communication, November 8, 2012). For this teacher, mandated collaboration may produce incremental change. Similarly, a female, middle school special education teacher with education beyond a master’s degree and 4 to 10 years of experience in Aragon and classified as high collaborative remarks, “A lot of people, I think, prefer to work on their own and not collaborate and absolutely it would change what they do in some ways because they’d be aware that they need to fulfill this criteria” (Teacher 42, personal communication, October 3, 2012). This teacher believes that by including it as part of an evaluation, this will create an awareness of its importance, thus adding to the likelihood that it will happen. For these teachers, the possibility of some change through teacher collaboration is better than none at all.

Others view the potential for mandatory collaboration to have a more positive place in teachers’ daily practice. A female, middle school special education teacher with education beyond a master’s degree and 11 to 20 years of experience in Aragon and classified as high collaborative maintains the following:

Having it as part of a rubric would have an impact on the person who doesn’t make the time to collaborate and having them be more self-aware that I really need to make an effort to collaborate with my colleagues and spend even 10 minutes a day sitting down with them. (Teacher 72, personal communication, October 4, 2012)

She views that mandating teacher collaboration has the potential to change a teacher’s daily practice. Another male, middle school world language teacher with a master’s
degree and 1 to 3 years of experience in Aragon and classified as high collaborative is insistent:

You have to do it. You cannot be an island to yourself. We are teachers. We don’t just teach our classes. We teach within the school community. So if you look at what would happen if you did not require it, if you did not have a manifestation of best practices, you have to collaborate. If people did not get along with each other and never wanted to see anyone else, that would be a serious problem. So that’s why it’s in there. (Teacher 89, personal communication, October 5, 2012)

This teacher brings forth the idea that not mandating collaboration might have worse outcomes than if it is made a requirement because of how isolating it can be.

Interestingly, Hansen et al. (2010) believe this idea of isolation is a pervasive situation in which, “our current system of education tends to separate teachers, which makes instruction largely a private act” (p. 3). Still, the teachers in this section have experienced the benefit of collaboration and believe it ought to be mandated.

**Negative impact.** Some of the teachers in this study are opposed to mandatory collaboration. Based on the qualitative data, this view is most often held among teachers who are classified as medium collaborative, female, from the high school, with education beyond a master’s degree and 1 to 3 years of experience in Aragon. Smith et al. (2009) in their study of collaborative learning communities (CLCs) find, “Participants were convinced that the learning community approach works best when teachers join willingly” (p. 24). Several teachers in this study shared this idea of voluntary collaboration. A female, elementary school second grade teacher with education beyond a master’s degree and 11 to 20 years of experience in Aragon and classified as medium collaborative reasons:
I don’t know about evaluated and I don’t know about mandatory. Those are strong words. Any time you do that, right away from the get-go you get people to be defensive. But it should definitely be encouraged and valued as opposed to evaluated. (Teacher 38, personal communication, October 26, 2012)

For this teacher, mandatory collaboration has a harsh connotation, so she feels it should not be formally assessed. Another female, middle school special education teacher with education beyond a master’s degree and 1 to 3 years of experience in Aragon and classified as high collaborative contends that it is not particularly visible:

Collaboration is very important, but to evaluate teachers on it is a little sticky because it’s not something that’s necessarily observable during a lesson. So a teacher can say they’re taking appropriate steps to be collaborative, but are they necessarily doing it? Is it producing good results in the classroom? It’s a little hard to tell. (Teacher 33, personal communication, November 8, 2012)

She argues that it would be very difficult from an evaluative standpoint to know whether or not a teacher is actually collaborating, particularly since it is not evident during a lesson. Lastly, a female, middle school math teacher with education beyond a master’s degree and 4 to 10 years of experience in Aragon and classified as medium collaborative only believes collaboration should be measured by proxy:

Collaboration is important to be successful in the classroom. So the results of collaboration should be seen through evidence as a successful teacher. So I don’t think it should be counted as an individual item on a rubric because of the very fact that it’s hard to determine, but I think it’s implied that you can assume that it exists if you see all other evidence of success among the rest of the rubric. (Teacher 96, personal communication, November 9, 2012)

Similar to the other two excerpts above, she feels teacher collaboration is important, but would be a challenge to measure directly. These teachers were among many who caution that teacher collaboration may be difficult to quantify and therefore should not be mandated through evaluation.
Ambivalent about the impact. Other teachers have decidedly mixed views about the possibility of mandating collaboration. Based on the qualitative data, this view is most often held among teachers classified as low collaborative, male, from the middle school and 1 to 3 years of experience in Aragon. One female, middle school physical education teacher with education beyond a master’s degree and 4 to 10 years of experience in Aragon and classified as high collaborative acknowledges that her positive experience with teacher collaboration may not be the same as other teachers’ experience:

I personally think it’s important and I think it’s important enough to be evaluated on it, but I’m also part of a department that gets along really well. So it’s interesting to see if you to ask someone maybe that wasn’t in a department that collaborated so easily together if they would want to be evaluated on that.

(Teacher 97, personal communication, November 8, 2012)

While she feels teacher collaboration is critical, she knows that her colleagues in other departments may not have as great of a relationship as she does. A female, middle school math teacher with a master’s degree and 4 to 10 years of experience in Aragon and classified as medium collaborative contemplates both sides of the issue:

I think it should because I think it’s that important and I think it shouldn’t because you don’t want it to seem forced…But I’d hate for it to be forced on people to just say that they’re collaborating because they know they’re getting evaluated on it. But at the same time, I think it’s a huge piece of teaching and I think if you don’t collaborate with other teachers well, you’re not going to succeed all that much.

(Teacher 63, personal communication, October 22, 2012)

This teacher is conflicted because she does not want collaboration to be done just for the sake of collaborating. On the other hand, she knows it is essential to teaching. A female, high school physical education teacher with a master’s degree and 4 to 10 years of experience in Aragon and classified as low collaborative considers possible teacher responses to mandatory collaboration:
They might learn a little bit from it if they’re forced to do it. It might be that door opener to be like, ‘Wow, this is great. We could do this a little bit more.’…Or it could be the other…‘I don’t want to do this. I knew this was stupid.’ (Teacher 73, personal communication, October 12, 2012)

She is concerned about the potential reaction a teacher might have to being told they must do something. Of course, despite these well-reasoned viewpoints about the possible impact of mandatory collaboration, New York State has already made the decision to include teacher collaboration in the New York State Standards and The Framework for Teaching (Danielson, 2011; NYSED, 2011a).

**Structural conditions.** As part of the characteristics of teacher collaboration, structural conditions were outlined in the literature review (Chapter II). These characteristics were part of the conceptual framework and map for this study (Figure 1) and explicitly included in the teacher survey (Appendix B) in addition to the interview and focus group protocol (Appendix D). The Structural Conditions Map below (Figure 10) is a visual representation of the way in which I organized the coding for structural conditions in this study. Positive structural conditions are those structures that help to create a school environment favorable to teacher collaboration in Aragon. They include time, both informal and formal. They also incorporate a person’s role, such as that of a co-teacher, new teacher or a colleague. Outcomes are another positive condition, which include a shared goal-setting process. Resources for collaboration comprise both the curriculum and technology. There are also negative structural conditions, which are those structures that inhibit teacher collaboration in Aragon. Among these limitations are time, such as scheduling constraints, teacher duties, department meetings, common planning time and the grade level team. Proximity was another negative structure, such
as having an assignment in multiple buildings or not being located near a colleague.

Technology, curriculum and student data were also viewed as resources that negatively impacted collaboration in some cases. Lastly, the role of the colleague was at times viewed as an adverse condition for collaboration. Some of the codes listed within this structural conditions section were a priori whereas others were inductive, based upon the emerging perspectives of those participants in the study.

Figure 10. Structural Conditions Map

**Positive structural conditions.** These are structures throughout the schools that help to create conditions that are favorable to teacher collaboration. Based on the
qualitative data, these attributes are most evident among teachers who are classified as *high collaborative*, male, from the middle school, with a master’s degree and 1 to 3 years of experience in Aragon.

**Time.** One salient feature that can have a positive impact on structural conditions is time, both informal and formal (CCSSO, 2011a; Y. Goddard et al., 2007; Saunders et al., 2009; Strahan, 2003). Informal time is any opportunity for collaboration to occur that does not have a designated or pre-determined time of day, week or month. Formal time, on the other hand, is any opportunity for collaboration to occur that has a designated time of day, week or month and has an organizational framework, such as a meeting.

Informal collaboration time often takes place in spare moments throughout the school day. Strahan (2003) notes, “participants stressed the importance of the time they spent conversing…and informal get-togethers” (p. 143). Teachers in this study hold a similar view. A female, middle school math teacher with a master’s degree and 4 to 10 years of experience in Aragon and classified as *medium collaborative* explains her approach to these unplanned opportunities:

> When I see a science teacher…at the lunch period, I will often talk to her and explain how the curriculum has changed in math, when we’re doing scientific notation because that’s something they’ve always relied on. I’ll try to relate things to social studies when possible, so when I have a question about social studies, I’ll often track down Mr. [A] in the hallway. But again, they’re informal…like ‘meet you in the hallway; ask you a quick question.’ (Teacher 63, personal communication, October 22, 2012)

This teacher uses an opportunity to collaborate during her lunch or while walking down the hallway. Despite feeling as though she has so much to accomplish that prevents formal collaboration, has made time for brief conversations that focus on planning her math curriculum.
Formal collaboration time takes many different forms and can be as structured as an entire day devoted to staff development or a single, scheduled interaction between two colleagues. Among the most visible versions of this latter type of formal collaboration in this study is common planning time. A female, elementary school third grade teacher with a master’s degree and 11 to 20 years of experience in Aragon and classified as low collaborative illustrates her experience planning with a coworker:

I work very closely with one of the literacy teachers here…She and I have shared four or five kids every year for probably the past six or seven years…So her and I, we meet once a week. We talk about the kids. We might plan something, plan a lesson or talk a little bit more about a skill that we want to work on with them. We try to make sure that because she’s doing a guided reading group with them that I am as well. So we try to make sure we’re doing, as close as possible, the same kind of thing at the same time so it’s like a double dose for them and it makes a world of difference. (Teacher 24, personal communication, October 5, 2012)

She and her colleague have set aside a specific time each week to discuss the students they both teach, to ensure the students receive coherent instruction. The benefits of common planning are clearly visible to this teacher and help her to stay aligned with her colleague.

Another form of formal collaboration, typically at the secondary level, is a scheduled department meeting within a particular content area, such as English or social studies. As discussed in the context and setting (Chapter III), Aragon has a structure in which each building has one hour of professional development each week devoted to working with colleagues in the same department. A female, middle school special education teacher with education beyond a master’s degree and 1 to 3 years of experience in Aragon and classified as high collaborative highlights the benefit of this formal time and explains, “We have department meetings every week where you sit among members
of your own department and just discuss the needs of the department or strengths and weakness and things that have been going on…management strategies as well” (Teacher 33, personal communication, November 8, 2012). She appreciates the opportunity to meet weekly as a department. For this particular teacher, the department time is needed because it allows for discussions not just of content, but also around pedagogy.

A final structure that can have a positive impact on teacher collaboration is the grade level team. Y. Goddard et al. (2007) mention this structure whereby teachers “follow a team model in which they collaborate to improve instruction” (p. 880). This is the benefit pointed out by a male, high school science teacher with a doctoral degree and 11 to 20 years of experience in Aragon and classified as medium collaborative. He discusses the advantage of the grade level meeting format:

Sometimes someone might ask a question regarding a student, and ask the other teachers down the line…if there are common things that we see in our classroom or if a teacher had a strategy that worked with a particular kid that we could utilize that’s important. (Teacher 75, personal communication, October 26, 2012)

The opportunity to find out what another colleague is doing to support the same student is a critical aspect of the team meeting. The possibility of learning about these approaches is a significant reason this formal time is valuable.

Role. Another element that can be a positive structural condition in a school is human capital and all of its various iterations (Berk & Hiebert, 2009; NYSED Workgroup, 2011a; Rust, 2009). For example, some teachers are considered new teachers, while other teachers are viewed as veteran teachers. Still others may be defined as colleagues or mentors. Each of these roles is a human structure that exists within every school or school system.
A new teacher is the first role one assumes when starting to teach in a school or a district. A male, middle school world language teacher with a master’s degree and 1 to 3 years of experience in Aragon and classified as high collaborative analyzes the value of learning from veteran coworkers as a new teacher:

I think it would be foolish as an untenured teacher to not rely on your fellow colleagues and collaborate as much as possible because you can basically not get enough help from your more experienced colleagues…They do, in our district, and especially in our department, they look out for you…So if you are trying to fit in and become an accepted part of the community by getting tenure, the more you collaborate, the more easy it can be, and if there are any speed bumps, the more quickly and easily you can recover from any mistake you might make. We’re here to help each other. (Teacher 89, personal communication, October 5, 2012)

From this teacher’s perspective, while being a new teacher is not without its challenges, it can be much smoother through a process of working with colleagues who know how to adjust to a new school and district setting. Berk and Hiebert (2009) articulate a similar view in which they explain, “By collaborating with colleagues who are more experienced at representing what is learned in forms useful for others, we believe teacher educators can acquire the skills needed to participate in this knowledge-building process” (p. 354). Thus, the presence of veteran teachers in a building is a structure that can be supportive for new teachers.

The role of coworker or colleague is among the most important positions and structures in a school favorable to teacher collaboration. As Rust (2009) describes, “they [adults] need to be able to practice new skills and receive feedback from respected others” (p. 1889). The teachers in this study share this perspective. A male, middle school world language teacher with a master’s degree and 1 to 3 years of experience in Aragon and classified as high collaborative articulates the need for a peer:
It’s really the most important thing I think in collaboration is having the opportunity to consult with other professionals so that you can have a different perspective on what you’re doing and how it affects your students and get other ideas and get other ways of thinking about things. (Teacher 89, personal communication, October 5, 2012)

He views the role of the colleague as crucial in having alternate strategies in the classroom. This philosophy is shared in the example put forward by a female, elementary school third grade teacher with a master’s degree and 11 to 20 years of experience in Aragon and classified as low collaborative:

I have a colleague…who was talking about this project she is going to have her kids doing. I was like, ‘Oh my God, that sounds like so much fun.’ She gave me her stuff and I put it together and now my kids are doing it. It’s great. It makes you a better teacher, getting other people’s ideas. (Teacher 24, personal communication, October 5, 2012)

She sees this exchange of ideas as an essential component of becoming a more effective instructor. As these teachers affirm, the opportunity to work with a colleague can be the basis for a different way of doing things in the classroom.

One specific type of colleague, the one most frequently mentioned in this study, is someone who teaches the same or a similar content area. A male, middle school world language teacher with a master’s degree and 1 to 3 years of experience in Aragon and classified as high collaborative explores this positive relationship:

With people who I teach the same classes, the same subjects, collaboration can stem from…teaching strategies on how I can make and design an effective lesson and things that I might not have thought of or I’m struggling to get my students to learn. So it can be more pedagogical and figuring out what could work. (Teacher 89, personal communication, October 5, 2012)

He values the opportunity to work with another colleague who is teaching the same material who could share his or her techniques with him. Another male, middle school music teacher with a master’s degree and 4 to 10 years of experience in Aragon and
classified as *low collaborative* discusses his initiative to speak with colleagues of similar subject areas:

> I do try to get some idea of what my co-music teachers are working on. For instance, in the middle school, I want to have an idea of what’s happening in band and chorus, and when it’s possible, I will try to do some similar things so there is some kind of cohesive musical viewpoint going on in the same years, straddling the different particulars in music education. (Teacher 54, personal communication, October 11, 2012)

For this teacher, his purpose in collaborating with his colleagues is to provide a comparable philosophy or approach to his peers. Indeed, the opportunity to collaborate with coworkers of a similar content area can help to bring coherence to instruction.

Also referenced by some teachers are the interdisciplinary possibilities of working with a colleague from a different content area. The same male, middle school music teacher with a master’s degree and 4 to 10 years of experience in Aragon and classified as *low collaborative* recalls one particular interaction:

> In General Music…I’m starting with the Baroque music…one thing I did was I went to an all right teacher at the high school and I looked at her art history books and I pulled some paintings of architecture…I was trying to make a connection between visual aspects of Europe and the music that was happening at the same time to try to connect the two. So I certainly collaborated with that art teacher and she was very helpful. (Teacher 54, personal communication, October 11, 2012)

This teacher takes the initiative to find a colleague of a different subject that has a bearing on what he is teaching his students in order to provide greater context for his lessons. Although not as common as teachers working with colleagues of the same or a similar content area, finding a coworker from a different subject lends itself to an integrated curriculum.
The last type of colleague that is alluded to by the teachers in this study is one who teaches the same students. A female, middle school physical education teacher with education beyond a master’s degree and 4 to 10 years of experience in Aragon and classified as *high collaborative* reveals her rationale for discussing the same students:

I think it’s really important…to discuss the kids that you’re working with because it’s hard enough…every time we get a new set of kids to not only figure them out individually but also figure out what works as an entire class. So it’s really great to collaborate with other teachers just to find out—kind of like to get a head start, which could greatly impact your class in a positive way. And also it’s good to know—I hate to say it—kids to look out for. If you already know there’s a couple of bad apples in your class, you can strategize…you just know ahead of time and you can come up with ideas and things to do to make your class run smoothly.

(Teacher 97, personal communication, November 8, 2012)

She sees the importance of being proactive to learn from other teachers about students that she will soon be teaching. Speaking with coworkers who have taught the same students provides the forum to address students’ needs, whether they are high achieving or struggling learners.

Another role that is particular to Aragon’s structure is the co-teacher. Typically, this relationship exists in a class of general education and special education students that is jointly taught by both a general educator and a special educator. A female, middle school special education teacher with education beyond a master’s degree and 1 to 3 years of experience in Aragon and classified as *high collaborative* promotes the importance of this shared course:

The classes that I teach with a co-teacher, that collaboration is there because we need to kind of gel and mesh our teaching together. We can’t have two totally different teaching styles, two totally different views coming into the classroom. We need to confine it into one consistent view, almost like a marriage of sorts. The children need to know…that the teachers are on the same page. (Teacher 33, personal communication, November 8, 2012)
From her perspective, teacher collaboration is a necessity for two teachers who teach the same class together. In addition, co-teaching is an important form of collaboration not just for the teachers’ sake, but also so students their teachers are aligned with one another.

Outcomes. Another positive structural condition is outcomes. Outcomes are defined as those structures that result from a particular collaboration (D. K. Cohen & Ball, 1999; CCSSO, 2011a). Sometimes these are mandated through the policy of the District, whereas other times the participants themselves initiate them. An example could include the development of professional norms that will dictate how teachers are to interact with one another when collaborating during a formal or informal meeting time.

The more common example in this study is the development of shared goals for a quarter, semester or school year between colleagues. As D.K. Cohen and Ball (1999) emphasize, it is important to “set common goals for instruction within or among classrooms or among school” (p. 16). Teachers in Aragon certainly take this approach. A female, high school world language teacher with education beyond a master’s degree and 4 to 10 years of experience in Aragon and classified as high collaborative explores the practical application of goal setting:

We definitely worked together to talk about what our goals are. We try to keep those goals similar for each language. We don’t want the French students to leave level two with an understanding of a subjunctive while the Spanish students barely know some basic imperfect. (Teacher 48, personal communication, October 4, 2012)

For this teacher, she views the goal setting process as a way to ensure that each of the world language teachers has similar expectations for their students. Another female, high school science teacher with education beyond a master’s degree and 11 to 20 years of experience in Aragon and classified as low collaborative delineates the specific
objectives her department agreed upon for the year: “(1) to add text from a variety of science texts to the curriculum; (2) incorporate more use of database research into assignments and lab reports; and (3) continued revision of the ninth grade research project rubric [which assesses a written assignment that students in Aragon must complete using cited material]” (Teacher 31, survey response, June 21, 2012). These specific, shared goals help to ensure all teachers within a department or collaborative team have similar ends in mind.

Resources. A final category for positive structural conditions is resources. Resources are those peripheral structures that exist which can inform interactions between teachers (D. K. Cohen & Ball, 1999; CCSSO, 2011a; Gorodetsky & Barak, 2008; Rust & Meyers, 2006). The use of student work or data, a professional reading, the use of a consultant, attending a conference, utilizing a professional network or a relationship with an institution of higher education, such as a local college or university, are all examples of tangential components that can positively influence teachers’ ability to work with one another.

The resource mentioned repeatedly that teachers in Aragon rely upon as the precursor for or byproduct of their collaboration is the curriculum itself. One curricular resource is the standards and performance indicators that dictate what is to be taught in a specific subject or content area. A female, elementary school third grade teacher with education beyond a master’s degree and 11 to 20 years of experience in Aragon and classified as medium collaborative identifies her and her colleagues’ goal, which is “Aligning curriculum with the Common Core Standards” (Teacher 76, survey response, June 21, 2012). Indeed, virtually all of the excerpts that are tagged with this code are
related to collaborating with colleagues to ensure their curriculum is in sync with the new Common Core State Standards (CCSS Initiative, 2011).

In Aragon, the way in which this alignment is done is through curriculum mapping in Rubicon Atlas (Rubicon International, 2013), another resource that impacts positive collaboration between teachers. D.K. Cohen and Ball (1999) point out that this software enables teachers to construct and examine curriculum in a collective way (p. 37). This is the view of a female, middle school English teacher with a master’s degree and 4 to 10 years of experience in Aragon and classified as *medium collaborative*, who makes the following observation:

> We saw that as well—the curriculum mapping last year. What was interesting is there were two new teachers to sixth grade so we had a lot to learn from the veteran teacher who’s been teaching sixth grade…and then by the same token, we would add new things or think about what we were going to do for the future.

(Teacher 11, personal communication, November 7, 2012)

For this teacher, through Rubicon Atlas, she is able to exchange and document ideas with her sixth grade colleagues in a database. Indeed, curriculum mapping can be the tool through which many such interactions take place to meet the new CCSS.

Even more specific than the Standards or mapping is the actual planning of lessons themselves, another resource and structural condition that can influence a positive partnership between teachers. A male, high school social studies teacher with education beyond a master’s degree and 4 to 10 years of experience in Aragon and classified as *medium collaborative* believes lesson planning with others is critical:

> I think you can’t have good lessons unless you collaborate as much as possible to get as much as you possibly can to the table so you can weed out what worked for you and what worked for the curriculum and what works for the student body and you can kind of continually try to strive to get that perfect or best lesson that you can get.

(Teacher 69, personal communication, October 24, 2012)
Interestingly, he feels that a lesson will not be effective unless or until it is the product of some form of collaboration with a colleague. He believes they should all go through this iterative process of improvement by testing it out on a class or working with a colleague.

Once the Standards, mapping and lessons are developed through collaboration, the creation of an assessment to measure student achievement can be another resource through which this teamwork can take place. A female, high school world language teacher with education beyond a master’s degree and 4 to 10 years of experience in Aragon and classified as high collaborative remarks, “We work together in our department meetings, which are not just one level and one language, to come up with performance-based assessments that we could use across the languages” (Teacher 48, personal communication, October 4, 2012). The world language teachers design assessments not just for use in one language, but all languages that are taught, which creates the need for the Spanish, French and Italian teachers to all work with one another.

A final aspect of curricular resources for collaboration is deliverables, which are the actual documents—handouts, worksheets, homework tasks, graphic organizers, etc.—that are used during a lesson or an assessment. The same female, high school world language teacher with education beyond a master’s degree and 4 to 10 years of experience in Aragon and classified as high collaborative recognizes the importance of sharing these documents:

If someone has created something and it’s been great, why do I need to reinvent the wheel? So I could lean on them, in a way. And I could perhaps have to lend something to them. I think you have to be very generous with your work.
(Teacher 48, personal communication, October 4, 2012)
This teacher sees that using deliverables can prevent redundancy if someone else has already designed them. She also realizes that there may need to be reciprocity if someone has given something to her, she may feel obliged to return the favor.

Technology is a final type of resource or tool that teachers use to facilitate positive collaboration and one that may become even more commonplace in the future. According to the InTASC Teaching Standards, “The teacher uses technological tools and a variety of communication strategies to build local and global learning communities that engage learners, families, and colleagues” (CCSSO, 2011a, p.21). Most often mentioned in Aragon is the importance of email. A female, world language teacher with education beyond a master’s degree and 4 to 10 years of experience in Aragon and classified as high collaborative summarizes the ways in which it is used to foster cooperation:

There’s not a day that goes by in my work here that I don’t send at least, or receive, 10 emails with, ‘I just did this activity and it worked great. Here, I’m sending an attachment to you’, ‘I just wrote this lesson, you should try it’ or ‘Where are you here? What do you think we should do because we feel the kids aren’t getting it?’ (Teacher 48, personal communication, October 4, 2012)

For this teacher, she uses email as an efficient tool to frequently connect with her colleagues and receive timely feedback. This type of digital interaction allows teachers to informally communicate when they might not otherwise be able to meet in person.

Negative structural conditions. These are structures throughout the schools that prevent the creation of conditions that are favorable to teacher collaboration. Based on the qualitative data, these attributes are most evident among teachers who are classified as low collaborative, male, from the middle school, with a master’s degree and 1 to 3 years of experience in Aragon.
Time. Just as time, both formal and informal, was mentioned as a positive structural condition, it can also be a detriment to finding the opportunity to meet with a colleague or colleagues (CCSSO, 2011a; Y. Goddard et al., 2007; Saunders et al., 2009; Strahan, 2003). As Saunders et al. (2009) acknowledge, “willingly or not, most teachers spend the overwhelming majority of their work time in the classroom with limited paid time to interact with other professionals” (pp. 1007-1008). Interestingly, the representative sample of excerpts that were tagged with time as a detrimental structure is all from the high school level. A female, high school science teacher with education beyond a master’s degree and 11 to 20 years of experience in Aragon and classified as low collaborative observes, “We are all just very busy and trying to get through each day. We don't have the time to reflect meaningfully on teaching and learning” (Teacher 31, survey response, June 21, 2012). For this teacher, she feels as if she has too much going on for her to authentically collaborate with a colleague. Another male, high school social studies teacher with education beyond a master’s degree and 4 to 10 years of experience in Aragon and classified as medium collaborative concedes, “It’s always nice, obviously, to have more time. We always wish we had more time. We have some time but not ever enough time to really collaborate the way that I’d like to or we’d like to” (Teacher 69, personal communication, October 24, 2012). This high school teacher also thinks there ought to be more time set aside for collaboration. Thus, it seems as though a significant proportion of high school teachers feel as though they need more time to collaborate.

Some of the high school teachers suggest that the lack of time is a result of the structure, whereas others seem to think the onus is on the teachers themselves. A male, high school music teacher with a master’s degree and 4 to 10 years of experience in
Aragon and classified as low collaborative posits, “We really have no time and it’s up to us to implement anything like this or to even discuss the possibilities, and I’m certainly not complaining about it. It just doesn’t really exist in the set-up now” (Teacher 73, personal communication, October 12, 2012). He thinks that if collaboration time is not embedded in the master schedule, it is the teacher’s responsibility to find the time.

Another female, high school physical education teacher with a master’s degree and 4 to 10 years of experience in Aragon and classified as low collaborative makes the following speculation:

Here at the high school, and that’s only my reference, I just feel like everybody is so driven to get what they need to get done to accomplish their goals for their testing at the end of the year or their AP [Advanced Placement] that I don’t think maybe they don’t necessarily have the time to collaborate. They might want to, but they’re so driven to get their work done there may not be time allowed for it. (Teacher 73, personal communication, October 12, 2012)

From her perspective, other tasks, such as preparing students for an exam, take precedence over teacher collaboration. Regardless of which cause has created a lack of collaboration time at the high school, the result is the same.

One particular type of time that was mentioned as lacking is common planning time, a type of formal collaboration. A male, high school social studies teacher with education beyond a master’s degree and 4 to 10 years of experience in Aragon and classified as medium collaborative points out his difficulty finding time to meet with a colleague:

I think structurally it’s the second biggest reason that there’s probably less active collaboration in the high school because that due to the fact that in the high school most teachers have, on average, three preps [which are the number of different courses that one teaches]. I have four. A lot of teachers have four. There’s less common prep time. (Teacher 69, personal communication, October 24, 2012)
His challenge is the fact that he and his colleagues may teach three or four different courses, so having the time to meet is less likely. The number of different classes one teaches may certainly have an impact on the ability to connect with a colleague or a group of colleagues either because they are not free at the same time or even if they are, because they might be planning for a different course.

Similar to a lack of common planning time as a structure that prevents collaboration; scheduling constraints also inhibit these relationships from forming. A female, middle school health teacher with education beyond a master’s degree and 4 to 10 years of experience in Aragon and classified as *medium collaborative* puts an emphasis on the situation facing teachers like herself:

> One thing I know, as a specials [non-core academic] teacher, we’re not included in the teams really because we can’t attend them because they meet when we teach. So I think sometimes we miss out on things that all the other academic teachers hear and the guidance department tries their best to let us know, but sometimes I think we miss things as specials teachers. (Teacher 50, personal communication, November 8, 2012)

For her, there is a logistical issue in which colleagues who teach the same students are always meeting when she is teaching her special area, such as art, music or family and consumer sciences (FACS). A female, elementary school library media specialist with a master’s degree and 11 to 20 years of experience in Aragon and classified as *low collaborative* admits, “I find the best way for me to collaborate with teachers is when they are dropping off or picking up their students. Otherwise, it is very difficult for me to meet with them as we have different prep times” (Teacher 32, survey response, June 27, 2012). This teacher, who is also in a special area of instruction, resorts to informal
opportunities to collaborate. Much like common planning time, scheduling constraints are yet another obstacle to collaboration.

In Aragon School District, teachers are responsible for one period of a non-instructional duty, which sometimes is scheduled to take place as many as five days per week. This is another negative structure that impedes opportunities for collaboration. A male, high school world language teacher with education beyond a master’s degree and 4 to 10 years of experience in Aragon and classified as medium collaborative makes the case, “Yes, duties. Taking off a period a day has really had an impact on our informal meetings, which usually produce the best ideas and results” (Teacher 57, personal communication, November 9, 2012). Not only is he losing a period in which he could be meeting with a colleague, he believes it prevents the formation of solutions during informal meeting times.

Originally mentioned as a positive structural condition, the weekly hour of professional development in each school in Aragon is also viewed in a negative light by some teachers. A female, middle school English teacher with education beyond a master’s degree and 4 to 10 years of experience in Aragon and classified as medium collaborative presents why she feels this time is not valuable:

We’re just doing stuff that’s just kind of coming down from on high. I don’t think we’re questioning why we have to do it. I don’t think we’re really thinking about how it’s helping kids. I don’t think it is. If anything, it’s hurting them. I think that’s a lost opportunity for sharing that would be of much better value spent in other ways. (Teacher 67, personal communication, October 22, 2012)

She does not dismiss the importance of having this weekly time for collaboration. Rather, it is the use of this time that she is concerned about.
On the other hand, this weekly hour of professional development is sometimes used to meet with the same department in other schools. Some teachers feel this collaboration time is not productive. A female, middle school English teacher with a master’s degree and 4 to 10 years of experience in Aragon and classified as medium collaborative explores her feelings about this particular use of the weekly meeting:

I know a few years ago…when I first came here, there had been meetings between the high school English department and the middle school English department and it had left that bitter taste in the middle school, like we felt that they thought that we didn’t do anything here. (Teacher 11, personal communication, November 7, 2012)

From her perspective, this meeting was more judgmental than collaborative. Interestingly, this inter-school structure is one that is rarely if ever used in Aragon, so it may be that teachers do not have much of a relationship between the three schools.

A final, negative structure in terms of time is the grade level team, another code that was originally presented as a positive feature of collaboration. A female, middle school math teacher with education beyond a master’s degree and 4 to 10 years of experience in Aragon and classified as high collaborative encapsulates her frustration:

Cross-grade teaching and duties have impacted our ability to meet as a grade level…it may be that other districts feel this as well, but this is something recent for us and it has had an unmistakably negative impact on our ability to collaborate with colleagues. (Teacher 61, survey response, June 21, 2012)

She clearly feels as though the team meeting time is valuable, but the hurdles discussed earlier such as common planning time, scheduling constraints and teacher duties have created a further inconvenience for her and her colleagues.

Proximity. Though proximity was not tagged often enough to be mentioned in this section as a positive structural condition for teacher collaboration, it was however
mentioned enough times to be considered as a negative structural condition that prevents these relationships from happening. As Stoll et al. (2006) suggest, “a school structure where it is easier to have coffee and professional discussions in a subject workroom rather than go to the staffroom located in another building, is likely to inhibit school-wide collegiality” (p. 234). Certainly, distance can be an impediment to collaboration that is an obstacle that is hard to overcome.

One particular issue related to proximity is not being physically located near a colleague within the same building. A female, elementary school second grade teacher with a master’s degree and 11 to 20 years of experience in Aragon and classified as high collaborative notes, “Our classrooms are not located in the same area in the building. We are very spread out” (Teacher 74, survey response, June 17, 2012). Certainly, as she explains, being in a very different location within the same building can negatively impact the potential for teacher collaboration.

The more common complaint related to proximity are those teachers who are split in their assignment between two different schools. A male, middle school and high school music teacher with a master’s degree and 4 to 10 years of experience in Aragon and classified as low collaborative offers these remarks:

I think the reality of me being in two different buildings makes it more difficult because I’m less likely to have lunch or social time with some people because I’m traveling and prepping in another building. So that impedes it for me personally. (Teacher 54, personal communication, October 11, 2012)

As this teacher is assigned to two schools, it impacts his ability to engage in both informal and formal collaboration. It is evident that a teacher who has an assignment in
two buildings cannot meet with colleagues in one building while he or she is physically located in another building.

*Role.* Role was another code that was originally proposed as a positive structural condition, but it can also have an adverse effect whether it is a new teacher, co-teacher or an administrator (Berk & Hiebert, 2009; NYSED Workgroup, 2011a; Rust, 2009).

The role most often cited as a negative structural condition is that of the colleague. One such example is teachers of the same or a similar content area. A female, high school physical education teacher with a master’s degree and 4 to 10 years of experience in Aragon and classified as *low collaborative* frankly states, “I can call it a bitch session. Everybody kind of complaining about what’s going on…obviously nothing really gets taken out of that” (Teacher 73, personal communication, October 12, 2012). From this teacher’s perspective, her colleagues waste their opportunities to collaborate by venting to one another instead of being productive. Another example is those teachers working together from a different content area. A female, middle school English teacher with education beyond a master’s degree and 4 to 10 years of experience in Aragon and classified as *medium collaborative* asserts, “Even like curriculum hour [which is weekly professional development typically by department], two cross-curricular [contents] met and talked about what they were doing because I felt very disconnected from the other subject matters in seventh grade” (Teacher 6, personal communication, November 7, 2012). Evidently, as she explains, there is not much of a formal meeting opportunity for teachers of different subjects to connect with one another. Whether it is a colleague from the same department or a different department, these teachers illustrate that there is a downside to being a colleague.
The most common colleague role that impedes collaboration is being the only teacher of a particular course or subject. A female, high school social studies teacher with a master’s degree and 4 to 10 years of experience in Aragon and classified as medium collaborative recognizes, “I teach a subject that nobody else teaches and for that class, I have no one in-house to collaborate with, which then, because I like to collaborate, has forced me to look outside the District for other people” (Teacher 35, personal communication, November 9, 2012). As the only teacher of her subject, there is no one that she can turn to within the District for collaboration. Another issue emerges among those teachers who teach multiple grades or courses, also referred to as multiple preps, which was also an impediment to common planning time. A female, middle school special education teacher with education beyond a master’s degree and 1 to 3 years of experience in Aragon and classified as high collaborative explains her quandary:

There are grade level team meetings, but something that negatively impacts my ability to collaborate at those meetings is that I teach on three different grade levels out of four in the building and I’m teaching during two of those grade levels’ meetings. So I can never go to those meetings unless I get substitute coverage. Then, I feel like I’m torn and I’m neglecting the needs of all of the students in my class to address the need of one or two students at a team meeting. So it’s kind of this constant battle within myself. Where do I need to be and how can I be at two places at once without actually physically being at two places at once? (Teacher 33, personal communication, November 8, 2012)

For this teacher, it is difficult to rectify this obstacle of teaching more than one course or grade level and feel as though you can collaborate often enough with coworkers.

Whether the only teacher of a course or the teacher of several courses in several different grades, both extremes seem to make teacher collaboration a challenge.

Resources. A final category for negative structural conditions is resources. As discussed earlier, resources are those peripheral structures that exist, though in this case
they prevent collaboration between teachers (D. K. Cohen & Ball, 1999; CCSSO, 2011a; Gorodetsky & Barak, 2008; Rust & Meyers, 2006). In some cases it is the resource itself that prevents this collaboration and in other cases it is the way in which the resource is being used.

Ostensibly, looking at student work or data helps to galvanize colleagues or a group of teachers around a particular goal. However, a female, middle school English teacher with education beyond a master’s degree and 4 to 10 years of experience in Aragon and classified as medium collaborative grapples with its limited benefits:

I feel like we spend Wednesday meetings looking over data [during weekly professional development]. There’s so much assessment of kids and data. I’ve wondered to what degree it’s really helping kids? How much does it change what we do in a classroom if what we’re doing overall is working? Sometimes a student doesn’t do well on a test for a variety of reasons. If we’re spending all of this energy focusing on that test alone, we’re not really looking at what’s helping the students. I just feel like it’s not the most productive use of time. (Teacher 67, personal communication, October 22, 2012)

For this teacher, she feels saturated with too much student assessment and data. Even if there is colleague collaboration, she thinks it is not particularly in the best interest of the students to discuss assessment data.

Although curriculum was mentioned earlier as a positive resource, some teachers do not view it as such. A female, elementary school kindergarten teacher with education beyond a master’s degree and 11 to 20 years of experience in Aragon and classified as medium collaborative claims, “Time spent during curriculum time on things studied in grad school 25 years ago…Too much time spent during curriculum hour reviewing the new [Common] Core Curriculum rather than have teachers share what they did during summer work” (Teacher 91, survey response, June 20, 2012). This teacher mentions the
CCSS as a negative feature although it was considered in a positive light with respect to curriculum mapping. It seems as if she values curriculum, just not the curricular resources that she and her colleagues have recently analyzed.

A final resource, one that is typically viewed as a positive influence for teacher collaboration, is the role of technology. A female, middle school math teacher with education beyond a master’s degree and 4 to 10 years of experience in Aragon and classified as medium collaborative has drawn the following conclusion:

It’s certainly less personable [social networking]. I like to work one-on-one with someone and sharing ideas on the platform there is fine, but I like to have discussion. I like more of a relationship in collaboration. So it’s fine, but I prefer person-to-person. (Teacher 96, personal communication, November 9, 2012)

From her view, though she will use a social networking platform to communicate with other teachers, she has a clear preference for doing so in person. While technology was mentioned as an efficient and timely tool in an earlier section, it does sacrifice the opportunity to physically be in the presence of another.

**Interpersonal dynamics.** As part of the characteristics of teacher collaboration, interpersonal dynamics were outlined in the literature review (Chapter II). These characteristics were part of the conceptual framework and map for this study (Figure 1) and explicitly included in the teacher survey (Appendix B) in addition to the interview and focus group protocol (Appendix D). The Interpersonal Dynamics Map below (Figure 11) is a visual representation of the way in which I organized the coding for interpersonal dynamics in this study. Positive interpersonal dynamics are those interactive traits that help to create a school environment favorable to teacher collaboration in Aragon. They include internal qualities, which do not necessarily require the presence of another person,
such as someone who has a positive attitude, is timely, takes initiative, is reflective and is a problem solver. They also include external qualities, which require the presence of another person, such as someone who has proactive, reactive or reciprocal traits. There are also negative interpersonal dynamics, which are those interactive traits that inhibit teacher collaboration in Aragon. Among the internal traits are those who do not take initiative, are closed off, are not willing to change, lack belief in collaboration and are independent. Negative external traits include those who are not personable, not reciprocal, not cooperative, not receptive, dismissive, hostile, judgmental, defensive and not willing to share practice. Some of the codes listed within this interpersonal dynamics section were a priori whereas others were inductive, based upon the emerging perspectives of those participants in the study.
Positive interpersonal dynamics. These are dynamics throughout the schools that help to create conditions that are favorable to teacher collaboration. Based on the qualitative data, these attributes are most evident among teachers who are classified as high collaborative, male, from the middle school, with a master’s degree and 1 to 3 years of experience in Aragon.

External. Most of the positive interpersonal dynamics that foster teacher collaboration are external (Bryk & Schneider, 2002; CCSSO, 2011a; Danielson, 2011; Hansen et al., 2010; NYSED Workgroup, 2011a; Smith et al., 2009; Smylie, 1994; Stoll...
et al., 2006; Westheimer, 1999). That is, they require the presence of another person or a group of people to be exhibited in practice.

The first codes related to external interpersonal dynamics are considered proactive because they are usually the result of someone who begins the interaction with a colleague. These include someone who is personable, open, communicative, respectful, an active participant, supportive, sharing of his or her practice, seeking feedback in addition to seeking a shared understanding. A female, middle school health teacher with education beyond a master’s degree and 4 to 10 years of experience in Aragon and classified as medium collaborative discusses this personable trait:

I think when you have a personal relationship, you’re more apt to go maybe above and beyond, make that phone conversation on the way home from work or at night, or emailing, doing something for a colleague, your friend, this person that you have this relationship with more so maybe than just a colleague that you don’t know very well or maybe you don’t get along with. (Teacher 50, personal communication, November 8, 2012)

For this teacher, making that personal connection may lead to a more productive collaboration. As the InTASC Teaching Standards assert, “The teacher knows how to work with other adults and has developed skills in collaborative interaction appropriate for both face-to-face and virtual contexts” (CCSSO, 2011a, p.22). Indeed, having a friendly demeanor and relationship with a colleague may be a precursor for collaboration.

Similar to being personable is the characteristic of openness. Smylie (1994) attests, “interactions characterized by open communication and examination of assumptions and beliefs about practice increase the likelihood of learning and improvement” (p. 159). A female, middle school social teacher with a master’s degree
and 4 to 10 years of experience in Aragon and classified as *medium collaborative* offers this explanation:

I think being open-minded is really important, regardless if you’re a new teacher versus a veteran teacher, and I think in the social studies department, we’re very fortunate in that respect. I think everyone is open-minded to different ideas, different lesson plans and creativity. (Teacher 16, personal communication, November 7, 2012)

For this teacher, she clarifies that everyone in the department has a voice, whether it is the untenured teacher or a more seasoned teacher. Much like being personable creates opportunities for collaboration, so too does being open to various perspectives.

In addition to being personable and open, the most frequently referenced proactive dynamic is being communicative, which is literally the act of collaboration either through a verbal or digital exchange. As Westheimer (1999) asserts, “A community without interaction…is a contradiction” (p. 75). A female, middle school special education teacher with education beyond a master’s degree and 4 to 10 years of experience in Aragon and classified as *high collaborative* underscores its importance:

I think being in contact and communication with these people that you share students with, share courses with, whatever it may be, even if they’re not the people that you would typically speak to or consult with, you’re forced, for lack of a better word, to spend some time learning a little bit more about what they do and to problem solve with them. (Teacher 42, personal communication, October 3, 2012)

From this teacher’s perspective, having the opportunity to communicate creates the possibility for collaboration that might not have otherwise taken place. Another female, elementary school third grade teacher with a master’s degree and 11 to 20 years of experience in Aragon and classified as *low collaborative* affirms, “My team—our personalities—we’re very open to sharing and I’ll just go across the hall and say, ‘What
are you doing for this?’ or ‘Can I borrow that thing you did?’” (Teacher 24, personal communication, October 5, 2012). For her, she is comfortable taking the initiative to communicate and approach her colleague directly. It is clear that the actual behavior of speaking to a colleague is critical to creating a successful collaboration.

Once this communication takes place, the authentic collaboration begins when one shares their practice, another positive proactive attribute. Danielson (2011) urges, “Teachers must work with their colleagues to share strategies…for the success of individual students” (p. 48). A female, high school world language teacher with education beyond a master’s degree and 4 to 10 years of experience in Aragon and classified as high collaborative admits to sharing quite a bit with her colleagues:

I would say I share more than some of my other colleagues because I’m always thinking about—I get excited about things—I’m like a kid. I’ve been teaching high school for 13 years, but if I create something that works, it’s like I want to show off my new shoes, ‘You’ve got to see this.’ (Teacher 48, personal communication, October 4, 2012)

This teacher takes pride in what she does and appreciates the opportunity to share with her colleagues. Another male, high school world language teacher with education beyond a master’s degree and 4 to 10 years of experience in Aragon and classified as medium collaborative uses sharing as a way to build a relationship with his colleagues:

I’d just share things, whether they took it or threw it in the garbage, and I figured it was a way to kind of open doors. And it does—it opens doors when you share. Whether they take it or not, they begin to see you in a different way and start approaching you about curriculum and things like that. (Teacher 57, personal communication, November 9, 2012)

For him, it does not matter if a colleague takes what he has to offer, he views the act of sharing as a window into a future interaction. Both of these world language teachers embody the interpersonal dynamic of sharing one’s practice.
A final external proactive feature is a teacher who not only shares their practice, but also seeks feedback on it. As the InTASC Teaching Standards explain, “the teacher takes an active role on the instructional team, giving and receiving feedback on practice” (CCSSO, 2011a, p.21). In addition, in The Framework for Teaching, Danielson (2011) alludes to the distinguished teacher as someone who “seeks out feedback on teaching from both supervisors and colleagues” (p. 50). A male, middle school science teacher with a master’s degree and 21 to 30 years of experience in Aragon and classified as low collaborative shares his approach:

I go looking for answers and I have found a few colleagues in the building that I respect and feel that their input makes my job easier, ultimately because my lessons improve and the kids are better behaved and their ultimate product on whatever it is—a project—improves. I’m happy with that. (Teacher 93, personal communication, October 2, 2012)

For this teacher, seeking feedback from colleagues actually helps him do his job more easily because he sees a positive change in his students’ performance as a result.

The next set of codes related to external interpersonal dynamics are considered reactive because they are usually the result of someone who is the recipient of a colleague interaction. These include someone who is trusting, non-judgmental, a listener, vulnerable, receptive, cooperative and willing to adopt new practices. A female, middle school special education teacher with education beyond a master’s degree and 11 to 20 years of experience in Aragon and classified as high collaborative describes, “You have to be a really good listener and you have to know when not to talk because it’s very easy to always want to put your perspective in” (Teacher 72, personal communication, October 4, 2012). In essence, she feels that while speaking with a colleague is important
for collaboration, knowing when to listen is similarly critical for a positive collaborative experience.

Another reactive quality that supports collaboration is having a sense of vulnerability. Smith et al. (2009) find, “The process of forming learning communities benefitted tremendously from settings in which staff members already viewed colleagues as…intellectually curious” (p. 22). This intellectual curiosity can model an inquiry-based stance in which a teacher wants to know more and admits to not yet knowing all there is about the profession. A male, middle school world language teacher with a master’s degree and 1 to 3 years of experience in Aragon and classified as high collaborative expresses his philosophy:

I like to share things for myself because I always want to get people’s opinions. Even if I didn’t need to ask or run something by someone, I want to because I want to give them the respect of saying, ‘This is what I’m doing. What do you think?’ and I really am curious to see what is going on and how I can get better. (Teacher 89, personal communication, October 5, 2012)

This teacher not only seeks feedback, but also models this intellectual curiosity and asks colleagues how he can improve, which shows a degree of vulnerability.

Receptiveness is another external, reactive dynamic that allows for teacher collaboration. As Westheimer (1999) describes, “Ideally, communities provide forums for exchange, which lead to growth as new perspectives are considered” (p. 75). This receptive forum is critical for a teacher to feel comfortable sharing with a colleague. A female, elementary school third grade teacher with a master’s degree and 11 to 20 years of experience in Aragon and classified as low collaborative reasons that it is necessary:

When you work with people who are so open and you have a good relationship with and they’re very friendly and very receptive and you don’t have that attitude
Building on the idea of a personable and open colleague, she feels these interpersonal traits create the opportunity for receptiveness. Indeed, showing a willingness to assist a colleague who is in need of help can certainly inspire a positive interaction between coworkers.

A cooperative teacher is closely linked to one who is receptive, essentially enacting that support after they are receptive to his or her colleague. Danielson (2011) refers to this idea of cooperation as do Smith et al. (2009) who state, “The process of forming learning communities benefitted tremendously from settings in which staff members already viewed colleagues as…cooperative” (p. 22). A female, middle school math teacher with a master’s degree and 4 to 10 years of experience in Aragon and classified as medium collaborative offers this commentary demonstrating her cooperation with a coworker:

I’ll talk about myself and [LW]. We both teach seventh grade. I think it’s important to help one another out to determine how the classes are moving, to have common lessons…making sure that each class is getting to the same goal and place, to keep things consistent per grade level and per subject matter. (Teacher 63, personal communication, October 22, 2012)

She and her colleague help each other for the sake of their class. They cooperate by using their receptiveness to have similar lesson plans to deliver to their students.

A final external, reactive interpersonal dynamic is one who is willing to adopt new practices. As Wenger and Snyder (1999) explain, “they’re groups of people…that foster new approaches to problems” (pp. 139-140). A female, elementary school third grade teacher with a master’s degree and 11 to 20 years of experience in Aragon and
classified as *low collaborative* affirms, “You have to have the mentality that there isn’t just one way to do something, that there’s lots of different ways, lots of great ways to arrive at the same thing” (Teacher 24, personal communication, October 5, 2012). Her flexibility and willingness to try new approaches is an important mindset to have when collaborating with a colleague who offers a different method than her own.

The final code related to an external, interpersonal dynamic, which was among the most frequently tagged, is the idea of reciprocity. In essence, someone who has an understanding that collaboration is about being both proactive and reactive. Stoll et al. (2006) argue, “feelings of interdependence are central to such collaboration” (p. 227). Bryk and Schneider (2002) define this symbiotic relationship through relational trust and explain, “its constitutive elements are socially defined in the reciprocal exchanges among participants in a school community” (p. 22). Danielson (2011) describes this interaction as “mutual support” (p. 48). In this study, there is a clear sense of a give and take when collaborating with someone else or with a group of colleagues. A female, middle school social studies teacher with a master’s degree and 4 to 10 years of experience in Aragon and classified as *medium collaborative* has this recollection:

> I shared it with my colleagues, so I felt pretty good about that, whereas I always feel like my colleagues go out of their way to help me, as well. So I feel it’s kind of like a two-way street. (Teacher 16, personal communication, November 7, 2012)

She views her practice as one in which there is a built in assumption of reciprocity between colleagues. Another female, high school social studies teacher with a master’s degree and 4 to 10 years of experience in Aragon and classified as *medium collaborative* has the following criteria for collaborating with a colleague:
I think someone with a similar work ethic is very important to me. I work very, very hard at my job and if I’m going to bring something to the table, I do expect them to be doing similar things. If I offer a lesson, you offer a lesson. (Teacher 35, personal communication, November 9, 2012)

For this teacher, she has the expectation of reciprocity, or else she may not be so collaborative. While this almost competitive spirit about collaboration may seem contradictory, it is a real sentiment among many of the teachers in the District.

Internal. Some of the positive interpersonal dynamics that foster teacher collaboration are internal (Brownell et al., 1997; CCSSO, 2011a; Danielson, 2011; Smith et al., 2009). That is, they do not necessarily require the presence of another person or a group of people to be exhibited in practice. These include qualities someone possesses such as being professional, having a positive attitude, setting high expectations, being organized, being timely, taking initiative, leading, being reflective and problem solving.

Among the most common internal, interpersonal dynamics is having a positive attitude. As the InTASC Standards express, “The teacher knows how to contribute to a common culture that supports high expectations for student learning” (CCSSO, 2011a, p. 22). A male, middle school technology teacher with education beyond a master’s degree and 21 to 30 years of experience in Aragon and classified as low collaborative reveals, “Any time somebody comes to me for anything that I can help them with, I’m more than happy…When my colleagues need my assistance, there’s no question I’m going to take care of them, period” (Teacher 70, personal communication, October 5, 2012). He certainly has a positive attitude and high expectations for supporting his colleagues, so his outlook is one in which he will help any teacher that needs his support.
Another, less glamorous internal quality, yet no less important, is being timely. A female, middle school math teacher with a master’s degree and 1 to 3 years of experience in Aragon and classified as high collaborative confirms, “There’s an immediacy to our need and we respond to each other very quickly. We all know we’re all just starting off…So, these blasts go out to 10 people and these 10 people chime in quickly” (Teacher 85, personal communication, October 4, 2012). In this example, she is using email, which is particularly conducive to a timely response from a colleague or colleagues. It turns out that timeliness is critical when teachers have so much that they need to accomplish each day.

Taking initiative is another internal, interpersonal characteristic favorable to collaborating with a colleague. As the InTASC Teaching Standards describe, “The teacher takes initiative to grow and develop with colleagues through interactions that enhance practice and support student learning” (CCSSO, 2011a, p. 23). A female, middle school health teacher with education beyond a master’s degree and 4 to 10 years of experience in Aragon and classified as medium collaborative points out, “A lot of my collaborating is done informally, like conversations in the hallway, reaching out to teachers to find out things that way, talking to the phys. ed. teachers” (Teacher 50, personal communication, November 8, 2012). She looks at every moment of the school day as an opportunity to collaborate, even if it is done informally. Another male, high school social studies teacher with education beyond a master’s degree and 4 to 10 years of experience in Aragon and classified as medium collaborative recalls his approach:

I put all of my stuff on the shared file to help the new people who were coming up to better use that stuff as well and some of the new teachers have reached out to
This teacher demonstrates initiative by using technology as a tool to begin the sharing of his instructional practice. Certainly, if many teachers are willing to take initiative, this can create an environment in which collaboration can thrive.

Being reflective is another internal characteristic that can facilitate teacher collaboration. A female, high school reading teacher with a master’s degree and 1 to 3 years of experience in Aragon and classified as low collaborative shares her perspective:

If I went to a subject area teacher and they told me what these students are struggling with, I sit back, I think about it, I reflect upon it so that way I can individualize the modifications that would work. (Teacher 1, personal communication, November 8, 2012)

For this teacher, she considers new information that is presented to her by a colleague and uses it to adjust her practice and apply her new knowledge to her students.

A final, internal interpersonal characteristic that is conducive to teacher collaboration is problem solving. The InTASC explains, “Collaboration is a style of interaction between individuals engaged in shared decision making...and accountability for outcomes” (CCSSO, 2011b, p. 20). A female, high school world language teacher with education beyond a master’s degree and 4 to 10 years of experience in Aragon and classified as high collaborative uses the following scenario as an example:

I’ll say to her, ‘I’m going to do this. I was reading over the students’ work. I noticed there was this problem, so I’m going to do this.’ She goes, ‘Gosh, that’s what I planned on doing today.’ That was coming off curriculum, sort of addressing a problem that we noticed. (Teacher 48, personal communication, October 4, 2012)
She uses student work as a resource to identify a problem in students’ understanding and then brainstorms ways to address it with a colleague. They come together, identify a problem, make a decision and can hold one another accountable for the outcome.

**Negative interpersonal dynamics.** These are dynamics throughout the schools that prevent the creation of conditions that are favorable to teacher collaboration. Based on the qualitative data, these attributes are most evident among teachers who are classified as *low collaborative*, male, from the middle school, with a master’s degree and 1 to 3 years of experience in Aragon.

**External.** Just as there were external interpersonal dynamics favorable to teacher collaboration, so too are there external interpersonal dynamics that can hinder teacher collaboration (Bryk & Schneider, 2002; D.K. Cohen & Ball, 1999; CCSSO, 2011a; Danielson, 2011; Hansen et al., 2010; NYSED Workgroup, 2011a; Smith et al., 2009; Smylie, 1994; Stoll et al., 2006; Westheimer, 1999). These include teachers who might be not personable, not respectful, not active participants, not willing to share their practice, not seeking feedback, defensive, not trusting, judgmental, hostile, dismissive, not receptive, not cooperative or not reciprocal.

Some teachers are not particularly personable, which adversely affects collaboration between colleagues. As mentioned earlier, the InTASC Teaching Standards emphasize being personable as crucial for collaboration (CCSSO, 2011a). A male, high school science teacher with a doctoral degree and 11 to 20 years of experience in Aragon and classified as *medium collaborative* recalls incidents that he has endured:

I don’t want to speak badly about people but there have been some times people in the building where, for whatever reason, your personalities don’t mesh. You
lock heads constantly for whatever reason. I don’t think I’d go out of my way to do them favors. (Teacher 75, personal communication, October 26, 2012)

For this teacher, he feels that if he cannot be personable with a colleague, it is a major impediment. This type of relationship is not one in which teacher collaboration will flourish.

Another trait that negatively impacts teacher collaboration is if someone is not willing to share their practice either through conversation or resources. As D.K. Cohen and Ball (1999) describe, “The culture of teaching is individualistic, with each teacher developing his or her own style, even within the same schools” (p. 11). A female, middle school math teacher with a master’s degree and 1 to 3 years of experience in Aragon and classified as high collaborative confirms, “There’s teachers who have been quoted as saying, ‘Just please leave me alone. I just want to shut my door and teach’” (Teacher 85, personal communication, October 4, 2012). She has encountered colleagues who simply want to be separate from their coworkers. Someone who is not inclined to share with his or her peers obviously does not make for an effective collaborator.

Being defensive also negatively impacts the ability to collaborate with a coworker. This is antithetical to a willingness to share practice, mentioned earlier as an important interpersonal trait conducive to collaboration (CCSSO, 2011a; Danielson, 2011). A female, middle school math teacher with education beyond a master’s degree and 4 to 10 years of experience in Aragon and classified as medium collaborative draws the following conclusion about a defensive teacher:

If someone is insecure about their strengths in teaching, to hear any criticisms or suggestions of how one might do something a little bit differently, a little bit better, may be threatening to them. To avoid that feeling, they may just want to continue with what they’re doing and not be open to hearing new ideas,
experiencing new techniques. (Teacher 96, personal communication, November 9, 2012)

For her, she believes her colleagues may take comfort in not exposing their practice to others, otherwise they might feel insecure. This defensiveness or insecurity impedes his or her ability to make an adjustment or a change to their practice.

Sometimes this lack of interaction causes the impression that one is judgmental, another external dynamic which creates a hurdle to collaboration. This directly conflicts with the earlier description of being open-minded, mentioned earlier as a positive dynamic (Westheimer, 1999). A male, middle school science teacher with a master’s degree and 21 to 30 years of experience in Aragon and classified as low collaborative candidly admits, “I’m not willing to give up my time for pursuit of something I’m not convinced would work, or I am judgmental, I’m dismissive of some of my colleagues and I ignore that” (Teacher 93, personal communication, October 2, 2012). For this teacher, confesses to making a judgment that something is ineffective and therefore, chooses not to engage with his colleagues as a result. This stance will not be conducive to collaborating with a peer.

This level of judgment could also lead to hostility either on the part of an individual or group of teachers, which is a harmful feature to teacher collaboration. A female, middle school English teacher with a master’s degree and 11 to 20 years of experience in Aragon and classified as medium collaborative has this confession about her department:

The climate in the building is somewhat challenging. There is a level of quiet hostility towards new teachers in the building that has been problematic…the rest of the team and department seems very divided and guarded. I feel I am mostly finding my way on my own. (Teacher 15, survey response, June 17)
She has identified a toxic climate that is lingering beneath the surface in her school. This antagonism between her and her fellow teachers poisons the opportunity for an authentic collaboration.

Some teachers have been on the receiving end of colleagues who are dismissive towards something they are interested in. A female, high school physical education teacher with a master’s degree and 4 to 10 years of experience in Aragon and classified as _low collaborative_ has residual bitterness towards coworkers who had dismissed her interest in an initiative:

Years one through five, I tried hard to get our Adventure Unit in [which is a team building-based curriculum] and it didn’t go down…and then all of a sudden some people went to get trained and it was the best thing in the world and let’s do this together. (Teacher 73, personal communication, October 12, 2012)

She feels as though she had been collaborative initially, but her colleagues were not receptive. Even more frustrating for her is the fact that these same teachers decided to implement the curriculum when it was another teacher’s idea.

Not being receptive is a corollary to someone who is dismissive, another negative trait that prevents teacher collaboration. Of course, receptiveness was shared earlier as a positive interpersonal dynamic (Westheimer, 1999). The same female, high school physical education teacher with a master’s degree and 4 to 10 years of experience in Aragon and classified as _low collaborative_ discusses the repercussions of feeling dismissed:

When you try and try and you get shut down, you just kind of—I think like with anything in life—you just kind of go with the flow after that and why keep trying when you just feel like you’re always going to get shut down? (Teacher 73, personal communication, October 12, 2012)
Sadly, after she feels rejected for a period of several years without a colleague who was receptive to her ideas, she no longer has the initiative to try new or different things.

Teachers who are not receptive, dismissive, hostile, etc. are also not likely to be cooperative with their coworkers, another feature that reduces effective teacher collaboration. Danielson (2011) describes cooperation as vital for collaboration. A female, middle school physical education teacher with education beyond a master’s degree and 4 to 10 years of experience in Aragon and classified as high collaborative attests to situations she has encountered:

I’ve worked with other people that we just did not get along. You still stay professional and you still do your job, but I just don’t think I had that willingness and that openness to want to share and want to collaborate. (Teacher 97, personal communication, November 8, 2012)

While this teacher maintained a professional attitude, it was never one in which she would be able to have a successful collaboration. Another male, middle school science teacher with a master’s degree and 21 to 30 years of experience in Aragon and classified as low collaborative admits, “I’m not very cooperative when I’m asked to participate in something I don’t have a lot of faith in. Some people would regard that as not being collaborative” (Teacher 93, personal communication, October 2, 2012). This teacher seems as though he will only be cooperative if he has the idea that something might be successful. Otherwise, he will deliberately not be accommodating. Certainly, teachers who are not cooperative can sabotage effective peer collaboration.

Closely related to the idea of not being cooperative is someone who does not reciprocate when asked for assistance by a colleague. As discussed earlier, reciprocity is critical for teacher collaboration (Bryk & Schneider, 2002; Stoll et al., 2006). A male,
middle school world language teacher with a master’s degree and 1 to 3 years of experience in Aragon and classified as high collaborative cautions his peers who come to him for help:

So there has to be a point where you say to your colleagues, ‘I want to collaborate and work with you but I’m not going to do your own work for you…so I don’t mind helping you out, but it gets to a point where…it’s not my job, necessarily. I want to help you and I want you to do well, but you need to make sure you’ve done your work…it’s a two-way street.’ (Teacher 89, personal communication, October 5, 2012)

For him, he views reciprocity as a critical feature of collaboration. Without the same level of support from a colleague, he does not feel inclined to collaborate. Another male, high school social studies teacher with education beyond a master’s degree and 4 to 10 years of experience in Aragon and classified as medium collaborative reveals,

“Everyone’s work is proprietary. It has their stamp on it and they don’t want to just let it out there willy-nilly. Everyone should do their own work. Again…it is a lot of work and it is their stuff” (Teacher 69, personal communication, October 24, 2012). Like his colleague above, he is reluctant to share his materials if there is no reciprocity. This idea of resources and curriculum as personal property not to distribute is one that emerged among some teachers in Aragon.

Internal. Just as there were internal, positive interpersonal dynamics that foster teacher collaboration, there are also internal, negative interpersonal dynamics that squelch teacher collaboration (Brownell et al., 1997; CCSSO, 2011a; Danielson, 2011; Smith et al., 2009). That is, they do not necessarily require the presence of another person or a group of people to be exhibited in practice. These include qualities someone possesses such as having a negative attitude, being arrogant, not taking initiative, being
insecure, being closed off, not willing to change, lacking a belief in teacher collaboration or being independent.

Sometimes many years of doing the same thing over and over again can suppress one’s initiative, an internal characteristic that constrains teacher collaboration. This is clearly in contrast to taking initiative, mentioned earlier as a positive trait (CCSSO, 2011a). A female, high school physical education teacher with a master’s degree and 4 to 10 years of experience in Aragon and classified as low collaborative chronicles her diminished initiative:

If you would have asked me—I’ve been here 10 years—so years one through five, I probably was very eager to do a lot together, but like I said, I’ve just kind of fallen into the grind, so to speak. (Teacher 73, personal communication, October 12, 2012)

For this teacher, her length of service has caused her to no longer take an active role in seeking new opportunities and she has succumbed to the daily routine of her work as a physical education teacher.

Another internal, negative interpersonal dynamic is being closed off towards others, which understandably blocks teacher collaboration. This is also in contrast to the idea of open interaction, offered earlier by Westheimer (1999). A female, middle school special education teacher with education beyond a master’s degree and 1 to 3 years of experience in Aragon and classified as high collaborative explains her frustration:

That’s really difficult to deal with on a daily basis when you’re a person who’s trying to collaborate and do what’s best for the kids—not that the other teacher is not wanting do what is best for the kids—but they’re just more close-minded and not willing to hear the other opinions. (Teacher 33, personal communication, November 8, 2012)
She is not willing to engage with her colleague if every time she approaches him or her, there is a lack of interest in hearing another viewpoint. Another female, elementary school third grade teacher with a master’s degree and 11 to 20 years of experience in Aragon and classified as *low collaborative* warns, “If you’re the kind of person who thinks it’s my way or the highway and either I share my ideas with you or that’s it, then you’re not going to get anywhere” (Teacher 24, personal communication, October 5, 2012). For this teacher, a peer who is adamant about teaching a particular way will not be able to collaborate. Lastly, a female, middle school math teacher with a master’s degree and 4 to 10 years of experience in Aragon and classified as *medium collaborative* acknowledges that she has dealt with such colleagues before:

> There are people who are just so closed off and don’t really want to talk to you and don’t want to get to know you and don’t really care about how you approach things; just treat it as a job. It doesn’t work. I’ve never been able to change anyone like that. (Teacher 63, personal communication, October 22, 2012)

She has engaged with fellow teachers who simply do not care to interact with a peer. If someone has the mindset that they are not going to engage with their coworkers, it may be extremely difficult to overcome.

This persistently isolated person who is closed off will typically not be willing to change, another internal trait that thwarts collaboration efforts. As Hansen et al. (2010) note, “our current system of education tends to separate teachers, which makes instructional largely a private act” (p. 3). A male, high school music teacher with a master’s degree and 4 to 10 years of experience in Aragon and classified as *low collaborative* describes, “The other barrier would be where the other teacher has a very set way of teaching their method book, style, etc. and if they’re not interested in trying
different approaches, one can’t collaborate with them” (Teacher 54, personal communication, October 11, 2012). This teacher he describes would certainly be isolated and unwilling to change his or her practice. Similarly, a female, middle school special education teacher with a master’s degree and 4 to 10 years of experience in Aragon and classified as medium collaborative refers to them as, “Someone who’s not really open or wants to change, that has a rigidness of continuing what they’re doing and not willing to change” (Teacher 79, personal communication, November 9, 2012). Once again, this persistent rigidity in keeping to oneself is in direct conflict with what it takes to be collaborative. This type of colleague can be extremely difficult if they stay the same despite multiple overtures from others within the department.

Yet another negative internal feature of someone who does not support teacher collaboration is one who simply does not believe in its value. A male, middle school science teacher with a master’s degree and 21 to 30 years of experience in Aragon and classified as low collaborative professes, “I think the District does support it [teacher collaboration]. It’s important to them. It’s just not particularly important to me” (Teacher 93, personal communication, October 2, 2012). This teacher sees very little worth in working with his colleagues within the department on a regular basis and dismisses the idea of collaborating altogether.

A final, internal negative interpersonal dynamic is a teacher who is independent, distinct from one who shares practice, discussed earlier as a positive collaborative characteristic (Danielson, 2011). Certainly, independence can be a positive trait in certain contexts, though when it prevents teachers from coming together, it is not. The same male, middle school science teacher with a master’s degree and 21 to 30 years of
experience in Aragon and classified as *low collaborative* clarifies, “I’ve seen great things that can happen when there’s a teacher with particular strengths that is given the freedom to develop them. That can get lost in collaboration” (Teacher 93, personal communication, October 2, 2012). He feels that collaboration can almost be a constraint to having the liberty to forge his own ideas. While this teacher has chosen to be independent, another female, high school physical education teacher with a master’s degree and 4 to 10 years of experience in Aragon and classified as *low collaborative* accepts, “I’ve adapted to the way of the land, to just be independent and do my own thing…Most of the time we’re on our own though to just kind of lead our own class and do what we want” (Teacher 73, personal communication, October 12, 2012). This particular teacher does not necessarily want to be independent, but is resigned to defaulting to independence because it is the practice among her colleagues. Regardless of whether the independence is by choice or necessity, it certainly inhibits collaboration.

**Impact of teacher collaboration.** Having presented the excerpts that relate to the range and variation within Aragon in terms of structural conditions and interpersonal dynamics, the excerpts that demonstrate their effect on teachers and teaching can be analyzed. Specifically, this study looked at the impact of teacher collaboration upon a teacher’s sense of efficacy and instructional change as presented in the literature review (Chapter II), displayed in the conceptual map for this study (Figure 1) and explicitly included in the teacher survey (Appendix B) in addition to the interview and focus group protocol (Appendix D).

**Sense of efficacy.** Following are the codes and excerpts that relate to the impact teacher collaboration has on a teacher’s sense of efficacy, both positive and negative. In
the literature review (Chapter II), the impact of teacher collaboration on one’s sense of efficacy was discussed (Bandura, 1977; Cordingley et al., 2003; R.D. Goddard et al., 2000; Gorodetsky & Barak, 2008; Louis & Kruse, 1995; Shachar & Shmuelevitz, 1997; Strahan, 2003). The Sense of Efficacy Map below (Figure 12) is a visual representation of the way in which I organized the coding for sense of efficacy in this study. A positive impact is those favorable characteristics that result from teacher collaboration that relate to one’s sense of efficacy. They include feeling a sense of positivity, familiarity, solidarity, complementing, culture and socializing from working with others. Also included is the positive feeling from helping students, the desire to get better and sharing and receiving new knowledge. A negative impact is those detrimental characteristics that result from teacher collaboration that relate to one’s sense of efficacy. Some of the codes listed within this sense of efficacy section were a priori whereas others were inductive, based upon the emerging perspectives of those participants in the study.
Figure 12. *Sense of Efficacy Map*

*Positive impact.* Among the different ways that teacher collaboration has a positive impact on a teacher’s sense of effectiveness is the idea of working with others, having choices when working with a team of teachers, having a specific time set aside for collaborating, having an influence upon students, having an effect upon one’s drive to improve and the notion of receiving and sharing knowledge. Based on the qualitative data, these attributes are most evident among teachers who are classified as *high collaborative*, male, from the middle school, with a master’s degree and 1 to 3 years of experience in Aragon.
The first code related to the positive impact teacher collaboration has on a teacher’s sense of efficacy is the feeling one has when working with others. Shachar and Shmuelevitz (1997) confirm, “Teachers who reported a higher level of collaboration with colleagues also expressed a higher level of general teaching efficacy” (p. 53). A female, high school world language teacher with education beyond a master’s degree and 11 to 20 years of experience in Aragon and classified as medium collaborative shares, “I work with a department that is willing to collaborate and is always there for me in terms of emotional support as well as pedagogical support” (Teacher 39, survey response, June 21, 2012). She feels validated by having the opportunity to work with her peers on a regular basis. Another female, middle school physical education teacher with education beyond a master’s degree and 4 to 10 years of experience in Aragon and classified as high collaborative recognizes, “With the two men that I now work with… I am willing, I am open, I enjoy speaking with them, learning about what’s going on in their classes” (Teacher 97, personal communication, November 8, 2012). She also notices her own effectiveness when working with her colleagues. This sense of positivity is just one benefit to working with others.

An additional advantage to collaborating with colleagues in terms of one’s efficacy is the familiarity, solidarity and synergy that are developed with each other. R.D. Goddard et al. (2000) offer, “As teachers hear about their colleagues’ successes…they incorporate these into their beliefs in positive outcomes” (p. 465). The ability to hear about a colleague’s success speaks to a level of compatibility with one another. A female, high school world language teacher with education beyond a master’s degree and 4 to 10 years of experience in Aragon and classified as high collaborative describes, “It is like a
little family in a way and working collaboratively with each other helps us understand each other” (Teacher 48, personal communication, October 4, 2012). For her, their interactions are so personal; it is as if she and her colleagues are related. It also creates a feeling of solidarity. A male, high school world language teacher with education beyond a master’s degree and 4 to 10 years of experience in Aragon and classified as medium collaborative explains, “It becomes with another teacher or maybe another two or a small section of the actual department and we’ll have better understanding of each other and better collaboration…you do need someone to definitely get through the year” (Teacher 57, personal communication, November 9, 2012). He needs to have his colleague by his side and feel that sense of rapport and effectiveness. Further, some teachers perceive that they truly complement their coworker. A female, high school world language teacher with education beyond a master’s degree and 4 to 10 years of experience in Aragon and classified as high collaborative discloses, “I have a colleague…we have come to the point that we think the same way about the lessons all the time…We kind of reach each other’s minds nowadays, we work so well together” (Teacher 48, personal communication, October 4, 2012). She has almost a symbiotic understanding with her coworker. These instinctive thoughts of familiarity, solidarity and complementing are ways in which collaboration helps teachers to feel effective.

Working with others also creates a positive, effective vibe by providing teachers with the opportunity to socialize with one another. As Strahan points out, “These dialogue sessions seemed to encourage a stronger sense of agency and collective efficacy” (p. 142). A male, high school music teacher with a master’s degree and 4 to 10 years of experience in Aragon and classified as low collaborative makes this admission:
I consider myself a social person and that is somebody who likes to socialize. When I come to my workplace, I like to interact with the other teachers, the students as well, on a social basis. I thrive off of that. I really enjoy it. (Teacher 54, personal communication, October 11, 2012)

For this teacher, his socialization can have an influence in terms of effectiveness because it can change the entire culture in a school. A female, middle school health teacher with education beyond a master’s degree and 4 to 10 years of experience in Aragon and classified as *medium collaborative* emphasizes, “It’s collaborating for the whole child and the school environment and working together to make it a good place to work and a healthy place for students to come and learn” (Teacher 50, personal communication, November 8, 2012). She feels this collaboration helps her to feel good about herself and the school in general. Indeed, this may be the ultimate value of working with others because it creates a sense that the school itself is changing.

In addition to a sense of efficacy through working with others, collaboration helps teachers to feel effective because of the impact it has on students. Cordingley et al. (2003) find, “Collaborative professional development was found to have a positive impact on teachers…of their power to make a difference to pupils’ learning” (p. 17). A female, middle school physical education teacher with education beyond a master’s degree and 4 to 10 years of experience in Aragon and classified as *high collaborative* points out, “It’s good to collaborate with members in the same department because you can bounce ideas off one another…ideas that I didn’t necessarily think of, and it just really benefits student learning” (Teacher 97, personal communication, November 8, 2012). She also realizes that collaboration can impact the success of her and her students. Another male, middle school world language teacher with a master’s degree and 1 to 3
years of experience in Aragon and classified as *high collaborative* discusses his conviction:

> It [teacher collaboration] is worth someone’s time and not a waste of time…we’re here for the kids. We’re here to do a job and provide a service, and your job and your effectiveness is increased when you actually help and collaborate with each other. (Teacher 89, personal communication, October 5, 2012)

He also realizes the impact of collaboration to feel effective by serving his classes and students. Lastly, a female, elementary school third grade teacher with a master’s degree and 11 to 20 years of experience in Aragon and classified as *low collaborative* rationalizes, “It [teacher collaboration] enriches what you do and that’s for the kids. So whatever you can get from other people that will help the kids is what you should want to do” (Teacher 24, personal communication, October 5, 2012). She is indebted to helping her students, so teacher collaboration is one way she can provide that support. These teachers have a strong sense of effectiveness from teacher collaboration because of the potential to influence their students’ success in school.

A sense of efficacy from working with a colleague can also derive from the desire to get better. This is affirmed by Cordingley et al. (2003) who share, “Collaborative professional development was found to have a positive impact on teachers’…greater commitment to changing practice and willingness to try new things” (p. 17). As a female, middle school math teacher with a master’s degree and 4 to 10 years of experience in Aragon and classified as *medium collaborative* posits, “I think it’s the drive to get better that keeps people collaborating” (Teacher 63, personal communication, October 22, 2012). This teacher has a determination to improve and working with a colleague only reinforces her desire and resolve to be even more effective in her practice.
A final area in which teacher collaboration has a positive impact on one’s sense of efficacy is the idea of gleaning new knowledge. Gorodetsky and Barak (2008) allude to this when they explain, “The realization that teaching can be manifested in different ways and that there are many possible answers to school problems, actually increased teachers’ confidence in their professional activities” (p. 1917). A female, middle school math teacher with a master’s degree and 1 to 3 years of experience in Aragon and classified as *high collaborative* recalls, “When we were strategizing for lesson planning—like my mentor and I would strategize for lesson planning—we would feed each other, get excited about ideas” (Teacher 85, personal communication, October 4, 2012). This teacher has a reciprocal relationship with her colleague in which the sharing of their thoughts back and forth generates a sense of enthusiasm.

Sometimes, this sense of enthusiasm results from being on the receiving end of this new knowledge. Bandura (1977) describes this effect in his observations of collaboration through *verbal persuasion* in which someone can gain efficacy by doing something new. He finds, “people who are socially persuaded that they possess the capabilities to master difficult situations and are provided with provisional aids for effective action are likely to mobilize greater effort” (p. 198). A female, middle school math teacher with a master’s degree and 1 to 3 years of experience in Aragon and classified as *high collaborative* confesses, “I love when someone comes in my classroom and lays out a bunch of things that I can do better” (Teacher 85, personal communication, October 4, 2012). She is stimulated by the idea of someone telling him how to do things differently. Another male, middle school technology teacher with education beyond a master’s degree and 21 to 30 years of experience in Aragon and classified as *low*
collaborative observes, “I listen to some of my colleagues from other schools and how they handle certain things. It’s amazing what you can learn. It’s important to keep up with my colleagues from other districts. I feel it’s very important” (Teacher 70, personal communication, October 5, 2012). He continually listens to teachers from other school and school systems to glean whatever new knowledge he can. This notion of being on the receiving end of new knowledge for teaching their students can be very satisfying.

Others take pride in being the ones who share this new knowledge with a colleague or colleagues. A female, middle school English teacher with education beyond a master’s degree and 4 to 10 years of experience in Aragon and classified as medium collaborative reminiscences, “I remember sharing a few lessons just on vocabulary…It took maybe five or 10 minutes of department meeting time, but it was worthwhile. I passed those files onto every teacher in ninth grade…That was helpful” (Teacher 67, personal communication, October 22, 2012). Her sense of efficacy derives from the opportunity to present new learning to her peers, which she realized was of help to them in their professional practice.

Negative or no impact. While the vast majority of codes that were tagged within a teacher’s sense of efficacy relate to the positive impact of teacher collaboration, there were some who mentioned the negative or negligible effects collaboration can have upon effectiveness. Based on the qualitative data, these attributes are most evident among teachers who are classified as low collaborative, male, from the middle school, with a master’s degree and 1 to 3 years of experience in Aragon.

One female, middle school English teacher with education beyond a master’s degree and 4 to 10 years of experience in Aragon and classified as medium collaborative
reveals, “Some people are more guarded than others and they maybe got into this profession so they could just do things their own way” (Teacher 67, personal communication, October 22, 2012). She describes the detrimental impact of staying isolated and not collaborating. Another female, middle school math teacher with a master’s degree and 4 to 10 years of experience in Aragon and classified as medium collaborative discerns, “I think if someone is closed off and just going through the motions, I don’t think it would ever get to that level. I think I would close myself off, too” (Teacher 63, personal communication, October 22, 2012). She feels that if another teacher were to shut her out, she may assume that stance as well. A female, middle school English teacher with a master’s degree and 11 to 20 years of experience in Aragon and classified as medium collaborative discloses, “I view the work I do in my classroom as 99% of my job. While I would love to have a more collaborative professional climate, I look elsewhere for support” (Teacher 15, survey response, June 17, 2012). This teacher again refers to a toxic culture, which has contributed to her lack of collaboration within the school. Lastly, a female, middle school math teacher with a master’s degree and 1 to 3 years of experience in Aragon and classified as high collaborative divulges this exchange:

One day at one of those faculty meetings I sat next to a teacher not in my department—teaching a long time—and all she did under her breath was criticize everything that was being said and done because all this was all ‘bull’ and in two years it will change again and then they’ll tell us what hoop we have to jump through. (Teacher 85, personal communication, October 4, 2012)

This teacher’s description of a colleague is evidently of someone who thinks collaboration does not help one’s efficacy, at least not in the context of a faculty meeting. While these were several examples of collaboration having a negative or negligible
impact on a teacher’s efficacy, these excerpts represent a small minority of views within the District.

**Instructional change.** Following are the codes and excerpts that relate to the impact teacher collaboration has on a teacher’s instructional change, both positive and negative. In the literature review (Chapter II), the impact of teacher collaboration on instructional change was discussed (Andrews & Lewis, 2007; D. Cohen & Hill, 2000; Y. Goddard et al., 2007). The Instructional Change Map below (Figure 13) is a visual representation of the way in which I organized the coding for instructional change in this study. A positive impact is those favorable characteristics that result from teacher collaboration that relate to instructional change. They include differentiated instruction, the expansion of content, pedagogical and interdisciplinary knowledge and instructional alignment between co-teachers and colleagues, both horizontally and vertically. A negative impact is those detrimental characteristics that result from teacher collaboration that relate to instructional change. Some of the codes listed within this instructional change section were a priori whereas others were inductive, based upon the emerging perspectives of those participants in the study.
Positive impact. Some teachers make reference to the positive effect of teacher collaboration on their instructional practice in a general sense. Based on the qualitative data, these attributes are most evident among teachers who are classified as high collaborative, male, from the middle school, with a master’s degree and 1 to 3 years of experience in Aragon.
As D. Cohen and Hill (2000) share, “teachers’ opportunities to learn can be a crucial link between instructional policy and classroom practice” (p. 319). A male, middle school art teacher with education beyond a master’s degree and 4 to 10 years of experience in Aragon and classified as *medium collaborative* shares, “You get different ideas and different perspectives on things because we’re always in our classroom seeing what we do, so it’s good to see outside our classroom what other people do” (Teacher 29, personal communication, November 9, 2012). For him, the opportunity to collaborate presents alternative ways of implementing ideas for his classroom. Another female, middle school English teacher with a master’s degree and 4 to 10 years of experience in Aragon and classified as *medium collaborative* argues, “I think collaborating really helps challenge what you’re doing, makes you think about why you do something if you’re going to be explaining it to somebody else…you can get so many ideas of how to make it better” (Teacher 11, personal communication, November 7, 2012). She sees collaboration as a way for her to confront what she is doing in the classroom to ultimately improve her instructional practice.

Among the more specific ways that teacher collaboration has a positive impact on a teacher’s instructional change is through expanded content knowledge, expanded pedagogical knowledge, expanded interdisciplinary knowledge, student differentiation and teacher alignment. This result from the teachers in this study is confirmed by the research of Y. Goddard et al. (2007) who confirm, “When teachers have opportunities to engage in professional discourse, they can build upon their unique content, pedagogical, and experiential knowledge to improve instruction” (p. 880). All of these outcomes
relate to the opportunity for collaboration to impact a change in one’s instructional practice.

The first code related to the specific way in which teacher collaboration has a bearing on instruction is through expanded knowledge in a particular discipline. A female, elementary school third grade teacher with a master’s degree and 11 to 20 years of experience in Aragon and classified as low collaborative recalls, “She’s said to me before that I make her think of things that didn’t even occur to her and I feel the same exact way about her, and we share the same philosophy. This is around reading” (Teacher 24, personal communication, October 5, 2012). She and her colleague collaborate which help them to realize instructional shifts in reading, a critical competency for children. In another subject, a male, high school science teacher with a doctoral degree and 11 to 20 years of experience in Aragon and classified as medium collaborative adds his recollection:

I teach an honors bio. class and I work closely with our AP [Advanced Placement] bio. teacher because I like to get feedback from her of what I’m doing right, what I’m doing wrong, if there’s anything I can teach my kids so they can be better prepped for her class. (Teacher 75, personal communication, October 26, 2012)

For this teacher, he realizes that his science colleague in the next level can help him to understand what his students need before they move on to her course the following year. Whether it is reading, science or another area of instruction, teacher collaboration can directly influence what is taught in a class.

Teacher collaboration can also positively sway how something is taught, which is the pedagogical approach that is taken. A male, middle school art teacher with education beyond a master’s degree and 4 to 10 years of experience in Aragon and classified as
medium collaborative describes, “working with the teachers, getting ideas, even just bouncing different techniques, styles, ideas off one another” (Teacher 29, personal communication, November 9, 2012). He reflects on instructional strategies and approaches he can glean from his colleagues, even if not content-based. Another female, middle school English teacher with education beyond a master’s degree and 11 to 20 years of experience in Aragon and classified as high collaborative remembers her pedagogical shift as a co-teacher:

In my first year collaborating… I really had to watch a lot and observe and listen to the rules and the directions and the expectations and take in the purpose of why the teacher planned certain things. So there was a lot of questions like, ‘Well, why are we doing this?’ I really had to understand why the teacher was choosing to put certain routines into place… I was used to teaching my own classes and I really had to let go of all my philosophies and beliefs and take in this other person’s. (Teacher 72, personal communication, October 4, 2012)

She used the opportunity to observe her colleague’s style and modify her own instructional practice as a result. Lastly, a female, middle school special education teacher with education beyond a master’s degree and 4 to 10 years of experience in Aragon and classified as high collaborative points out a limitation she has:

I would consider creativity to be a weakness of mine, so to have ideas from other teachers as to how I could implement lessons and concepts that I know I want to, but lack some of the technique or tools… that’s really important. (Teacher 42, personal communication, October 3, 2012)

For this teacher, she is able to adjust her instructional practice in ways she would not otherwise be able to do were it not for the opportunity to connect with a colleague who she realizes is more creative than she is. Each of these excerpts demonstrates the importance of collaboration for pedagogical change to one’s instruction.
Although not mentioned as much, some teachers allude to the positive role teacher collaboration has on their interdisciplinary knowledge, which can also change instruction. A female, middle school English teacher with a master’s degree and 4 to 10 years of experience in Aragon and classified as medium collaborative emphasizes, “I think it’s also important that when we have team members, we’re able to collaborate across disciplines about certain students or just getting an idea of what’s going on in science, math and English” (Teacher 11, personal communication, November 7, 2012). She yearns to connect with her fellow teachers from different subjects to have an understanding of what they are doing in their classrooms. Just by virtue of this awareness of what a colleague is doing in his or her classroom has the potential do modify what one does with his or her own students.

Among the most common ways that teacher collaboration can have a positive impact on instructional change mentioned in this study is through differentiation, which is the customization of lessons to meet the needs of individual students based upon their readiness, interests or learning style. In some ways, this is related to the impact of teacher collaboration on student achievement. However, in this case, it is related to instructional changes that teachers have made because of hearing about a particular student or group of students through a collaborative experience. As Saunders et al. (2009) show, “significant gains were achieved when grade-level teams were provided with consistent meeting times, schoolwide instructional leadership, and explicit protocols that focused meeting time on students’ academic needs and how they might be instructionally addressed” (p. 1007). This is the essence of teacher collaboration that results in an instructional change to differentiate or customize student learning.
The first example of collaboration, which leads to differentiation, is a male, middle school physical education teacher with education beyond a master’s degree and 4 to 10 years of experience in Aragon and classified as low collaborative:

Every couple of days we talk about what is going on in our classes, or something that we’ve tried that is new or something that we want to try, talking about individual kids and tactics that work for reaching those individual kids. (Teacher 23, personal communication, November 8, 2012)

Although this type of collaboration is informal, it has an impact on how he teaches his students in his physical education classes. Another female, middle school math teacher with a master’s degree and 1 to 3 years of experience in Aragon and classified as high collaborative draws the following conclusion:

There was no reason why an eighth grade teacher would not do anything for a seventh grade teacher knowing that those would be their students coming up, and there’s no reason that the sixth grade teacher isn’t going to want to interact and say, ‘What’s working? What isn’t working? How can we help?’ (Teacher 85, personal communication, October 4, 2012)

For this math teacher, she is willing to connect with her colleagues about students they will all teach during a three year span and provide ideas about how to best instruct them. A female, middle school math teacher with a master’s degree and 4 to 10 years of experience in Aragon and classified as medium collaborative notes, “You also could be collaborating about a student. If you’re having difficulty with a student, talking about a strategy that helped one teacher, that could help you” (Teacher 63, personal communication, October 22, 2012). She is willing to reach out to a colleague that has taught the same student that she has in order to figure out an approach that could work.

Finally, a female, middle school special education teacher with education beyond a
master’s degree and 1 to 3 years of experience in Aragon and classified as *high collaborative* discerns how differentiation is essential:

Since I teach a class that contains students that all have learning disabilities, if I didn’t know what the other levels of that class, like the co-taught [special education] level or the general education level of, let’s say, sixth grade English or seventh grade English, if I didn’t know what those other teachers were doing, I wouldn’t really have a baseline from which to modify for my students. So I need to know what’s going on at all levels so I know how to appropriately modify for the students in my class. (Teacher 33, personal communication, November 8, 2012)

From her perspective, without this knowledge from her colleagues about their instruction, she would have no idea how to tailor lessons to meet the needs of her students. Each of these examples represents different ways that collaboration can produce an instructional change through differentiation.

A final notion often referenced in this study in which teacher collaboration has a positive influence on instructional change is through teacher alignment, which is the practice of colleagues ensuring they are doing the same or similar things throughout the course of the school year. This idea was discussed by Pounder (1998b), who finds that when teachers work together on formal teams, there is a “tighter connection between teachers’ work” (p. 66). In this study, alignment manifested itself in a variety of ways.

The first and perhaps most obvious way in which the idea of instructional alignment is evident is through the alignment between co-teachers. In Aragon, this is a class typically taught jointly by both a general educator and a special educator. A female, middle school special education teacher with education beyond a master’s degree and 11 to 20 years of experience in Aragon and classified as *high collaborative* provides the following justification:
Working with other teachers, for example, my co-teachers, we collaborate together and teacher collaboration is structuring how the class is going to function, whether you are up together teaching at the same time or one person is walking around while the other person is up. (Teacher 72, personal communication, October 4, 2012)

For her, co-teaching produces instructional change because it requires two teachers to determine how best to conduct the class they teach together. Indeed, alignment is particularly important when you have two teachers in the same classroom.

Alignment was also mentioned frequently in terms of horizontal consistency, which is among those colleagues who teach the same classes or courses across a grade level or subject area. A female, middle school English teacher with education beyond a master’s degree and 4 to 10 years of experience in Aragon and classified as medium collaborative explains the importance of common expectations:

I think it’s a good idea for teachers to sort of understand what everybody else is doing, especially if it’s a course that’s taught by different people. If somebody’s requiring a research paper of 10 pages or more and another teacher is requiring a research paper of five to eight, there seems to be a lack of quality there and that’s maybe something that should be spoken about. (Teacher 67, personal communication, October 22, 2012)

For her, instructional change through alignment is for the purpose of ensuring all teachers of the same course have similar expectations for their students. Another female, middle school English teacher with a master’s degree and 4 to 10 years of experience in Aragon and classified as medium collaborative discusses her and her colleagues’ approach:

I know in seventh grade we do a lot of similar projects, and even though creatively we go different ways, we’re always on the same page of what’s being taught. So we were doing the Common Core and we were all pretty much on the same page. (Teacher 11, personal communication, November 7, 2012)

She sees alignment through collaboration not so much for the purpose of the expectations for students so much as it is that the content of what students learn is the same. Others,
such as this female, middle school world language teacher with a master’s degree and 1 to 3 years of experience in Aragon and classified as medium collaborative talks about the significance of alignment as it relates to assessment:

   It’s important to be on the same track as far as what we’re giving as assessment, if it’s modified, that we all decide to modify, that it’ll be the same across the board because it does come back to say, ‘Well, she’s doing it and he’s not doing it’. So it’s important to have that same thing across the board…to be able to know where our end goal is. (Teacher 25, personal communication, November 8, 2012)

For her, like the teacher who wishes for consistency in assignments, this teacher appreciates colleague alignment in terms of the type of assessments that are administered.

Lastly, a male, high school social studies teacher with education beyond a master’s degree and 4 to 10 years of experience in Aragon and classified as medium collaborative also illustrates the positive role of colleague alignment in terms of parent perception:

   It keeps us on track. It adds the element to the curriculum of commonality where that alleviates a lot of parental concerns about differing class expectations and classwork grading…we actually meet to norm the grading of our common assessments…and then we kind of implement it at the same time doing the same thing, and that’s awesome and they work really well and the kids like the idea because, for the teacher, it’s kind of like it’s not me, it’s everyone. (Teacher 69, personal communication, October 24, 2012)

This teacher sees the importance of teacher alignment to assuage parent concerns so they realize all teachers of the same course are doing the same thing. Whether this instructional change by aligning practices is for the purpose of the parents, an assessment, the content or student assignments, it is all the result of teacher collaboration.

   A final type of alignment, though not mentioned as much as horizontal alignment, is vertical alignment, in which a teacher meets with colleagues to ensure their course is properly sequenced to match the teacher of the course below and above their own level. A male, high school world language teacher with education beyond a master’s degree and
4 to 10 years of experience in Aragon and classified as medium collaborative makes this admission:

I will say there is a selfish reason now [for vertical alignment]…especially in our department, in language, everything everybody does is important. It all basically trickles up as it goes up in levels. If they have gaps anywhere, it’s a huge problem for us. I will say I will often share and try to collaborate with people for the selfish reason that I’m trying to make sure some of those holes are covered. (Teacher 57, personal communication, November 9, 2012)

For this teacher, he collaborates vertically because he wants to ensure he does not have to reteach skills or concepts that should have been taught in a lower level course. Although he considers his motives for collaboration to be selfish, it does result in an instructional change through vertical alignment with his colleagues.

Negative or no impact. While the vast majority of codes that were tagged within a teacher’s instructional change relate to the positive impact of teacher collaboration, there were some who mentioned the negative or negligible effects collaboration can have upon instructional change. Based on the qualitative data, these attributes are most evident among teachers who are classified as low collaborative, female, from the middle school, with education beyond a master’s degree and 4 to 10 years of experience in Aragon.

One female, middle school English teacher with a master’s degree and 11 to 20 years of experience in Aragon and classified as medium collaborative cites her lack of instructional change, “Due to budgetary restrictions, we have been unable to attend workshops for the past few years. This has been unfortunate for both the District and myself as a professional who is always seeking to improve instruction” (Teacher 15, survey response, June 17, 2012). While this teacher would like to collaborate more,
fiscal constraints have prevented her from improving her instructional practice. Another female, middle school English teacher with education beyond a master’s degree and 4 to 10 years of experience in Aragon and classified as *medium collaborative* discusses the instructional downside of collaborating across schools:

> When I was at a research meeting a couple of years ago, and it was [the elementary school], the middle school and the high school, I felt like it was competitive, like we were competing on whose was the best, as opposed to ‘let’s figure out a common way to present research.’ (Teacher 6, personal communication, November 7, 2012)

In Aragon, the research meeting refers to a gathering of the teachers who are responsible for implementing a required unit of study in each grade level in which students must use cited material to develop a product. Unfortunately, this teacher’s view is that collaboration between different schools bred an instructional rivalry rather than unity, which is not conducive to a positive change in one’s instructional practice. While these were two examples of collaboration having a negative or negligible impact on instructional change, these excerpts represent a small minority of views within the District.

**Conclusion**

This chapter was presented using the framework for a concurrent mixed methods study, as described by Creswell (2009). Quantitative data were explored from the survey, and then cross-referenced with the qualitative data, which then led to the exploration of excerpts from the qualitative survey, interviews and focus groups. This analysis was intentionally sequenced, first from my perspective as the researcher (*etic*) and then from the perspective of the participants in the study (*emic*) (Marshall & Rossman, 2011). Ultimately, the data helped me to answer the two research questions in this study:
1. What is the range and variation of teacher collaboration within and across schools in a small, suburban district?

2. From the teachers’ perspectives, how does teacher collaboration impact them and their teaching?

The first question was answered through the demographic survey results in Aragon and the range and variation of structural conditions, interpersonal dynamics, sense of efficacy and instructional change among teachers in the District from both the survey results and the qualitative survey, interview and focus group codes and excerpts. The second question was answered through both the positive statistical relationships between structural conditions, interpersonal dynamics, sense of efficacy and instructional change that appeared when analyzing teacher groups and the perspectives of teachers in the District through the qualitative survey, interviews and focus group codes and excerpts.
CHAPTER V: Conclusion

Introduction

This dissertation began with the premise that schools and school systems are highly fragmented (D. K. Cohen & Ball, 1999; Y. Goddard et al., 2007; Saunders et al., 2009) and teacher collaboration is one mechanism by which to mitigate isolationism, privatization, redundancy and duplication of effort (CCSSO, 2011a; Danielson, 2011; Y. Goddard et al., 2007; Saunders et al., 2009; Stoll et al., 2006; Wenger & Snyder, 1999). Through the recent implementation of the InTASC Teaching Standards, New York State Teaching Standards and Charlotte Danielson’s Framework for Teaching Rubric, teacher collaboration has become codified as an expectation for all teachers in New York State (CCSSO, 2011a; Danielson, 2011; NYSED Workgroup, 2011a). Teachers in this study had a decidedly mixed view about the impact of mandating and evaluating teacher collaboration. While teachers believe collaboration should be part of one’s professional practice by a wide margin, the idea of mandating it produced ambivalence. Some teachers felt it would incent less collaborative teachers to participate, whereas other teachers argued it might create an inauthentic collaborative experience or be difficult for an evaluator to assess. This idea of mandatory collaboration will be discussed again in the further study section of this chapter.

In the conceptual framework, teacher collaboration was presented as a departure from early theories of labor, which primarily focused on the output of the individual (Gantt, 1919; Taylor, 1911). Instead, through the micropolitics of human interaction (Achinstein, 2002; Blase, 1991; Malen, 1994), teacher collaboration is defined in terms of its inherent characteristics; both its structural conditions and interpersonal dynamics.
These concepts were presented as they appear in recent teaching standards, evaluation systems and previous studies. Based on these a priori sources, I was able to design a teacher survey and an interview and focus group protocol to gauge the range and variation of teacher collaboration where I work in Aragon School District, a small, suburban system in Westchester County, NY. Further, I was able to assess the relationship between this range and variation of teacher collaboration and its impact on teaching, both in terms of teachers’ sense of efficacy and instructional change. I was able to do so from my perspective and from that of the teachers in this study, using both an etic and then emic standpoint respectively (Marshall & Rossman, 2011). These concepts, relationships and viewpoints were summarized in the following research questions:

1. What is the range and variation of teacher collaboration within and across schools in a small, suburban district?

2. From the teachers’ perspectives, how does teacher collaboration impact them and their teaching?

This conceptual framework and these research questions led me to the conceptual map for the study.
Initially, I envisioned the range or continuum from teacher isolation to teacher collaboration as a rectangular picture in which teacher isolation and teacher collaboration are presented as opposing forces that are influenced by these structural conditions and interpersonal dynamics to determine the extent to which teachers are more isolated or collaborative in their practice. From studying Aragon, I now know that no one is entirely isolated in his or her professional practice. Even those teachers that had the fewest structural conditions and interpersonal dynamics had some elements that are favorable to teacher collaboration. This revelation led me to redefine this range from those teachers who are isolated to collaborative to those teachers who are classified as low collaborative, medium collaborative and high collaborative in their professional practice.

The variation in this study came from the analysis of structural conditions and interpersonal dynamics by individual teacher participants and teacher groups in addition to a teacher’s sense of efficacy and instructional change. These data were gleaned from the largely quantitative teacher survey and the qualitative survey responses, teacher interviews and focus groups, which were then cross-referenced with one another to explore whether there would be corroboration between these quantitative and qualitative approaches. As such, it is essential to compare the extent to which certain concepts were emphasized in the literature review with the extent to which they actually appeared in the data. This will help to understand whether the results from my perspective as a researcher and that of the participants in the study are consistent with prior research within the field of education.
Structural Conditions

In terms of structural conditions, informal and formal time were determined to be highly conducive to teacher collaboration in the literature review (CCSSO, 2011a; Y. Goddard et al., 2007; Saunders et al., 2009; Strahan, 2003). Informal time is any opportunity for collaboration to occur that does not have a designated or pre-determined time of day, week or month. Formal time, on the other hand, is any opportunity for collaboration to occur that has a designated time of day, week or month and has an organizational framework, such as a meeting. In Aragon, teachers’ informal and formal time were similarly important, with the formal time set aside for weekly department, content or curriculum area meetings within schools as the most important enactment of this collaborative structure. Many teachers value the weekly structure of the department meeting and grade level meeting in which content, pedagogy and specific students are all discussed. On the other hand, time was also the structure most frequently mentioned as lacking, thus preventing teachers from collaborating regularly with their colleagues, most often due to scheduling constraints. This was particularly true at the high school where teachers lacked the time to meet with their colleagues as the only teacher of a course or the teacher of multiple courses.

Proximity was also mentioned in the literature as a structure favorable to collaboration (Stoll et al., 2006), although teachers did not particularly discuss it as a feature that supports teacher collaboration in Aragon. Proximity is the physical distance separating teachers within a building or throughout the District. In Aragon, it may be that teachers are already located relatively close to their colleagues and take this structure for granted or that technology, a resource mentioned three times more frequently than
proximity, mitigates the importance of being physically near someone else in a school. Teachers who are spread out within the same building or who have to teach in two different schools mentioned proximity as an impediment to their collaboration. Certainly, by being in two buildings each day is a structural barrier to teacher collaboration

Another structural condition was one that did not appear in the literature review (Chapter II) and was not tagged often enough to appear in the results (Chapter IV). However, as a new inductive code, it is worth mentioning. *Content Area* is a structural condition in which the very nature of the subject lends itself to collaboration. Among many participants in this study, it was mentioned most often by world language teachers and special education teachers, who described teacher collaboration as fundamental or inherent to being in that discipline. Physical education teachers also discussed their content area in the opposite way; that the very essence of being in their discipline is not conducive to teacher collaboration. Of course, there were not a significant number of tags to decisively conclude anything about world language teachers, special education teachers or physical education teachers in Aragon. Still, this was not an a priori concept that appeared in previous studies.

Role was another structural condition mentioned in the literature review, particularly in the context of an experienced colleague, such as a mentor (Berk & Hiebert, 2009; NYSED Workgroup, 2011a; Rust, 2009). Role is considered to be human capital and all of its various iterations. In Aragon, this structural condition was extremely important, and was the most often tagged among all structural conditions. In particular, the role of a colleague of the same or a similar content area was of greatest significance. Many teachers in the District appreciate the chance to consult with their peers with
whatever they might be doing, whether it is a project, a teaching strategy, a lesson or a philosophical approach to their curriculum. Ironically, mentor was among the least mentioned roles in Aragon, although the District only assigns formal mentors to teachers who are in their first year of instruction, of which there were very few in this study.

Outcomes were the next area of analysis and included the structural conditions mentioned in the literature review of setting common goals and creating professional norms (D. K. Cohen & Ball, 1999; CCSSO, 2011a; Smith et al., 2009). Outcomes are those structures that result from a particular collaboration. In Aragon, setting goals each year is a mandated part of the evaluation cycle. Building principals sometimes mandate collaborative goal setting between colleagues or departments. As such, common goals in Aragon were a frequently tagged structure and mentioned over 10 times as often as professional norms. Many teachers’ common goals included the implementation of the Common Core State Standards (CCSS) and the mapping of this new curriculum in Rubicon Atlas, a curriculum mapping software. As mentioned, professional norms were not discussed as a part of teachers’ professional practice, perhaps because they may already be embedded in the interpersonal dynamics of formal meetings. If they are already rooted within these other structures, it may seem artificial for teachers to create professional norms that are currently in existence.

The final feature of structural conditions was those resources favorable to teacher collaboration. Resources are those peripheral structures that exist which can inform interactions between teachers. The first among them that was discussed in the literature review was sharing study work or data (D. K. Cohen & Ball, 1999; Rust & Meyers, 2006). This code was not tagged often enough to be among the excerpts included in the
results (Chapter IV), though they will be discussed in my recommendations to the Superintendent, in a section later in this chapter. Inter-classroom observation was another code that was mentioned in the literature review (D. K. Cohen & Ball, 1999; CCSSO, 2011a), but also not enough to be included among the excerpts in the results (Chapter IV). The most frequently tagged resource that is conducive to teacher collaboration and not discussed in the literature review was Curriculum, a new, inductive code that emerged in this study. Included within the curriculum are tools such as the national and state standards, curriculum mapping, units, lesson plans, assessments, deliverables and materials. From the perspective of many of the teachers in the District, curriculum was a crucial basis for teacher collaboration in Aragon. Teachers discussed using Rubicon Atlas to map their new CCSS curriculum, sharing lesson plans with their peers, designing performance-based assessments and the sharing of materials to prevent having to “reinvent the wheel” (Teacher 48, personal communication, October 4, 2012). Another important resource discussed in the literature review was technology (D. K. Cohen & Ball, 1999; CCSSO, 2011a), which also appeared among teachers within Aragon, particularly through the use of email and Rubicon Atlas. A final resource that supports teacher collaboration that was discussed in the literature review was external entities, such as professional networks, professional development conferences and institutions of higher education (Gorodetsky & Barak, 2008). When these codes are combined, they were mentioned as a resource with the same frequency as the others mentioned above, though none of which were enough to include excerpts within the results on their own (Chapter IV). Each of these resources that did not appear
particularly often will also be discussed as part of a recommendation to the Superintendent, in a section later in this chapter.

It is important to reiterate that the teachers classified as high collaborative identified in the teacher survey also had the highest frequency of positive structural conditions and the lowest frequency of negative structural conditions from the interviews and focus groups. The teachers classified as medium collaborative identified in the teacher survey also had the medium frequency of positive structural conditions and the medium frequency of negative structural conditions from the interviews and focus groups. On the other hand, the teachers classified as low collaborative identified in the teacher survey also had the lowest frequency of positive structural conditions and the highest frequency of negative structural conditions from the interviews and focus groups.

These results are critical because they cross-reference the quantitative survey data with the qualitative survey, interview and focus group excerpts. Since there is consistency between both approaches within this concurrent mixed methods study, this means that there is internal consistency across both approaches. As Creswell (2009) points out, “The researcher converges or merges quantitative and qualitative data in order to provide a comprehensive analysis of the research problem” (pp. 14-15). Thus, having completed this merge and finding corroboration between both sets of data for structural conditions, this adds further credibility to the results.

Among the teachers classified as high collaborative in Aragon identified from the quantitative data, there were certain structural conditions that were more evident than others within the qualitative data, as compared to the teachers classified as medium and low collaborative. These clusters of characteristics may help to identify teachers
classified as *high collaborative* not only in Aragon, but possibly in other districts as well. Formal time was frequently mentioned as a positive structure conducive to collaboration, particularly through faculty meeting time, time to meet as a grade level team, time to meet as a department and time to participate in a Tri-State Consortium assessment. This Consortium has developed “an alternative assessment model designed to enhance student performance in high-performing school districts” (Tri-State Consortium, 2013). Teachers engage in professional development through a visit from an outside group of “critical friends” from other member districts of the Consortium. In Aragon, teachers classified as *high collaborative* either held or mentioned the roles of veteran teachers, new teachers, mentor teachers, co-teachers and administration as critical to their practice. They also discussed the importance of setting shared goals more than teachers classified as *medium* or *low collaborative*. Lastly, they most frequently referred to their content area in and of itself as being conducive to teacher collaboration.

**Interpersonal Dynamics**

In terms of interpersonal dynamics, the codes for this study were separated into those external and internal characteristics that are conducive to teacher collaboration. External dynamics require the presence of another person or a group of people to be exhibited in practice, whereas internal dynamics do not necessarily require the presence of another person or a group of people to be exhibited in practice. Within this idea of external characteristics, themes were further split into proactive, reactive and reciprocal codes. Proactive dynamics are the result of someone who begins the interaction with a colleague, reactive dynamics are usually the result of someone who is the recipient of a
colleague interaction and reciprocal dynamics are those that combine both proactive and reactive traits.

Many of the positive, proactive and external codes were discussed in the literature review, such as openness, interaction, active participation and shared beliefs (CCSSO, 2011a; Danielson, 2011; Hansen et al., 2010; NYSED Workgroup, 2011a; Smylie, 1994; Westheimer, 1999). The emergent, inductive codes were largely related to the a priori codes, such as being personable, communicative, respectful or supportive and sharing practice, seeking feedback or seeking a shared understanding. The most common proactive, external trait in Aragon was being communicative. From the perspective of many teachers in the District, they feel it is important to be in communication with colleagues with whom you share students or courses, whether through a formal meeting or an informal conversation. Sharing practice was the next most common dynamic and Aragon teachers like to share with their coworkers, whether it is for the sake of giving them a resource or for the purpose of cultivating a relationship. Being personable was the next characteristic, whereby many teachers in Aragon yearn to forge a personal relationship that enhances their ability to collaborate with a colleague. Seeking feedback was also mentioned, in which many district teachers “go looking for answers” (Teacher 93, personal communication, October 2, 2012). Lastly, many Aragon teachers believe in openness whether one is a new or veteran teacher, in which all members of a department are willing to share with each other. This category within interpersonal dynamics of positive, proactive and external codes had the most tags within Aragon.

The positive, reactive and external codes discussed in the literature review related to trust and the valuing of minority viewpoints (Bryk & Schneider, 2002; CCSSO, 2011a;
Stoll, 2006; Westheimer, 1999). Just as with proactive codes, the emergent, inductive codes were largely related to the a priori codes, such as listening or adopting new practices and being non-judgmental, vulnerable, receptive or cooperative. The most common reactive, external trait in Aragon was adopting new practices through which many teachers view teaching as multi-faceted, with many different ways to arrive at the same thing. This idea of adopting new practices was closely followed by being cooperative, whereby teachers in Aragon expressed an interest in helping one another to meet their goals. Interestingly, trust was hardly mentioned by participants, though I think this can be explained in the following paragraph.

A new, inductive code that appeared within external interpersonal dynamics was the idea of reciprocity. The code *Reciprocal* in many ways is a meta code, defined as the combination of proactive and reactive dynamics described by teachers as a feature in which they “bounce ideas off of one another” through a “back and forth” or a “give and take” (Bryk & Schneider, 2002; Danielson, 2011; Stoll et al., 2006). Implicit in this code is the idea of trust, in which colleagues confide in one another to support and cooperate in a collaborative experience. Many district teachers discussed the idea of collaboration as finding a colleague who will offer something if they offer something, much like a quid pro quo or “a two-way street” (Teacher 16, personal communication, November 7, 2012). In fact, the most common negative external, interpersonal dynamic in Aragon was when teachers were not reciprocal and withheld from their colleagues or chose to do so because they anticipated not receiving anything in return. Several teachers in Aragon spoke about the importance of everyone doing their own work and not having someone take advantage of them by not reciprocating. Of course, to an extreme this can create an
atmosphere that is antithetical to collaboration, in which competition or even isolation results.

The positive, internal codes discussed in the literature included having a positive attitude and taking initiative (Brownell et al., 1997; CCSSO, 2011a; Danielson, 2011; Smith et al., 2009). The emergent, inductive codes included leadership or problem solving and being professional, organized, timely or reflective and having high expectations. Among these positive, internal codes, the most common in Aragon was taking initiative. Many Aragon teachers offered examples in which they would take an opportunity to approach a in the hallway, in the cafeteria or put their deliverables on a shared drive. Having a positive attitude was another common trait in Aragon and teachers described a willingness to offer their assistance to a coworker in need of support. This was followed by being reflective, whereby teachers in Aragon would find the time to think about different approaches, techniques or strategies that work best for their students. Similar to not being reciprocal, the most common negative, internal code in Aragon was being closed off. Interestingly, all of the excerpts discussed refer to a hypothetical colleague who is closed off and not willing to engage with their peers. On the other hand, being independent was the next most common code, in which teachers in Aragon are independent by choice and necessity. Lastly, there are other teachers who are not willing to change, again discussed in Aragon only in the hypothetical. Perhaps the fact that many teachers could not identify a closed off colleague or one who is unwilling to change means that many embody the positive dynamics.

Once again it is important to reiterate that the teachers classified as high collaborative identified in the teacher survey also had the highest frequency of positive
interpersonal dynamics and the lowest frequency of negative interpersonal dynamics from the interviews and focus groups. The teachers classified as *medium collaborative* identified in the teacher survey had the lowest frequency of positive interpersonal dynamics and also had the medium frequency of negative interpersonal dynamics from the interviews and focus groups. On the other hand, the teachers classified as *low collaborative* identified in the teacher survey had the medium frequency of positive interpersonal dynamics and also had the highest frequency of negative interpersonal dynamics from the interviews and focus groups.

As mentioned above, these results are critical because they cross-reference the quantitative survey data with the qualitative survey, interview and focus group excerpts. Since there is some consistency between both approaches within this concurrent mixed methods study, this means that there is internal consistency across both approaches. As Creswell (2009) points out, “The researcher converges or merges quantitative and qualitative data in order to provide a comprehensive analysis of the research problem” (pp. 14-15). Thus, having completed this merge and finding some corroboration between both sets of data for interpersonal dynamics, this adds further credibility to the results.

Among the teachers in Aragon classified as *high collaborative* identified from the quantitative data, there were certain interpersonal dynamics that were more evident than others within the qualitative data, as compared to the teachers classified as *medium* and *low collaborative*. As mentioned earlier, these clusters of characteristics may help to identify teachers classified as *high collaborative* not only in Aragon, but possibly in other districts as well. Teachers classified as *high collaborative* were the most proactive as the initiators of an interaction with a peer by being communicative, open, active participants,
supportive, finding a shared understanding and seeking feedback. They were also the most reactive as a recipient of an interaction with a colleague by being non-judgmental, vulnerable and cooperative. Lastly, they showed many of the positive internal characteristics favorable to collaboration, such as being professional, timely, reflective, problem solving, having high expectations and taking initiative in their practice.

**Structural Conditions and Interpersonal Dynamics**

When the teacher survey data were combined to compare the relationship between structural conditions and interpersonal dynamics, there was a weak relationship or no relationship at the individual teacher level. However, when the data were further combined to create demographic groups of teachers, there was a moderate relationship between a teacher group’s average structural conditions and interpersonal dynamics. In other words, those teachers within a demographic group who have strong structural conditions may also have strong interpersonal dynamics just as those teachers within a demographic group who have weak structural conditions may also have weak interpersonal dynamics. The reasons for this may be self-perpetuating. The longer a group has strong structural conditions, the longer a group has the opportunity to use interpersonal dynamics favorable to teacher collaboration. On the other hand, the longer a group has weak structural conditions, the longer a group does not have the opportunity to use interpersonal dynamics favorable to teacher collaboration.

This was a new relationship identified in this study that was not revealed in the conceptual framework (Chapter I) or the literature review (Chapter II). In the conceptual framework, Kelchtermans (1996) discusses workplace conditions in terms of “material needs or resources [structural conditions] and organizational and social interests
[interpersonal dynamics]” as if they are mutually exclusive micropolitical characteristics (p. 310). In addition, the literature review refers to structural conditions and interpersonal dynamics separately, without regard to their potential impact upon one another. However, in Aragon, it may true that interpersonal dynamics are dependent upon the existence of structural conditions to foster a truly collaborative exchange among teacher groups. Conversely, it may be true that the lack of structural conditions may result in the absence of interpersonal dynamics, thus preventing the opportunity for teacher collaboration.

**Impact of Teacher Collaboration on Sense of Efficacy**

The section of the literature review (Chapter II) on sense of efficacy suggested that there would be a positive relationship with teacher collaboration (Bandura, 1977; Cordingley et al., 2003; Gorodetsky & Barak, 2008; Shachar & Shmuelevitz, 1997). Also discussed was the potential for there to be a positive relationship between teacher collaboration and a communal sense of efficacy, as represented by the culture of the school (R.D. Goddard et al., 2000; Louis & Kruse, 1995; Strahan, 2003). The most commonly tagged code in terms of the impact of teacher collaboration on sense of efficacy was the benefit of working with others. Many teachers in Aragon enjoy the emotional feeling, pedagogical support and camaraderie that result from working with their colleagues. Some describe it almost like a family in terms of the familiarity, solidarity and symbiosis that develops, which can ultimately impact the entire school culture. Next, teachers in the District value the feeling that they have from receiving new knowledge through collaboration. Some Aragon teachers enjoy when a peer tells them how they can improve while others are observant of other schools and districts. Lastly, Aragon teachers feel effective when they realize their collaboration is for the benefit of
students. They feel it is time well spent when time with a colleague when it ultimately impacts their ability to “benefit student learning” (Teacher 97, personal communication, November 8, 2012). From the excerpts discussed, the qualitative survey, interview and focus group data support this idea of a positive relationship between teacher collaboration and sense of efficacy.

When the quantitative survey data were combined to compare the relationship between teacher collaboration and a sense of efficacy, there was a weak relationship or no relationship at the individual teacher level. However, when the data were further combined to create demographic groups of teachers, there was a weak relationship between a teacher group’s average level of teacher collaboration and a sense of efficacy. In other words, those teachers within a demographic group who have a strong level of teacher collaboration may also have a strong sense of efficacy just as those teachers within a demographic group who have a weak level of teacher collaboration may also have a weak sense of efficacy. It makes sense to think that those teacher groups with high levels of structural conditions and interpersonal dynamics favorable to teacher collaboration might also have a strong sense of efficacy about working together, receiving new knowledge or helping students.

Once again it is important to reiterate that the teachers classified as high collaborative identified in the teacher survey also had the highest frequency of a positive sense of efficacy and the lowest frequency of a negative sense of efficacy from the interviews and focus groups. The teachers classified as medium collaborative identified in the teacher survey had the lowest frequency of a positive sense of efficacy and also had the medium frequency of a negative sense of efficacy from the interviews and focus
groups. On the other hand, the teachers classified as low collaborative identified in the teacher survey had the medium frequency of a positive sense of efficacy and also had the highest frequency of a negative sense of efficacy from the interviews and focus groups.

As mentioned above, these results are critical because they cross-reference the quantitative survey data with the qualitative survey, interview and focus group excerpts. Since there is some consistency between both approaches within this concurrent mixed methods study, this means that there is internal consistency across both approaches. As Creswell (2009) points out, “The researcher converges or merges quantitative and qualitative data in order to provide a comprehensive analysis of the research problem” (pp. 14-15). Thus, having completed this merge and finding some corroboration between both sets of data for sense of efficacy, this adds further credibility to the results.

Among the teachers classified as high collaborative in Aragon identified from the quantitative data, there were aspects of the impact of teacher collaboration on sense of efficacy that were more evident than others within the qualitative data, as compared to the teachers classified as medium and low collaborative. As mentioned earlier, these clusters of characteristics may help to identify teachers classified as high collaborative not only in Aragon, but possibly in other districts as well. Teachers classified as high collaborative were more inclined to talk about the desire to get better as a result of interacting with a colleague. They were also motivated by the opportunity to share new knowledge with their peers. Lastly, they were most effusive about the benefit of working with others, such as the opportunity to complement another teacher, the chance to influence school culture by collaborating, the chance to develop familiarity with a colleague and the ability to socialize with other teachers.
Impact of Teacher Collaboration on Instructional Change

The section of the literature review (Chapter II) on instructional change suggested that there would be a positive relationship with teacher collaboration (Andrews & Lewis, 2007; D. Cohen & Hill, 2000; Y. Goddard et al., 2007). The most commonly tagged code in terms of the impact of teacher collaboration on instructional change was the idea of horizontal alignment between colleagues. Many teachers in Aragon believe this sort of alignment is important to ensure teachers of the same course are giving the same assignments, teach the same content, administer the same assessments and can assuage parental concerns regarding different teacher expectations. Another impact of teacher collaboration on instructional change in Aragon was the idea of differentiation to meet the needs of individual students. This knowledge of what to expect was discussed in the context of informal meetings between colleagues within the same department in different grade levels or between special education and general education teachers. Lastly, the effect of teacher collaboration on instructional change via expanded pedagogical and content knowledge was shared. Both a reading and a science teacher mentioned the impact of their colleagues to adjust the content of what they teach. Other teachers in Aragon discuss the informal and formal ways they learn new routines, styles or techniques, such as how to be creative. From the excerpts discussed, the qualitative survey, interview and focus group data support this idea of a positive relationship between teacher collaboration and instructional change.

When the quantitative survey data were combined to compare the relationship between teacher collaboration and instructional change, there was a weak relationship or no relationship at the individual teacher level. However, when the data were further
combined to create demographic groups of teachers, there was a strong relationship between a teacher group’s average level of teacher collaboration and instructional change. In other words, those teachers within a demographic group who have a strong level of teacher collaboration may also have strong instructional change just as those teachers within a demographic group who have a weak level of teacher collaboration may also have weak instructional change. It is reasonable to think that those teacher groups with high levels of structural conditions and interpersonal dynamics favorable to teacher collaboration might also have strong instructional change through horizontal alignment, differentiation and expanded pedagogical and content knowledge.

Once again it is important to reiterate that the teachers classified as *high collaborative* identified in the teacher survey also had the highest frequency of positive instructional change and the lowest frequency of negative instructional change from the interviews and focus groups. The teachers classified as *medium collaborative* identified in the teacher survey had the lowest frequency of positive instructional change and also had the medium frequency of negative instructional change from the interviews and focus groups. On the other hand, the teachers classified as *low collaborative* identified in the teacher survey had the medium frequency of positive instructional change and also had the highest frequency of negative instructional change from the interviews and focus groups.

As mentioned above, these results are critical because they cross-reference the quantitative survey data with the qualitative survey, interview and focus group excerpts. Since there is some consistency between both approaches within this concurrent mixed methods study, this means that there is internal consistency across both approaches. As
Creswell (2009) points out, “The researcher converges or merges quantitative and qualitative data in order to provide a comprehensive analysis of the research problem” (pp. 14-15). Thus, having completed this merge and finding some corroboration between both sets of data for instructional change, this adds further credibility to the results.

Among the teachers classified as high collaborative in Aragon identified from the quantitative data, there were aspects of the impact of teacher collaboration on instructional change that were more evident than others within the qualitative data, as compared to the teachers classified as medium and low collaborative. As mentioned earlier, these clusters of characteristics may help to identify teachers classified as high collaborative not only in Aragon, but possibly in other districts as well. Teachers classified as high collaborative were more likely to leverage their interaction with a colleague to influence differentiation in their own classroom to reach specific individuals or groups of students. They were also more likely to use a collaboration to align their curriculum with a peer, through resources such as lesson planning, the development of deliverables, the designing of a common assessments, etc. This occurred more frequently than teachers classified as medium or low collaborative whether it was with a co-teacher, with teachers who teach on their same grade level, with those who teach the same course or with teachers in the grade or subject area above or below themselves.

**Superintendent Recommendations**

From the quantitative survey results presented in this study (Chapter IV), I determined that on average, Aragon teachers have many of the interpersonal dynamics favorable to teacher collaboration (Table 6). Through the qualitative survey, interview and focus group results (Chapter IV), specific excerpts were chosen that reveal the
interpersonal dynamics of teachers in Aragon. Teachers throughout the District have many of the external characteristics conducive to collaboration. In Aragon, teachers are proactive collaborators in their professional practice by communicating with their peers, sharing their practice, establishing personal relationships, seeking feedback on their instruction and being open to new ideas. They are also reactive collaborators in their professional practice by showing a willingness to adopt new approaches and being cooperative. Teachers also value reciprocity in which many feel an obligation to share with a colleague if that colleague has shared with them first. Finally, teachers in Aragon also have many of the internal dynamics favorable to collaboration. Teachers can often be seen taking initiative, having a positive attitude and being reflective in their professional practice.

From the quantitative survey results presented in this study (Chapter IV), I also determined that on average, teacher collaboration in Aragon results in a strong sense of efficacy (Table 6). Through the qualitative survey, interview and focus group results (Chapter IV), specific excerpts were chosen that reveal the impact of teacher collaboration on teachers’ sense of efficacy in Aragon. Teachers throughout the District derive this feeling from the opportunity to work with others to build a stronger school culture, maintain a positive environment, develop a sense of solidarity and familiarity, to socialize with one another and in order to feel that they complement their coworker, such as two teachers in a co-taught classroom. Aragon teachers also feel a sense of efficacy through collaboration by acquiring new knowledge to apply to their professional practice and ultimately, through the opportunity to impact students’ lives.
From the quantitative survey results presented in this study (Chapter IV), I also determined that on average, Aragon teachers have an average level of the structural conditions favorable to teacher collaboration relative to their potential presence (Table 6). Through the qualitative survey, interview and focus group results (Chapter IV), specific excerpts were chosen that reveal the structural conditions of teachers in Aragon. Of those structural conditions that are present, teachers have substantial formal meeting time through department meetings, common planning and grade level teams. They frequently mention the structure of having colleagues available who teach the same courses or subjects that they do. In addition to colleagues, the co-teacher role is a successful structure in the District, as is the new teacher having the opportunity to work with a veteran coworker. The goal setting process currently in place is another condition frequently mentioned by teachers throughout the District. Lastly, many resources are used which facilitate collaboration, such as collaboration around the new Common Core State Standards (CCSS), the development of curriculum maps in Rubicon Atlas, the development of specific lessons and assessments, in addition to the sharing of deliverables.

On the other hand, there were several structural conditions favorable to teacher collaboration that are limited or not at all present, which I recommend be addressed. For example, many teachers, particularly at the high school, yearn for more time to meet with their peers, whether on a formal or an informal basis. Currently, some of the impediments to doing so are teacher duties and scheduling constraints, such as teaching in two buildings, being the only teacher of a particular course (singletons) or teaching three or four different courses (multiple preps). Several suggestions to remedy this could
include changes to the teachers’ contract, such as limiting duties to once every other day, requiring that all district teachers be full-time in one building or mandating no more than three preps per teacher. Other options might entail having co-teachers teach singletons, splitting singletons so there are at least two teachers of the same course or identifying a colleague in another district that teaches the same course, with whom they could have an opportunity to collaborate on a regular basis. The latter option may be the most viable from a financial standpoint, which would simultaneously enhance teachers’ presence in a professional network.

Another structural condition related to formal time that may be worth revising is department meetings between schools. Teachers alluded to a feeling of rivalry or competition when they have met in the past, particularly between the middle school and the high school. Perhaps by establishing protocols and professional norms for these meetings or by providing an opportunity for departments to get to know one another first, this may redirect any hostility and create opportunities for vertical alignment, an indicator of instructional change.

An additional opportunity to increase structural conditions favorable to teacher collaboration in the District is through formal roles. In particular, two roles that are lacking throughout Aragon are that of the mentor and formal teacher leadership. Currently, mentors are only available to new teachers, of which there are very few in the District. One suggestion is to identify teachers with expertise in a particular topic (such as peer conferencing) and pair them with teachers who have less skill in this area, regardless of their years of experience. These teachers will be more easily identifiable now that the District is using a standard evaluation system through the Framework for
Teaching (Danielson, 2011). This may also dovetail with formal teacher leadership, as some departments, particularly music, voiced a concern that they do not have a formal department leader. This person could help to marshal his or her colleagues and encourage instructional change, much like the other department chairs.

A final way in which to increase the structural conditions conducive to teacher collaboration is through additional resources. As mentioned above, the District is effectively having teachers use curricular tools to support their collaboration. In addition, teachers in Aragon are using technology effectively, such as through email or Rubicon Atlas, which helps to facilitate their collaboration with a colleague. However, I recommend that teachers avail themselves of other resources, which may positively impact instructional change. For example, one resource the District does not particularly use is the sharing of student work or data. In addition, teachers largely do not take advantage of peer observations. In fact, both of these resources could be linked through a colleague observation, followed by a conversation using student work samples from the lesson. Lastly, another set of resources to be considered is external teacher collaboration, although budget constraints might impact the ability to implement these recommendations. For instance, partnering with an institution of higher education, such as a graduate school of education program, might reorient teachers to focus on instructional change. In addition, increasing the extent to which teachers join professional education networks or attend outside education conferences may impact their instruction. Incentives for both possibilities could be embedded in the formal evaluation process to recognize teachers’ professional growth.
From the quantitative survey results presented in this study (Chapter IV), I also determined that on average, teacher collaboration in Aragon results in an average sense of instructional change relative to its potential presence (Table 6). Through the qualitative survey, interview and focus group results (Chapter IV), specific excerpts were chosen that reveal the impact of teacher collaboration on teachers’ instructional change in Aragon. Teachers in the District realize the positive impact teacher collaboration has on their instruction through their expanded content and pedagogical knowledge. By working with their colleagues, they are able to pinpoint new material and approaches they are now using. In addition, teacher collaboration has influenced their instruction through alignment, sometimes between co-teachers, but usually between colleagues who teach the same course or teach on the same grade level. This enables them to align expectations for assignments, assessments, content and to assuage parent concerns. Differentiation is another way in which collaboration impacts their daily instruction. By meeting with coworkers who have already taught their students, teachers learn how to tailor instruction to successfully meet their needs. In order to increase the potential for a stronger sense of instructional change throughout the District, I recommend increasing the structural conditions favorable to teacher collaboration recommended above, since there is a clear relationship between the two in this study.

Aragon is well positioned to maintain its strong sense of efficacy and to foster additional instructional change. Many interpersonal dynamics favorable to teacher collaboration are already present throughout the District and the implementation of recommendations regarding structural conditions should increase teacher collaboration overall. Even by adopting some of the suggestions, the District is poised to further
improve teachers’ sense of efficacy and instruction, which could ultimately have a positive impact on the students throughout Aragon at all levels.

**Updated Conceptual Framework**

The results, conclusions, implications and superintendent recommendations from this study in Aragon can be used to update the conceptual framework and map presented in the introduction (Chapter I).

![Updated Conceptual Map](image)

**Figure 15. Updated Conceptual Map**

Instead of teacher isolation and teacher collaboration as opposing forces, it was determined in this study that all teachers in Aragon have some level of collaboration. Therefore, all teachers classified in this study were classified somewhere along the continuum between *high collaborative* and *low collaborative*. These teachers classified as *high collaborative* and *low collaborative* continue to be influenced by the presence of structural conditions and interpersonal dynamics favorable to teacher collaboration. However, as discussed earlier, structural conditions and interpersonal dynamics among
teacher groups in Aragon were not mutually exclusive, as was originally proposed by Kelchtermans (1996). There may be a relationship in which structural conditions create the circumstances necessary for interpersonal dynamics to thrive. Conversely, a lack of structures favorable to teacher collaboration may inhibit the ability to have these same interpersonal dynamics. Finally, the quantitative and qualitative data corroborate a positive link between those teacher groups classified as high collaborative and a strong sense of efficacy and instructional change and those teacher groups classified as low collaborative and a weak sense of efficacy and instructional change.

The updated conceptual map above (Figure 15) reflects the new learning in this study. Instead of collaboration and isolation on opposing sides, the figure now includes a continuum from the teacher classified as low collaborative to the teacher classified as high collaborative. The potential relationship between structural conditions and interpersonal dynamics is now represented by the double arrow between the two concepts. Finally, the relationship in Aragon between teachers classified as low collaborative and a weak sense of efficacy and instructional change and teachers classified as high collaborative and a strong sense of efficacy and instructional change is represented by the two ovals in the center of the graphic.

**Further Study**

In this study, there was ambivalence towards the idea of mandatory collaboration that is evaluated by an administrator through the Framework for Teaching (Danielson, 2011). Some teachers thought it would force their less collaborative peers to engage their colleagues, whereas other teachers thought it might be hard to evaluate or depend on who is within the department. For further research, it may be interesting to determine a
baseline of teachers classified as *low collaborative* in terms of structural conditions and interpersonal dynamics, as was done in this study. Next, a treatment of mandatory collaboration could be applied to half of these teachers classified as *low collaborative.* After a period of time, one could measure the difference between the two groups from the baseline to the present in terms of interpersonal dynamics, sense of efficacy or instructional change. This would help to determine the actual effects of mandatory collaboration, as New York State is attempting to do through its new teaching standards and evaluation system.

A relationship was discussed in which there might be a link between structural conditions and interpersonal dynamics. It was revealed that the more structural conditions favorable to teacher collaboration present in the District for teacher groups, the more interpersonal dynamics favorable to collaboration were present. Conversely, the fewer structural conditions favorable to teacher collaboration present in the District for teacher groups, the fewer interpersonal dynamics favorable to collaboration were present. I hypothesized that reason for this was the longer a group has strong structural conditions, the longer a group has the opportunity to use interpersonal dynamics favorable to teacher collaboration. On the other hand, the longer a group has weak structural conditions, the longer a group does not have the opportunity to use interpersonal dynamics favorable to teacher collaboration. A future study could artificially create the structural conditions conducive to teacher collaboration and measure the change in interpersonal dynamics over time to see if there is indeed a correlation between these two components of teacher collaboration.
Earlier in this dissertation, I discussed my positionality as the Assistant Principal of Aragon Middle School (Chapter III). While I attempted to gain an understanding of the District from an *emic* perspective of teacher participants through interviews and focus groups, I was an insider all along. One advantage of an insider’s status was my knowledge of many structures unique to Aragon (such as the research project, the curriculum hour, Rubicon Atlas, etc.). On the other hand, I noticed that teachers in my building had a higher rate of participation than the other schools, which had the potential to skew the results. In addition, when I spoke to teachers, they rarely considered themselves to have negative interpersonal dynamics, often describing a colleague who is closed off or judgmental, but rarely admitting to being dismissive or disrespectful themselves. While I tried to mitigate my role as a supervisor through my recruitment email, survey introduction and consent form (Appendix A, B & C), I suspect that these issues may have been related to my positionality. It would be interesting if I conducted a similar study in a district that was not my own or if an outside researcher replicated this study within Aragon, to see if these same challenges emerge.

Another area of worth discussing is the actual and potential collaboration ranges discussed in the results (Chapter IV). The actual collaboration range in Aragon was compared to a potential range that was determined from the codes in the literature review (Chapter II), which were then applied to the survey (Appendix B). This became the basis by which to determine Aragon’s overall level of collaboration in terms of structural conditions, interpersonal dynamics, sense of efficacy and instructional change. While this determination was helpful for this study, it may be more accurate to compare Aragon to the results in similar districts. It may be the case that Aragon has many of the
structures favorable to strong collaboration compared to other districts, but it was only of an average level of structural conditions compared to the codes in the literature review. This would require administering the same survey to other districts of similar size and demographics in New York.

In addition to replicating this study for the purpose of gauging Aragon’s relative level of collaboration, it would also help to see if the results and conclusions in this dissertation can be generalizable to a larger population of teachers or teacher groups. A sample size of less than 100 with sub-groups as small as five certainly has the potential for errors or anomalies in the data. By increasing the number of participants in the study, this would only expand the reliability of the associated results and increase the probability that the same results might occur across a larger population of teachers. When repeating this study on a grander scale, I would also include member checks, which was a limitation of the design in this study discussed in the methodology and research design (Chapter III). I had a difficult time distinguishing between teachers speaking from the standpoint of a hypothetical versus an actual experience. The opportunity to follow-up with this participants and ask them to consider my preliminary findings would have been helpful.

A final topic for further study might be the relationship between teacher collaboration and its impact on student achievement and student behavior. These concepts were mentioned in the literature review (Chapter II), though this study only looked at the relationship between teacher collaboration and its impact on teachers’ sense of efficacy and instructional change. Previous studies have shown that there is a positive relationship between teacher collaboration and students’ achievement and behavior. The
challenge would be in the design of such a study, particularly in a district such as Aragon. Student achievement is currently measured in New York State through universal standardized testing only in grades three through eight in English Language Arts and mathematics. It would be difficult to measure in other content areas and in kindergarten through second grade or high school. In addition, student behavior has no standardized measure whatsoever, other than a teacher’s individual threshold for referring a child to administration.

**Reflections**

As an assistant principal, this study has implications for my role as a school leader. While I always appreciated the importance of teacher collaboration, I never had more than a cursory understanding of its function or impact. I now know that there are specific structures that I can implement in a school or district, which may in turn influence positive interactive traits for faculty members. This study has shown that the combination of these structural and interpersonal characteristics can foster a greater sense of efficacy among teachers and lead to real changes in their instructional practice, in terms of expanded knowledge for the classroom, alignment with colleagues and differentiation for individuals or groups of students. In this end, this creates a new learning experience for a child. It may also lead to changes in teacher pedagogy, in which students themselves have the opportunity to learn collaboratively with their classmates, which is another critical component of Danielson’s *Framework for Teaching Rubric* (2011).

As discussed at the outset of this dissertation, the United States has delegated the authority for educational decision-making to the states, which in many cases is deferred
to local municipalities and school boards at the county or town level (UNESCO, 2006). As mentioned, Aragon is just one of 48 small, suburban school systems within the county of Westchester, New York (NewYorkSchools.com, 2013). As Spillane (1998) reminds us, this fragmentation often leads to isolationism, privatization, redundancy and duplication of effort. Collaboration at both the teacher and student level can mitigate these effects.

The importance of collaboration is not simply because of its inclusion in Danielson’s Framework, the InTASC or New York State Teaching Standards (CCSSO, 2011a; Danielson, 2011; NYSED Workgroup, 2011a). Rather, collaboration is now a staple of our interconnected global economy. This is a significant departure from the factory model in which Gantt (1919) and Taylor (1911) emphasized the role of the individual. Instead, the collaborative, micropolitical dynamic examined by Blase (1991) in which individuals interact with one another to “achieve their goals in organizations” is here to stay (p. 11).
APPENDIX

Appendix A: Recruitment Email

Hi Teachers,

Undoubtedly, you are looking forward to the last week of school and the summer. As some of you may know, I am entering the final year of my doctoral program at the University of Pennsylvania. Last year, many of you participated in my pilot study about the observation process in Aragon. Thank you again for your help!

Well, this is now my actual dissertation study. The first part is a survey about teacher collaboration. I would be ever so grateful if you would spend about 20-30 minutes to complete this survey. It is completely confidential and will help me to build a profile of teacher collaboration within the district. The more teachers who participate, the larger sample size, which will help the results to be more accurate.

I know this is a busy (or perhaps crazy) time of year and I do not take anyone’s participation for granted. Please contact me directly if you have any questions, concerns or feedback. You can complete the survey by clicking on the link below. I am very excited to learn about your views and experiences in Aragon!

Thank you,

Adam

Follow this link to the Survey:

${l://SurveyLink?d=Take the Survey}$

Or copy and paste the URL below into your internet browser: ${l://SurveyURL}$
Appendix B: Survey

Thank you for your willingness to engage in this dissertation study. I am conducting mixed methods research for my doctoral program at the University of Pennsylvania in education leadership. The purpose is to better understand teacher collaboration through the contributing structural conditions and interpersonal dynamics. For this part of the study, you will be asked to complete this survey. This survey will take approximately 30 minutes to complete. Your identity will be kept strictly confidential and your responses will be used solely for the purpose of this study towards my graduate degree and not shared with any other staff member in the District. This survey is entirely voluntary and has no bearing whatsoever on your employment within Aragon School District. If you have no further questions or concerns, please answer "I agree" to proceed with the survey.

I agree

Demographics

What is your gender?
- Male
- Female

What is your race or ethnic background?
- White/Caucasian
- African American
- Hispanic
- Asian
- Native American
- Pacific Islander
- Other ____________________

What is your highest level of education completed?
- Bachelor's Degree
- Master's Degree
- Beyond a Master's Degree
- Doctoral Degree

How many years have you been teaching overall? (this year counts as 1 year)
- 1-3
- 4-10
- 11-20
- 21-30
- 31 or more
How many years have you been teaching in Aragon? (this year counts as 1 year)

- 1-3
- 4-10
- 11-20
- 21-30
- 31 or more

In which building do you mostly teach?

- Aragon Elementary School
- Aragon Middle School
- Aragon High School

What grade level do you mostly teach?

- Kindergarten
- 1st
- 2nd
- 3rd
- 4th
- 5th
- 6th
- 7th
- 8th
- 9th
- 10th
- 11th
- 12th
- Ungraded
- Other ____________________

What is your primary area of instruction?

- Elementary
- English Language Arts
- Mathematics
- Science
- Social Studies
- World Languages
- Art
- Music
- Drama
- Physical Education
- Health
In what area is your primary teaching certificate?

**Structural Conditions**

On average, how often does your teaching schedule include a formal time to meet with colleagues?
- More than 5 times per week
- 5 times per week
- 3-4 times per week
- 1-2 times per week
- Less than 1 time per week

How often do you take advantage of this formal time to meet with colleagues?
- Always
- Frequently
- Sometimes
- Rarely
- Never

Are you part of an instructional support team (e.g., Child Study Team, Response to Intervention Team, Etc.)?
- Yes
- No

On average, how often do you meet?
- More than 5 times per week
- 5 times per week
- 3-4 times per week
- 1-2 times per week
- Less than 1 time per week

Do you formally meet as a grade-level team?
- Yes
- No

On average, how often do you meet?
- More than 5 times per week
- 5 times per week
- 3-4 times per week
- 1-2 times per week
Do you formally meet with those in your area of instruction?
- Yes
- No

On average, how often do you meet?
- More than 5 times per week
- 5 times per week
- 3-4 times per week
- 1-2 times per week
- Less than 1 time per week

On average, how often does your teaching schedule include an informal time to meet with colleagues?
- More than 5 times per week
- 5 times per week
- 3-4 times per week
- 1-2 times per week
- Less than 1 time per week

How often do you take advantage of this informal time to meet with colleagues?
- Always
- Frequently
- Sometimes
- Rarely
- Never

On average, how often do you meet with colleagues before school begins or after school ends?
- More than 5 times per week
- 5 times per week
- 3-4 times per week
- 1-2 times per week
- Less than 1 time per week

Have the participants during any of these meetings in which you interact with colleagues established professional norms?
- Yes
- No

What are some of these norms?
Have you set any professional goals in conjunction with your colleagues this year?
- Yes
- No

What are your common goals?

Have you observed a colleague teach this school year?
- Yes
- No

How often have you done so this year?
- More than 5 times
- 5 times
- 3-4 times
- 1-2 times
- Less than 1 time

Have you had a colleague observe you teach this school year?
- Yes
- No

How often has this happened?
- More than 5 times
- 5 times
- 3-4 times
- 1-2 times
- Less than 1 time

Have you watched a video of someone else teaching this school year?
- Yes
- No

How often has this happened?
- More than 5 times
- 5 times
- 3-4 times
- 1-2 times
- Less than 1 time

Have you shared a lesson with a colleague this school year?
- Yes
- No

How often has this happened?
Do you have an experienced and respected colleague with whom you regularly meet to discuss teaching and learning?
- Yes
- No

What is his or her role?

How often do you meet?
- More than 5 times per week
- 5 times per week
- 3-4 times per week
- 1-2 times per week
- Less than 1 time per week

Have you conducted research of your own school or classroom for the purpose of analyzing student work with a colleague(s) this school year?
- Yes
- No

How often has this happened?
- More than 5 times
- 5 times
- 3-4 times
- 1-2 times
- Less than 1 time

Do you use technology to collaborate with colleagues to discuss teaching and learning?
- Yes
- No

How often do you use technology to collaborate with colleagues to discuss teaching and learning?
- Daily
- Weekly
- Monthly

Do you have a physical location in your school that is easily accessible where you collaborate with colleagues to discuss teaching and learning?
○ Yes
○ No

How often do you visit this location?
○ More than 5 times per week
○ 5 times per week
○ 3-4 times per week
○ 1-2 times per week
○ Less than 1 time per week

Does your school have an established partnership with an institution of higher education?
○ Yes
○ No

How often do you collaborate with this institution to discuss teaching and learning?
○ Daily
○ Weekly
○ Monthly

Are you a member of a professional teaching association or teacher network outside of your school?
○ Yes
○ No

How often do you meet to discuss teaching and learning?
○ Every Week
○ Every Other Week
○ Every Month
○ Every other Month
○ Semi-Yearly
○ Yearly

Are there other structures in your school or District that you believe impact your ability to collaborate with colleagues about teaching and learning?

**Interpersonal Dynamics**

How often do you participate during formal meetings with colleagues in which you discuss teaching and learning?
○ Always
○ Frequently
○ Sometimes
○ Rarely
○ Never
How often do you take responsibility for finding solutions during formal meetings with colleagues in which you discuss teaching and learning?
- Always
- Frequently
- Sometimes
- Rarely
- Never

How often do you choose to interact face-to-face with colleagues to discuss teaching and learning?
- Always
- Frequently
- Sometimes
- Rarely
- Never

How often do you choose to interact with colleagues through technology to discuss teaching and learning?
- Always
- Frequently
- Sometimes
- Rarely
- Never

How often are you willing to adopt new instructional practices shared by your colleagues?
- Always
- Frequently
- Sometimes
- Rarely
- Never

How often are you cooperative and supportive towards your colleagues when you discuss teaching and learning?
- Always
- Frequently
- Sometimes
- Rarely
- Never

How often are you the one who takes the initiative to seek out a colleague to work with?
- Always
- Frequently
Sometimes
Rarely
Never

How often are you the one who takes a leadership role in promoting a culture focused on teaching and learning?
Always
Frequently
Sometimes
Rarely
Never

How often do you seek to find a shared understanding of student learning when working with colleagues?
Always
Frequently
Sometimes
Rarely
Never

How often do you seek feedback on your teaching from your colleagues?
Always
Frequently
Sometimes
Rarely
Never

How often are you willing to change your teaching practice and attempt new approaches?
Always
Frequently
Sometimes
Rarely
Never

How important is it to you that you maintain respect for a colleague with whom you disagree about an issue of teaching and learning?
Very Important
Important
Somewhat Important
Not Important

How trusting are you of your colleagues with whom you regularly interact to discuss issues of teaching and learning?
Very Trusting
Trusting
Somewhat Trusting
Not Trusting

What is your attitude towards teaching?
Very Positive
Positive
Somewhat Positive
Not Positive

What are your expectations for student learning in your classroom?
Very High
High
Somewhat High
Not High

Are there other dynamics in your school or District that you believe impact your ability to collaborate with colleagues about teaching and learning?

Sense of Efficacy

How often do you feel as though you are an effective teacher?
Always
Frequently
Sometimes
Rarely
Never

What is the primary reason for your selection?

How often do you feel confident when you are teaching?
Always
Frequently
Sometimes
Rarely
Never

What is the primary reason for your selection?

How often are you confident that you have made a difference in your students’ learning?
Always
Frequently
Sometimes
Rarely
Never

What is the primary reason for your selection?

How often are you enthusiastic about teaching?
- Always
- Frequently
- Sometimes
- Rarely
- Never

What is the primary reason for your selection?

How often are you satisfied with your job?
- Always
- Frequently
- Sometimes
- Rarely
- Never

What is the primary reason for your selection?

**Instructional Practice**

To what extent has your instructional practice changed during the last year?
- Completely Changed
- Significantly Changed
- Somewhat Changed
- Not Changed

What is the primary reason for your selection?

To what extent has your content knowledge expanded during the last year?
- Greatly Expanded
- Expanded
- Somewhat Expanded
- Not Expanded

What is the primary reason for your selection?

To what extent has your pedagogical knowledge expanded during the last year?
- Greatly Expanded
- Expanded
- Somewhat Expanded
What is the primary reason for your selection?

Survey End
If you would like to be considered for an interview or focus group next school year as a follow-up to this survey, please type your email address below. This information will only be used to help identify participants who would be good candidates for interviews or focus groups. By giving your email address, you are not consenting to participate in the interview or focus group. Formal consent will come at the time of the actual interview or focus group:

We thank you for your time spent taking this survey.
Your response has been recorded.
Appendix C: Interview & Focus Group Consent Form

Thank you for your willingness to engage in this dissertation study. I am conducting mixed methods research for my doctoral program at the University of Pennsylvania in education leadership. The purpose is to better understand teacher collaboration through the contributing structural conditions and interpersonal dynamics. During the course of this inquiry, you will be asked to [participate in an interview/participate in a focus group]. The [interview/focus group] will take approximately [30/45] minutes to complete. The [interview/focus group] will be audiotaped and transcribed for the sole purpose of identifying themes in the data. Once the transcriptions are received, the audiotapes will be destroyed. These transcriptions will not be shared with any other party and will be retained for the use in this study only. Direct quotes will only be used when they cannot be attributed to a particular person. [For the interview, your identity will be kept strictly confidential.] [For the focus group, complete confidentiality cannot be protected if you discuss the group conversation with people outside of this group. Please maintain the confidentiality of this discussion by not speaking with others outside of this group.] Your responses will be used solely for the purpose of this study towards my graduate degree and not shared with any other staff member in the District. This [interview/focus group] is entirely voluntary and has no bearing whatsoever on your employment within Aragon School District. For those of you that I supervise, my evaluations of you will not be affected by your participation or non-participation in this study. If you have no further questions or concerns, please sign and date your consent to participate below:

____________________________ (Signature) ______________________ (Date)

I hereby consent to participate in this [interview/focus group] for the purpose of this research study in the University of Pennsylvania’s Mid-Career Doctoral Program in Educational Leadership.
Appendix D: Generic Interview & Focus Group Protocol

Teacher Collaboration

1. How would you define teacher collaboration?
2. Why do you think teacher collaboration is important?
3. To what extent is Aragon a collaborative district?
4. What examples might illustrate this collaboration at the district level?
5. To what extent is your school a collaborative environment?
6. What are the primary factors that cause your school to be a collaborative environment?
7. To what extent do you consider yourself to be collaborative?
8. What does your collaboration look like in practice?
9. What is the main factor that determines the extent to which you are collaborative?
10. How does being collaborative benefit you or your teaching? What do you gain?
11. What do you do differently as a result of your collaboration?
12. What are the structural conditions that influence your ability to be collaborative?
13. What are the interpersonal dynamics that influence your ability to be collaborative?
14. Is your collaboration the result of a focus on being collaborative and/or through the work that you do with colleagues?
15. What do you do to work with teachers who are less collaborative?
16. Teacher collaboration is included in the New York State Teaching Standards and the Danielson Rubric (*The Framework for Teaching*). Do you believe that teacher collaboration is important enough that it should be a state mandate?
17. Does your collaboration feel voluntary or mandatory?
18. Does mandatory collaboration change the way you think about working with a colleague?
19. Does being evaluated based on your collaboration change the way you think about working with a colleague?
20. Are you involved in collaboration outside of the district (e.g., a teacher network or a professional association)?
21. How is this collaboration different than collaboration within the district?
22. How does your outside collaboration influence your collaboration within the district and vice versa?

23. Is there something about your particular demographic role, such as being [insert descriptor here], that makes you more or less likely to collaborate with colleagues?

**Sense of Efficacy, Instructional Practice & Professional Growth**

1. To what extent do you consider yourself to be an effective teacher?
2. What is the main reason for this?
3. Do you believe there is a relationship between teacher collaboration and the extent to which you consider yourself to be an effective teacher?
4. To what extent do you believe your instructional practice has improved during the last year?
5. What is the main reason for this?
6. Do you believe there is a relationship between teacher collaboration and the extent to which your instructional practice improves?
7. To what extent do you believe that you have grown professionally during the last year?
8. What is the main reason for this?
9. Do you believe there is a relationship between teacher collaboration and the extent to which you grow professionally?
Appendix E: Full List of A Priori and Inductive Codes  
(Number of excerpts tagged per code in parentheses)

I. Teacher Collaboration (15)
II. Mandated Collaboration (0)
   a. Positive Impact (25)
   b. Negative Impact (21)
   c. Ambivalent about Impact (15)
III. Structural Conditions (1)
   a. Positive Structural Conditions (0)
      i. Time (10)
         1. Informal (30)
            a. Before School (3)
            b. During School (11)
            c. After School (4)
         2. Formal (8)
            a. Common Planning (16)
            b. Duties (2)
            c. Department, Content or Curriculum Area Meetings (0)
                i. Within Departments (52)
                ii. Between Schools (2)
            d. Grade Level Team (13)
            e. Grade Level Event (1)
            f. Instructional Support Team (2)
            g. Committee on Special Education (1)
            h. Response to Intervention (2)
                i. Study Groups (1)
                j. Exam Scoring (1)
                k. Faculty Meetings (7)
                l. Superintendent's Conference Day (11)
               m. District Committee (1)
               n. Curriculum Leaders (2)
               o. Tri-State Consortium (8)
      ii. Proximity (10)
      iii. Content Area (13)
      iv. Role (0)
         1. New Teacher (29)
         2. Colleague (97)
            a. Teachers of Same or Similar Content (104)
            b. Teachers of Same or Similar Pedagogy (12)
            c. Teachers of Different Content or Pedagogy (28)
            d. Teachers of Same Students (26)
         2. Co-Teacher (34)
         4. Mentor (12)
         5. Veteran Teacher (14)
         6. Teacher Leader (8)
7. Administrator (19)

v. Outcomes (0)
   1. Sets Common Goals (92)
   2. Creates Professional Norms (9)

vi. Resources (0)
   1. Student Work or Data (5)
   2. Inter-Classroom Observation (13)
   3. Curriculum (0)
      a. Standards (22)
      b. Maps (47)
      c. Units (12)
      d. Lessons (55)
      e. Assessments (32)
      f. Deliverables (26)
      g. Materials (17)
   4. Technology (34)
   5. Consultant (1)
   6. Professional Reading (3)
   7. Professional Network (21)
   8. Conference, Professional Development or Workshop (21)
   9. Higher Education (16)

b. Negative Structural Conditions (0)
   i. Time (42)
      1. Common Planning (15)
      2. Scheduling Constraints (25)
      3. Duties (8)
      4. Department, Content or Curriculum Area Meetings (0)
         a. Within Departments (14)
         b. Between Departments (3)
         c. Between Schools (9)
   5. Grade Level Team (11)
   6. Faculty Meetings (2)
   7. Superintendent's Conference Day (2)
   8. Tri-State Consortium (1)

ii. Proximity (0)
    1. Not Near a Colleague (4)
    2. Split Between Buildings (13)

iii. Content Area (6)

iv. Role (0)
    1. New Teacher (4)
    2. Colleague (6)
       a. Teachers of Same or Similar Content (6)
       b. Teachers of Different Content or Pedagogy (7)
       c. Only Teacher of a Course or Subject (11)
       d. Teacher of Multiple Courses (9)
3. Co-Teacher (2)
4. Veteran Teacher (1)
5. Teacher Leader (3)
6. Administrator (3)

v. Resources (0)
1. Student Work or Data (3)
2. Inter-Classroom Observation (3)
3. Curriculum (13)
4. Technology (4)
5. Consultant (1)
6. Professional Network (2)
7. Conference, Professional Development or Workshop (2)
8. Higher Education (1)

IV. Interpersonal Dynamics (0)
a. Positive Interpersonal Dynamics (0)
   i. External (0)
      1. Proactive (0)
         a. Personable (57)
         b. Open (40)
         c. Communicative (71)
         d. Respectful (18)
         e. Active Participant (8)
         f. Supportive (18)
         g. Shares Practice (65)
         h. Seeks Feedback (56)
         i. Seeks a Shared Understanding (15)
      2. Reactive (0)
         a. Trusting (6)
         b. Non-Judgmental (7)
         c. Listening (22)
         d. Vulnerable (30)
         e. Receptive (25)
         f. Cooperative (50)
         g. Adopts New Practices (56)
      3. Reciprocal (64)
         ii. Internal (0)
            1. Professional (14)
            2. Positive Attitude (54)
            3. High Expectations (9)
            4. Organized (2)
            5. Timely (19)
            6. Takes Initiative (67)
            7. Leads (4)
            8. Reflective (46)
            9. Problem Solving (17)
b. Negative Interpersonal Dynamics (0)
   i. External (0)
      1. Not Personable (17)
      2. Not Respectful (2)
      3. Not an Active Participant (1)
      4. Not Willing to Share Practice (17)
      5. Does Not Seek Feedback (5)
      6. Defensive (10)
      7. Not Trusting (2)
      8. Judgmental (6)
      9. Hostile (5)
      10. Dismissive (5)
      11. Not Receptive (14)
      12. Not Cooperative (21)
      13. Not Reciprocal (26)
   ii. Internal (0)
      1. Negative Attitude (6)
      2. Arrogant (6)
      3. Does Not Take Initiative (9)
      4. Insecure (6)
      5. Closed Off (31)
      6. Not Willing to Change (20)
      7. Lack of Belief (9)
      8. Independent (22)

V. Impact of Teacher Collaboration (0)
 a. Sense of Efficacy (0)
   i. Positive Impact (0)
      1. Working With Others (12)
         a. Positivity (7)
         b. Familiarity (6)
         c. Solidarity (7)
         d. Complementing (5)
         e. Deliberation (2)
         f. Socializing (6)
         g. Culture (8)
         h. Resistant Teachers (1)
      2. Choice (2)
      3. Time (4)
      4. Students (28)
      5. Desire (12)
      6. Knowledge (5)
         a. Receiving (36)
         b. Sharing (6)
   ii. Negative or No Impact (39)
   b. Instructional Change (0)
i. Positive Impact (33)
   1. Expanded Content Knowledge (27)
   2. Expanded Pedagogical Knowledge (36)
   3. Expanded Interdisciplinary Knowledge (14)
   4. Differentiation (50)
   5. Alignment (0)
      a. Between Co-Teachers (17)
      b. Horizontal (53)
      c. Vertical (13)

ii. Negative or No Impact (31)
REFERENCES


