The Caring High School:
Shaping a Positive School Culture Through Community-Building and Collaboration

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Abstract

This qualitative case study sought to explore teachers’ sense of community-building and collaborative relationships in their department; teachers’ understanding of department community building and collaborative relationships and the impact on their individual practice; and, teachers’ understanding of the relationship between department community-building and collaboration and school wide culture. Participants were six, veteran, high school math teachers actively engaged in designing, writing, and implementing a new math curriculum.

The findings of this study suggest that teachers perceived a robust sense of department community and collaboration through strong department leadership and a common goal regarding the curriculum. However, teachers perceived a sense of loss of department community and collaboration citing the elimination of support structures and outside influences beyond their control. In addition, teachers perceived their individual practice was strengthened through department community and collaboration. Furthermore, teachers were mixed in how they perceived the relationship between department community and collaboration and school wide culture. The study revealed some teachers perceived a positive relationship between department community and collaboration and school wide culture, whereas, other teachers perceived a negative relationship or no relationship between department community and collaboration and school wide culture.

Keywords: School culture, community-building, collaboration, high school department, teacher efficacy.
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Chapter I: Statement of Problem

Fueled by a complex social and cultural environment of teaching and learning, and calling for increased teacher accountability supported by student test scores, high schools are frequently called upon to improve by developing high levels of teacher collaboration (Goddard, Goddard, & Tschannen-Moran, 2007).

Collaborative school cultures are perceived more and more as being essential for better schools (Campo, 1993). And, collaborative school cultures make an important contribution to both the success of school improvement processes and the effectiveness of schools (Little, 1982; Rosenholtz, 1989). Yet, the simple fact is that structures for on-going teacher collaboration do not exist in many high schools for a variety of reasons both from inside and from outside the schoolhouse.

School administrators do not provide common planning time for teachers to collaborate on best practices. Yet, collegial relationships have proven to be important (Little, 1982). Collegial relationships exist when teachers discuss problems of practice, share ideas and knowledge, observe one another’s work and collaborate on instructional projects (Little, 1982; Rosenholtz, 1989; Smylie, 1988). Budgetary and scheduling restraints prevent teachers and administrators from implementing meaningful interdisciplinary courses (Deal & Peterson, 1999; Fullan & Hargreaves, 1996; Goddard, Goddard, & Tschannen-Moran, 2007; and professional development programs for teachers are often driven by state and federal mandates and initiatives rather than by efforts aimed at supporting a sustainable collaborative school culture (Goddard, Goddard, & Tschannen-Moran, 2007; Smylie, 1988).

Evidence suggests that the culture of a school affects student learning, teacher productivity, and teacher efficacy (Little, 1982; Rosenholtz, 1989). In other words, some of the
reasons that structures for on-going teacher collaboration do not exist in many high schools might be because the existing school culture does not allow for collaboration to happen. If the status quo of non-collaboration wins out it is because the existing culture allows it to win out (Deal & Peterson, 1999).

Sarason (1996) notes that teaching is a lonely profession. Unlike other professions, teaching does not provide for a shared culture based on the movement from knowledge to experience in the company of one's peers. Doctors, for instance, learn their profession through a graduated set of experiences, all shared with others. Not so the teacher. Once graduated from a preparation program, teachers find themselves alone in the classroom with a group of students without peer or supervisor in sight. The neophyte teacher is left with degree in hand, high expectations internalized, a fistful of untried methodologies and few adults with whom to share, grow, and learn (Sarason et al, 1966). Veteran teachers hone their art and expertise behind closed doors, nights, weekends, and during summer break. Teaching lacks a shared culture based on bridging knowledge gained in university training with the experience that results from an embedded collaborative culture grounded in relationships with one’s peers.

Research on collaborative practice among teachers at the high school level has found that schools in which a culture of collaboration exists among teachers, on-going teacher professional development is possible, coherence across teaching practices is created, and collective responsibility among teachers for student learning is cultivated (Campo, 1993; Little, 1982; Rosenholtz, 1989; Shank, 2006).

Research about collaborative school culture suggests that well-developed collaborative practices could have a positive impact on student achievement as well (Vescio, Ross, & Adams, 2007). Yet, developing and sustaining a collaborative culture in the typically independent
practice of secondary schools is difficult because, despite compelling evidence indicating that working collaboratively represents best practice, the norms of privacy, noninterference, and isolation dictate how schooling is done. As a result, teachers in many schools continue to work in isolation (DuFour, 2004).

Wineburg, Grossman, Myhre, & Woolworth (1998) note that the organizational features of schools that produce the norms of privacy, noninterference, and isolation that shape teachers’ work are well-documented. While the notion of collaboration is popular, it relies on truly collaborative tasks where teachers assume shared responsibility, initiative and leadership. In other words, collaboration can be tricky and messy because it relies on a collaborative school culture that supports a shared sense of purpose, focuses on long-term improvement – three to five years (Deal & Peterson, 1999) - and supports networks of professionals who share problems, ideas, materials, time, and solutions.

While these cultures are not easy to develop, they provide substantial and meaningful settings in which teachers develop knowledge about their practice, a powerful sense of efficacy, and a deep connection to fellow educators, students, and parents (Ashton, Buhr & Crocker, 1984; Fullan & Hargreaves, 1991, Lortie, 1975; Rosenholtz, 1989). Yet, the opportunities for creating such interdependencies are rare and that the most common configurations of teacher-to-teacher interaction may do more to bolster isolation than to diminish it (Wineburg, Grossman, Myhre, & Woolworth, 1998).

Moreover, collaborative environments can result in important benefits for organizational effectiveness (Curry, 2014). For example, collaborative conversations that focus explicitly on ensuring that students learn, call on team members to make public what has traditionally been private – goals, strategies, materials, pacing, questions, concerns, and results. Such discussions
give every teacher someone to turn to and talk to, and they are explicitly structured to improve the classroom practice of teachers – individually and collectively, (DuFour, 2004). In other words, collaborative environments that make public practices that have traditionally been private become public, effectively changing the norms from privacy, non-interference, and isolation to norms where teachers value professional relationships, share ideas, and exchange new practices and techniques (Little, 1982; Rosenholtz, 1989).

Furthermore, developing structures and activities that support collaborative cultures within schools takes time and can often be derailed by educational fads, and, as a result, many teacher collaborative conversations tend to take place informally and on-the-run (Peterson & Brietzke, 1994).

Little (1982) and Rosenholtz (1989) put forth key behaviors in schools with strong collaborative cultures. In these schools, teachers value professional relationships, share ideas, and readily engage new techniques. Teachers and administrators spend time observing each other and engaging in formal and informal dialogue. Interactions among staff and administrators foster more successful staff development, and ongoing refinement of teaching practices (Little, 1982; Rosenholtz, 1989).

Darling-Hammond & McLaughlin’s (1995) research echoes Little (1982), Rosenholtz (1989), and Peterson & Brietzke (1994) when they put forth the notions that teachers need opportunities to share what they know and discuss what they want to learn. The authors all suggest that schools need to encourage and sustain a collaborative and reflective culture that engages teachers and provides opportunities to observe, assess and reflect on best practices; and be collaborative and involve the sharing of knowledge. Moreover, the authors suggest that school culture must be a fruitful breeding ground for teacher-to-teacher and school-to-school systems to
collaborate on real issues of teaching and learning, and that school leaders need to provide blocks of time for teachers to work and learn collaboratively (Darling-Hammond & McLaughlin, 1995).

High schools need to understand the merits of establishing a rigorous, sustained and embedded school culture of collaborative practices that allow for regular opportunities for teachers to work and learn with their colleagues for continuous improvement; for sharing resources, planning cooperatively; and developing a strong sense of efficacy (Fullan & Hargreaves, 1991). In collaborative school cultures, teachers are more likely to trust, value, and legitimize sharing expertise; seek advice; and help other teachers (Ashton, Buhr, & Crocker, 1984; Fullan & Hargreaves, 1991; Lortie, 1975; Rosenholtz, 1989).

**Significance of Research Problem**

Collaboration allows teachers to capture each other’s fund of collective intelligence (Schmoker, 1999). Collegial relationships are an important component of collaborative school cultures (Little, 1982). Collegial relationships exist when teachers discuss problems, share ideas and knowledge, observe another’s work, and collaborate on instructional projects (Little, 1982; Rosenholtz, 1989; Smylie, 1988).

Culture provides the context in which the whole educational process occurs (Gruenert, 2000). And school culture is a key factor in determining whether improvement is possible (Deal & Peterson, 1999).

Darling-Hammond & McLaughlin (1995) argue that in today’s climate of reform, teachers need to rethink their own practice and teach in ways they have never contemplated before. Success, according to the authors, depends on how teachers are able to learn the new skills and, more importantly, un-learn previous beliefs and practices. The authors suggest that effective professional development is needed and must be collaborative in nature, involve the sharing of
knowledge, be directly connected to the work of teachers and their students, and be sustained, on-going, and intensive.

All too often, collaboration exists on the run, if it exists at all, and does little more than perpetuate norms of isolation and non-interference from administration (Schmoker, 1999). However, for example, when teachers at my high school have been afforded meaningful and focused opportunities to collaborate with their peers, the students benefit and school-wide commitment is realized. By breaking through barriers to collaboration, teachers develop bonds of mutual trust and respect.

The literature on teacher beliefs and attitudes regarding collaborative relationships suggests that such beliefs and attitudes function like any other belief system – implicitly held assumptions about people and events that teachers bring to a particular knowledge domain (Kagan, 1992). Teachers seem to tend to resist collaboration because they do not feel that they are part of a shared and cohesive culture that supports collaborative efforts (Bolman & Deal, 1992). Teachers may not experience a culture of effective leadership where leaders model behavior consistent with effective decision-making and a shared and cohesive culture within the team that supports collaborative efforts (Bolman & Deal, 1992).

Tschannen-Moran’s, et., al. (2000) study suggests that schools that want to build collaborative communities of discourse and shared decision processes need to do so in a mindful way where teachers feel that the collaborative construct is genuine and teachers’ contributions are valuable. The authors suggest that teachers are not passive and resistant learners whose deficiencies in knowledge and skills can be addressed through prepackaged workshops and in-service training sessions.

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teachers need to rethink their own practice and teach in ways they have never contemplated before. Success, according to the authors, depends on how teachers are able to learn the new skills and, more importantly, un-learn previous beliefs and practices. The authors suggest that effective professional development is needed and must be collaborative in nature, involve the sharing of knowledge, be directly connected to the work of teachers and their students, and be sustained, on-going, and intensive.

Yet, when afforded time in the teaching schedule to collaborate with their colleagues, focusing explicitly on building collaborative relationships and looking at best practices to improve student learning and school culture, teachers are more than willing to break through barriers to collaboration, take risks with new materials and engage in new instructional practices (Thibodeau, 2008). Collaborative school cultures are perceived more and more as being essential for better schools. Therefore, one of the important roles of administrators and teachers should be that of culture builder (Campo, 1993).

**Positionality Statement**

_I could a tale unfold whose lightest word, Would harrow up thy soul, freeze thy young blood, Make thy two eyes like stars start from their spheres, Thy knotted and combined locks to part, And each particular hair to stand on end, Like the quills upon the fearful porpentine...List, list, O, List!_ (Hamlet, I.5.15-22.)

As an English teacher, I love to tell stories. Here is my tale.

October 10, 2010 was the last department meeting held with members of my high school English department regarding curriculum planning, student learning, 21st Century skills, cornerstone pieces of literature for each grade level, and how we, as a department, were going to incorporate the fast-approaching mandated Common Core requirements. When asked about which pieces of literature might be taught at each grade level, I earnestly offered my thoughts regarding _Romeo and Juliet_, and Homer’s _The Odyssey_ for Freshman; Harper Lee’s _To Kill a Mockingbird_, and _The Sophocles Trilogy_ for the Sophomores; and George Orwell’s _1984_,
Shakespeare’s Hamlet, and Dante’s Inferno for the Seniors.

My intent was to suggest a pathway for students, across all grade level, to access the curriculum. My thinking was informed by language from the Massachusetts Curriculum Frameworks for English Language Arts and Literacy, Incorporating the Common Core State Standards for ELA. My thinking was to suggest one or two classic pieces of literature as cornerstone pieces at each grade level which would give students a set reference point on which to build on and grapple with more complex texts. One or two cornerstone pieces would allow time for teacher to engage his/her students in five to six additional pieces of literature “of exceptional craft and thought whose range extends across genres, cultures, and centuries. Such works offer profound insights into the human condition and serve as models for students’ own thinking and writing. Along with high quality contemporary works, these texts should be chosen from among seminal U.S. documents, the classics of American literature, and the timeless dramas of Shakespeare” (Massachusetts Curriculum Framework for English Language Arts and Literacy, 2011). I assumed that my colleagues were familiar with the language of the frameworks.

What happened next ended any hope for a culture of collaborative relationships regarding curriculum planning and student learning within the high school English department. The response I received was, “You need to get over your obsession with the Western Canon. The face of America is changing, and we are no longer a literature-based department, but rather, a 21st Century skills based department.” (And in the English department, what exactly is the vehicle we are to use to teach the skills if not the literature?). Silence descended on the meeting. Silence has endured for the past four years. And, as the saying goes, silence betokens consent.

A dearth of dialogue continued throughout our self-study for the high school’s NEASC
evaluation last fall in 2013. Furthermore, there has been no dialogue, discussion, or English
department meeting regarding integrating the Common Core or how we will prepare our students
for the PARCC assessments. The teacher evaluation system was a disaster. Moreover, and
simultaneously, the high school implemented a schedule change this fall, inaugurated a new
Superintendent whose agenda is largely unknown, and hired a new Principal and a new Assistant
Principal in August 2014.

Within the silence, this long suffering introvert continued to grapple with the strained
relationships, propelled by my innate temperament, and by my belief that collaborative
relationships need to thrive particularly within the oppressive silence that settled over the high
school English department and the unknown landscape beyond. I continued to research and
work to develop a network of sharing, collaborative relationships, and subversive cross-
pollination to enrich my classroom teaching practices and to improve my students’ learning, and
to salvage what semblance of collaboration I could muster. I am a subversive optimist.

I am a low key, modest, hard working, pragmatic, structured individual with a reverence
for tradition and harmonious human interactions. I am a high school English teacher who has a
passion for the literature, and who teaches as though the world depends on it. Although I do not
naturally engage in collaboration with the external world of people and things, I intuitively
recognize the overarching importance of continuously talking to and learning from my
colleagues in other disciplines about best practices and student achievement. I also believe in the
power of conflict to spawn innovation. But I do not accept being treated with disrespect.

At the time when my colleague replied that “I need to get over my obsession with the
Western Canon,” I did not respond because I was shocked at the combination of the words – “get
over my obsession” - and the tone inherent in the retort, i.e., “the need for me to get over…”
Furthermore, I knew the merit in the colleague’s argument was negated by the language stated in the Mass Frameworks regarding the range and content of student reading necessary for students to become college and career ready. My commitment is to the literature and my understanding of the Common Core and 21st century skills is solid. However, my belief in the importance of continuously talking to and learning from my colleagues about best practices and student achievement was professionally and personally compromised during that last department meeting.

I believe the tone in my colleague’s words was harsh and was born from a school culture that did not value, foster, or respect collaboration and community building where teachers work together to share knowledge and work together to solve problems of practice (Bolman & Deal, 1992). As a result, lines were publically drawn, dialogue was shut down, and the meeting was suspended. Because the culture in the English department, and possibly school wide, was not a shared and cohesive culture that supports collaborative efforts, I did not feel that I was part of a shared and cohesive culture that supports collaborative efforts. Tschannen-Moran’s, et., al. (2000) study suggests that schools that want to build collaborative communities of discourse and shared decision processes need to do so in a mindful way where teachers feel that the collaborative construct is genuine and teachers’ contributions are valuable. Sadly, this was not my experience.

Positionality acknowledges the complex and relational roles of individuals to construct an understanding of the world and the ability to perceive themselves as occupying a particular location within the reality they construct. And Langran’s (2010) research suggests that teachers are able to act as change agents in schools, and are able to foster a culture of collaboration and innovation in K-12 schools.
I’ve come to understand that my interest in researching community building and collaborative relationships extends beyond the teacher-student relationship and the extent to which collaborative relationships affect student achievement. My interest has expanded to a keen interest regarding the impact that collaborative relationships at the high school department level have on promoting and enhancing an embedded culture of collaboration school-wide.

The intent of my study is to gain a deeper and clearer understanding of teacher beliefs and attitudes regarding community-building and collaboration and the impact of collaborative relationships on school-wide culture and climate. I will need to acknowledge my personal biases and strive to minimize them. It is my intention and hope that the research will produce tangible results that will enhance and promote a school-wide culture of collaborative relationships at the school. However, not all participants might view my research intent positively.

Mertens (2006) notes a need for cultural sensitivity, collaboration, respect, and tailoring of the research procedures to the population being studied. I could be at risk for inadvertently not honoring the cultural sensitivities of all participants. I must remember our readings on positionality - both my own and those of others - not all teachers in the Math department, where my research will take place, think or teach the way I do or have the same perspectives or agendas.

Mertens (2006) points out that silenced voices must be included, and it would be ethically wrong of me to either unintentionally “silence” or exclude any voice in order to further my research. In addition, power inequities in terms of the social relationships involved must be surfaced, as well. Based on the need to combat perceived or real power inequities, teacher participants might feel the need to say one thing in collaborative sessions but then to do the opposite in private. My dilemma would be discerning authentic behavior from
inauthentic/resistant behavior.

I am a white, middle class, well-educated woman and my identity factors came into play during the department meeting with my beliefs and convictions about the aims and content of education and the classics. This is not to say that my colleague was correct in referring to the canon as “my obsession.” However, it is evidence of my positionality. The comment also suggests the readings and explorations through literature have to explore a myriad of traditions and cultures so we can see the complexity of the human experience. That’s not possible if we stick to the classics. Perhaps my colleague, who is female, white, and considerably younger than I, only heard what I said through her age identity factor.

Upon reflection of that fateful department meeting four years ago, there are aspects of my positionality that need to be further considered. I could have ended the silence that ensued by asking more about what my colleague meant. I could have approached her comment from a position of curiosity, mine and her, instead of from a position of contempt. That might have continued the conversation and resulted in resolution or at least greater understanding. It could have been an opportunity to experience the power of collaboration and to see what fighting for a collaborative culture looks like. However, I failed to acknowledge the concept of positionality as the complex and relational roles of individuals to construct an understanding of the world and the ability to perceive themselves as occupying a particular location within the reality they construct.

The Math department at my high school appears to be a highly collaborative department with teams of Math teachers working together to develop and align a new Math curriculum with the Common Core. The established collaborative relationships in the Math department are worth researching because a case study of the Math department might provide a pathway for school wide change across departments and might provide an end to the silence.
Therefore, the purpose of this study is to better understand how math teachers’ beliefs and attitudes regarding collaboration and the impact of community-building and collaborative relationships on school-wide culture and climate.

Research Questions

1. How do teachers in the Math department of a mid-sized rural public high school experience, describe and understand a sense of community-building and collaboration in their department?

2. How do teachers in the Math department of a mid-sized rural public high school experience, describe, and understand the relationship between department community-building and collaboration and their individual practice?

3. How do teachers in the Math department of a mid-sized rural public high school experience, describe, and understand the relationship between department collaboration and community-building and the effect on overall school climate and culture at the high school?

Theoretical Frameworks

Examining the above research questions through the theoretical frameworks of Community Building Theory and Collaborative School Culture (CSC) will provide a powerful lens through which to construct a thick description of how high school teachers in the Math department of a mid-sized rural public high school describe and understand the collaborative work in their department, and how they understand the relationship between department community building and collaboration and school culture. Applying the lens of Community Building Theory and CSC to the examination of how Math teachers understand the relationship between their collaborative relationships within their department and the overall school culture of the high school might add to the literature on the impact of collaborative relationships on
school culture at the high school level.

**FIGURE 1:** Visual representation of applying the lens of community building in schools to examine teachers’ experience and understanding of community building and collaboration and the impact on school-wide culture and climate.

**Community building.** Building relationships are at the heart of learning communities and members of a learning community are willing to come out of isolation and engage in collegial conversations about their work (Sergiovanni, 1994). Members of a learning community put meaning into their work by defining a common purpose and function. The emphasis is on building commitment, not on constructing compliant structures. When solutions are mandated solutions, forced upon the participants from outside, such as a change to the high school schedule, or the use of prep periods for analyzing test scores and responding to surveys, there is little possibility for building commitment for implementation of shared solutions and little possibility for willingness to continually revisit the effectiveness of the mandated solution over time (Sergiovanni, 1994).

Teacher collaborative relationships need a learning community in which to engage in dialogue to continually construct and refine their purpose. In a learning community teachers can
be committed to continually improving their teaching practice by engaging in reflective collaborations where they can seek new ideas, feedback, and opportunities to reflect and collaborate. Professional learning communities are formed one conversation at a time through reflection and interaction with others surrounding a common purpose (Sergiovanni, 1994).

Well-developed Professional Learning Communities (PLCs) have a positive impact on teaching practice, student achievement, and overall school culture (Vescio, Ross, & Adams, 2007). Learning communities are needed in schools because schools, teachers, administrators, and students are continually bombarded with mandated reform initiatives that require adapting to the needs of a rapidly changing world (Sergiovanni, 1994).

It may seem logical to assume that school environments are by definition already learning communities. But a learning community is not the building but rather the people in the building who breathe energy into the brick and mortar, who create meaning and significance, and who establish purpose around a mutually agreed upon set of norms and goals. Learning communities invite the conversations, feedback, and risk taking necessary for individual transformation including enhancing teaching practices, student learning, and school wide culture and climate.

Research shows (Baumeister & Leary, 1995) that people are motivated to form and maintain interpersonal bonds. Maslow’s Hierarchy of Needs ranks love and belongingness in the middle of his motivational hierarchy with belongingness emerging after other basic needs such as food and safety are satisfied. Belongingness takes precedence over self-esteem and self-actualization. At the very least, it seems fair to conclude that human beings are fundamentally and pervasively motivated by a need to belong, that is by a strong desire to form and maintain enduring interpersonal attachments. As humans, we tend to seek frequent, affectively positive interactions within a context of long-term, caring relationships (Baumeister & Leary, 1995).
Community building theory provides a critical lens into the basic human need to foster and maintain long-term, social relationships by examining the importance of community building in schools. Sergiovanni’s (1994) community theory uses community as a metaphor for schools. Sergiovanni (1994) suggests that the metaphor for schools is community and not formal organizations. Community building theory suggests changing our perspective of schooling from organization to community.

Community building is important in schools because community is the tie that binds students and teachers together in special ways to something more significant than themselves: to shared values and ideals. The author suggests that our bonds with our families, extended families, and neighborhoods have shifted and frayed considerably from what they once were at an earlier time in our history. Shared values and ideals lead to strong community and school culture. We give lip service to the oft-used African proverb, “It takes a village to raise a child.” Yet, according to Sergiovanni (1994) we are experiencing a loss of community in the extended family and in the “village” too.

Sergiovanni (1994) suggests that successful community building depends on each individual school defining for itself its own life and creating for itself its own practice of schooling. Individual schools need to grapple with such issues as who they are, what they hope to become for the students they serve, and how they will decide, organize, teach, learn, and live together (Sergiovanni, 1994).

**Definition of community.** The word community means something different for political scientists, sociologists, psychologists, and educators. For the purpose of this theoretical outline, the following definition of community is offered: communities are collections of individuals who are bonded together by natural will and who are together bonded to a set of shared ideas and
ideals. Members are part of a tightly knit web of meaningful relationships. Over time, members usually share a common place, and over time come to share common sentiments and traditions that are sustaining (Sergiovanni, 1994).

**Gemeinschaft and gesellschaft.** In our search for community building in our schools, and wrapped in Sergiovanni’s (1994) theory of community building, a level of the theory of community building is worth mentioning here. Incorporated within a community building framework, the idea of gemeinschaft and gesellschaft can help to bring greater understanding to schools by providing schools with another layer for understanding community building (Sergiovanni, 1994).

Gemeinschaft translates to “community” and gesellschaft translates to “society” (Tonnies, 1887). According to Tonnies ([1887] 1957), gemeinschaft exists in three forms: gemeinschaft by kinship, of place, and of mind. Gemeinschaft of kinship comes from a sense of identity that is fostered by families and extended families. Gemeinschaft of place comes from the sharing of a common locale, for example, my neighborhood, my school, my class. Gemeinschaft of mind refers to the bonding together of people that comes from their mutual acceptance of a common goal, and shared set of values. Gemeinschaft of mind is essential to building community within schools (Sergiovanni, 1994; Tonnies, 1957).

Relationships in gemeinschaft are built on family like feelings and relationships that emerge through a natural will from sharing a common place and a development of shared values. People relate to each other because doing so has its own intrinsic meaning and significance. However, relationships in gesellschaft are contractual. In gesellschaft, rational will is the prime motivating force. People relate to each other to reach some goal or to gain some benefit (Tonnies, 1957).
Sergiovanni (1994) does not propose that schools should replace the family or neighborhood. Instead, the author suggests that schools should possess characteristics of both gemeinschaft and gesellschaft, “because, after all, we live in a gesellschaft world, a society characterized by technical rationality” (p. 13).

Community is defined by the bonds that hold their members together, and an organization is defined by its tasks. “Society, community, and family all try to maintain stability and to prevent change” (p. 13). But, says, Peter Drucker (1992), “modern organizations must be organized for constant change” (p. 96). In other words, too much gemeinschaft blocks progress. At the same time, too much gesellschaft creates loss of community because gesellschaft is transactional in nature where people relate to each other to reach some goal or to gain some benefit (Tonnies, 1957). Sergiovanni (1994) and the theory of community building suggest that the metaphor for school change from that of a formal organization to that of school as a metaphor for community.

**Collaborative school culture theory.** Creating the appropriate structures for collaboration provides opportunities for teachers. Teachers cannot be forced to collaborate. Fullan & Hargreaves (1996) warn against contrived collaboration, where leaders mandate and micromanage the processes of collaboration. There are many structures and methods that contribute to teacher collaboration, such as team teaching, action research teams, peer observations, common-planning times, and shared decision-making. The strength of collaboration comes from time structures for teachers to have meaningful discussions about improving their practice, and to share their expertise (Gruenert, 2000; Fullan & Hargreaves, 1996).

Pounder (1998) provides an in-depth look at restructuring schools for collaboration and
claims that prominent features must be considered before looking to restructure schools for collaboration. The most important of these features, which must be evaluated, is the degree to which teachers guard the boundaries of their classroom. Pounder (1998) asserts that autonomy is a norm that thrives within the teaching profession and collaboration will disrupt that norm. In other words, it is important to understand that collaboration does not occur naturally and that each school building has a unique culture.

Though all schools are different, many schools exist as isolated workplaces where teachers work largely alone in their rooms, interacting little with their colleagues and keeping problems of practice to themselves. In these schools, teachers feel separated from one another, seldom engaging their peers in conversation, professional sharing, or problem-solving (Little, 1982; Lortie, 1975). In other schools, however, teachers regularly engage in professional dialogue with colleagues; share ideas, knowledge, and techniques; and participate in collaborative problem-solving around classroom issues. Teachers work together to develop shared technical knowledge and discover common solutions to challenging problems (Little, 1982; Rosenholtz, 1989).

In collaborative school cultures, the underlying norms, values, and beliefs, and assumptions reinforce and support high levels of collegiality, team-work, and dialogue about problems of practice. Collaboration can affect the quality of teaching by enriching the work of teachers (Peterson & Brietzke, 1994).

Collaborative school cultures (CSC) are schools where teacher development is facilitated through mutual support, joint work, and broad agreement on educational values, and have been presented as the best setting for learning for both teachers and students (Deal & Peterson, 1999; Fullan & Hargraeves, 1996; Little, 1990; Sergiovanni, 1994). Collaboration makes sense, yet
the traditional culture of education still holds to the value of autonomy, individualism, and isolation.

As Lortie (1995) describes it many schools are oriented toward individualism, conservatism, and presentism. In these schools, teachers view themselves as working alone (individualism), they employ educational approaches that follow long traditions (conservatism), and they focus on immediate issues, not the long-term development of the schools (presentism). Successful schools share characteristics of strong instructional leadership, a clear and focused mission, high expectations for students, a climate conducive to learning, opportunities to learn, regular monitoring of students and classrooms, and positive home-school relations (Levine & Lezotte, 1990).

However hard many of the aforementioned characteristics are to achieve, research finds that collegiality and collaboration are avenues to positive school outcomes, particularly for student learning, and that success is more likely when teachers are collegial and work collaboratively on improvement (Levine & Lezotte, 1990; Fullan & Hargreaves, 1991). When teachers and administrators work together the level of commitment, energy, and motivation is likely to be higher and change efforts are more easily implemented.

CSC, schools with professional collaboration, exhibit relationships that support quality work and effective instruction, including the following:

- More complex problem-solving and extensive sharing of craft knowledge
- Greater risk-taking and experimentation
- A richer technical language shared by educators in the school that can transmit professional knowledge quickly
- Increased job satisfaction and identification with the school
- More continuous and comprehensive attempts to improve the school (Fullan & Hargreaves, 1991).

Collaborative school cultures typically feature helpful, trusting, and open staff relationships (Fullan & Hargreaves, 1991). They also may have a commitment to valuing people as
individuals and valuing the groups to which individuals belong.

Collaboration is not simply a group of congenial, happy teachers. As Fullan & Hargreaves (1991) point out, in collaborative schools, the natural give-and-take of professionals means that conflict, disagreement, and discord will sometimes occur. But, these situations can be worked out for the good of the students and for the good of the whole school. Thus, CSC may be a way to build a professional capacity for change, improvement, and school-wide success (Peterson & Brietzke, 1994).

In sum, DuFour (2005) succinctly defines collaborative school culture as a “powerful collaboration” involving a “systematic process in which teachers work together to analyze and improve their classroom practice” (p. 36).

**School culture.** School culture is a complex web of norms, values, beliefs and assumptions, and traditions and rituals, to echo Geertz (1973), that have been built up over time as teachers, students, parents, and administrators work together, deal with crises, and develop unstated expectations for interacting and working together (Schein, 1983; Deal & Peterson, 1990). In collaborative school cultures teachers regularly engage in professional dialogue with colleagues; share ideas, knowledge and techniques; and participate in collaborative problem-solving around classroom issues. Teachers work together to develop shared technical knowledge and discover common solutions to challenging problems (Little, 1982; Rosenholtz, 1989).

Collegiality and collaboration have been identified as elements of successful schools. Collegial relationships are important in collaborative schools to enhance productivity and staff development (Peterson & Brietzke, 1994). Peterson & Smith (2000) note that culture shapes the meaning and interpretation that members attach to actions and experiences in the organization, and organizational culture correlates with organizational performance.
Over time, organizations develop personalities. One way to grasp the sometimes nebulous notion of culture is to think of culture in the same way as one thinks about individual characteristics and personalities. As a group of people (the organization) reacts to persisting conditions (the environment), behaviors become patterns and evolve into expectations of behavior, or norms (Deal & Peterson, 1999). Organizations develop ways for reinforcing the norm through rewards and punishments, allowing the strongest norms to become rituals, traditions, and rules (Gruenert, 2000). Over time, the individuals within the organization become unaware that they have been “trained” to follow the rules, and continue to do things because that’s the way things have always been done. This is organizational culture at work. Culture provides the context in which the whole educational process occurs, and is therefore, assessing the type of culture that exists in a particular organization/school setting provides invaluable insights for those looking to improve their school (Gruenert, 2000).

Shaping a new school culture takes time and can be a messy and divisive business. Education in the 21st century is a complex and multidimensional endeavor (Northouse, 2010). According to Bolman and Deal (2011), modern organizations are full of complexity, turbulence, and confusion. Similar to business organizations, schools operate in a much more complex, diverse environment than in the past. Goddard, Goddard, & Tschannen-Moran, 2007) note that schools are fueled by a complex social and cultural environment of teaching and learning that calls for increased teacher accountability supported by student test scores, and high schools are frequently called upon to improve by developing high levels of teacher collaboration.

Furthermore, recent reform efforts in education have included an emphasis on increasing teacher collaboration and increased accountability standards. In other words, teachers and school leaders are called upon to utilize the expertise of multiple stakeholders for complex problem
Gorton and Alston (2012) suggest that leaders who effectively include others in the decision-making process tap into often under-utilized skills and expertise for more successful problem solving and collaboration. In the image below, the authors note the following advantages of forming collaborative relationships and group problem solving:

Gorton and Alston (2012) note that “collaborative problem solving is consistent with a democratic principle of society that holds that those who are affected by decisions should have some voice in how schools are run” (p. 41). This principle echoes Sergiovanni’s (1994) position on the importance of community building in schools and, specifically, the gemeinschaft notion of community. Relationships in gemeinschaft are built on family-like feelings and relationships that emerge from sharing a common place and a development of shared values. Relationships in gemeinschaft emerge through a natural will. People relate to each other because doing so has its own intrinsic meaning and significance.
Curry (2014) puts forth the idea that group decision-making can result in important benefits for the organizational effectiveness, but collaborative environments, or collaborative school culture (CSC) do not emerge organically. Educational leaders must understand the group process and the importance of creating a culture that supports collaboration (Curry, 2014). Specifically, educational leaders must develop a shared and cohesive culture within the school that supports collaborative efforts (Bolman & Deal, 1992).

Peterson and Brietzke’s (1994) research concentrates on two questions (1) What are the components of collaborative cultures? and (2) How do schools develop collaborative cultures? When staff have more opportunities to collaborate in activities that are positive, self-directed, and important to them, a culture of collaboration is more likely to develop (Little, 1982; Fullan and Hargreaves, 1989). Peterson and Brietzke (1994) suggest structures that support collaboration include the following: shared decision-making and site-based management models; school improvement planning teams; faculty study groups that meet to discuss professionally relevant topics; regular and continuous communications of ideas, sharing of materials, and time to reflect on one’s work; interdisciplinary curriculum projects; team teaching; peer observation; collective work on new instructional methods; and collaborative decision-making and planning of staff development activities. In these organized ways, teachers have the chance to work together, get to know each other, and build on collegial relations that support, enhance and promote a collaborative school culture (Peterson & Brietzke, 1994).

Sergiovanni’s (1994) theory of community building might reveal the collaborative experience that the Math teachers share in their department. It might reveal a healthy and balanced view of both gemeinschaft and gesellschaft in the way the Math teachers interact with each other and transact their business of providing a meaningful curriculum for their students.
A review of the literature on collaborative school culture may reveal how teachers in the Math experience their collaborative relationships by giving voice to their collaborative experiences.

The aforementioned theoretical framework of Community Building Theory aligns with my research questions. The theoretical framework of community building used to examine the Math department’s experience with collaborative relationships and the impact of such relationships on improving school culture might provide a pathway for change school wide and thereby, end the silence and isolation.

Given the importance of meaningful, sustained collaborative relationships at the high school level on school culture and climate, it is important to understand teachers’ experiences with department collaboration. Therefore, the purpose of this case study is to understand the nature of collaborative relationships and community building and their effect on school culture and climate. The following questions guide the direction of this study:

1. How do teachers in the Math department of a mid-sized rural public high school experience, describe and understand a sense of community building and collaboration in their department?

2. How do teachers in the Math department of a mid-sized rural public high school experience, describe, and understand the relationship between department community building and collaboration and their individual practice?

3. How do teachers in the Math department of a mid-sized rural public high school experience, describe, and understand the relationship between department collaboration and community-building and the effect on overall school climate and culture at the high school?
Chapter II: Literature Review

To understand the nature of community and collaborative relationships as a model of effective school change, one must examine the need for community building and for effective collaborative relationships for teachers, the structure of effective collaboration, how teachers experience and define collaborative relationships, and how teachers experience and describe how collaboration impacts their own practice and the school-wide culture and climate.

This literature review focuses on studies of collaborative relationships and community building in schools. Therefore, the purpose of this literature review will be to better understand how high school Math teachers experience and describe collaboration within the community of their department; and, to better understand high school Math teachers’ experience and description of how collaboration impacts the school-wide community culture and climate.

This literature review will include the following sections: increasing collaborative needs; definitions of relevant terminology; characteristics of community building in schools and characteristics of highly collaborative school cultures; benefits of collaboration; challenges of collaboration; and effects of collaboration on school culture. This review of the literature will discuss the previous research and note its limitations. Finally, this literature review will end with an overview of the scholarly contributions to theory, to research, and to practice.

The following research questions will direct and focus the research articles included in this literature review:

1. How do teachers in the Math department of a mid-sized rural public high school experience, describe and understand a sense of community building and collaboration in their department?

2. How do teachers in the Math department of a mid-sized rural public high school
experience, describe, and understand the relationship between department community building and collaboration and their individual practice?

3. How do teachers in the Math department of a mid-sized rural public high school experience, describe, and understand the relationship between department collaboration and community-building and the effect on overall school climate and culture at the high school?

Why School Culture is Important

Schein (2010) notes culture is often referred to as the underlying glue that holds organizations together. Organizational cultures develop as groups of people struggle to make sense of and cope with their worlds. The concept of culture is a product of our human need for stability, control, consistency, belonging, and meaning (Sergiovanni, 1994). Therefore, school culture is created through the need for a clear-cut unambiguous framework that will provide stability, consistency, predictability, and meaning (Schein, 2010).

Deal & Peterson (1999) define school culture as an invisible, “taken-for granted” flow of beliefs and assumptions that give meaning to what people say and do. In other words, school culture consists of unseen elements such as assumptions and values, norms and beliefs that affect school life. Schein (2010) presents school culture as “a complex web of norms, values, beliefs, and assumptions, traditions, and rituals that have been built up over time as teachers, students, parents, and administrators work together, deal with crises, and develop unstated expectations for interacting and working together” (p. 18).

Evans & Teddlie (1995) put forth the notion that school culture is a system of attitudes, actions, and artifacts that endures over time and produces among its members a relatively unique common psychology. Furthermore, it is the guiding beliefs, assumptions, and expectations that are evident in the way a school operates (Fullan & Hargreaves, 1996).
Teachers, students, administrators, and parents sense something special and undefined about the schools they attend (Deal & Peterson, 1999). Most schools have their own tone, climate, or “ethos” that seems to permeate all activity in the school. This unique quality of each school, the school culture, affects the way people act, how they dress, what they talk about or never talk about.

Although there is no universal definition of what the best school cultures do, there is a general knowledge of the way schools do things and how teachers in those schools relate to each other. For example, research offers the following additional meanings of culture as it relates to schools:

- The observed patterns of behavior, such as how teachers interact in the staff room, the language they use, and the rituals they establish
- The norms that evolve in working groups of teachers in terms of lesson planning or monitoring the progress of students
- The dominant values espoused by the school, typically through a mission statements
- The philosophy that guides the approach to teaching and learning of particular subjects in a school, and
- The unwritten policies and procedures that new teachers have to learn in order to get along in the school or their departments (Gruenert, 2000; Sarason, 1996; Sergiovanni, 1994).

Organizational culture evolves slowly over many years – three to five years (Deal & Peterson, 1999) - and dictates the way things are done and the way people are supposed to act (Gruenert, 2000). The influence of culture upon improving schools is very important. School culture is a key factor in determining whether improvement is possible (Deal & Peterson, 1999).

Shaping school culture is tricky because it is difficult for people to become aware of their own practice without a conscious effort to get outside the existing culture and to see things objectively without the lens of local norms or the shroud of tradition (Gruenert, 2000). Shaping a new school culture has a double edge to it, and collaborations can turn into “grapevines.” However, a school’s culture defines the context in which the whole educational process occurs.
(Gruenert, 2000). Teachers and students come to care about their school when the school effectively cares for them. The best schools are those that enlist students, parents, teachers, and administrators as active participants in creating a caring environment. The goal is a culture in which all stakeholders feel a shared sense of purpose and treat one another with kindness and respect (Lightfoot, 1984; Schaps & Solomon, 1990; Sergiovanni, 1994; Sizer, 1984).

**Collaborative School Culture**

Creating the appropriate structures for collaboration provides opportunities for teachers. Teachers cannot be forced to collaborate. Fullan & Hargreaves (1996) warn against contrived collaboration, where leaders mandate and micromanage the processes of collaboration. There are many structures and methods that contribute to teacher collaboration, such as team teaching, action research teams, peer observations, common-planning times, and shared decision-making. The strength of collaboration comes from time structures for teachers to have meaningful discussions about improving their practice, and to share their expertise (Gruenert, 2000; Fullan & Hargreaves, 1996).

Pounder (1998) provides an in-depth look at restructuring schools for collaboration and she claims that prominent features must be considered before looking to restructure schools for collaboration. The most important of these features, which must be evaluated, is the degree to which teachers guard the boundaries of their classroom. Pounder (1998) asserts that autonomy is a norm that thrives within the teaching profession and collaboration will disrupt that norm. In other words, it is important to understand that collaboration does not occur naturally and that each school building has a unique culture of which isolation may be a strongly held norm.

Though all schools are different, many schools exist as isolated workplaces where teachers work largely alone in their rooms, interacting little with their colleagues and keeping
problems of practice to themselves. In these schools, teachers feel separated from one another, seldom engaging their peers in conversation, professional sharing, or problem-solving (Little, 1982; Lortie, 1975). In other schools, however, teachers regularly engage in professional dialogue with colleagues; share ideas, knowledge, and techniques; and participate in collaborative problem-solving around classroom issues. Teachers work together to develop shared technical knowledge and discover common solutions to challenging problems (Little, 1982; Rosenholtz, 1989).

In collaborate school cultures, the underlying norms, values, and beliefs, and assumptions reinforce and support high levels of collegiality, team-work, and dialogue about problems of practice. Collaboration can affect the quality of teaching by enriching the work of teachers (Peterson & Brietzke, 1994).

Collaborative school cultures (CSC) are schools where teacher development is facilitated through mutual support, joint work, and broad agreement on educational values, and have been presented as the best setting for learning for both teachers and students (Deal & Peterson, 1999; Fullan & Hargraeves, 1996; Little, 1990; Sergiovanni, 1994). As such, collaboration makes sense, yet the traditional culture of education still holds to the value of autonomy, individualism, and isolation. As Lortie (1995) describes it many schools are oriented toward individualism, conservatism, and presentism. In these schools, teachers view themselves as working alone (individualism), they employ educational approaches that follow long traditions (conservatism), and they focus on immediate issues, not the long-term development of the schools (presentism).

Successful schools share characteristics of strong instructional leadership, a clear and focused mission, high expectations for students, a climate conducive to learning, opportunities to learn, regular monitoring of students and classrooms, and positive home-school relations (Levine
& Lezotte, 1990). However hard many of the aforementioned characteristics are to achieve, research finds that collegiality and collaboration are avenues to positive school outcomes, particularly for student learning, and success is more likely when teachers are collegial and work collaboratively on improvement (Levine & Lezotte, 1990; Fullan & Hargreaves, 1991). When teachers and administrators work together the level of commitment, energy, and motivation is likely to be higher and change efforts are more easily implemented.

CSC, schools with professional collaboration, exhibit relationships that support quality work and effective instruction, including the following:

- More complex problem-solving and extensive sharing of craft knowledge
- Greater risk-taking and experimentation
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Collaborative school cultures typically feature helpful, trusting, and open staff relationships (Fullan & Hargreaves, 1991). They also may have a commitment to valuing people as individuals and valuing the groups to which individuals belong.

Collaboration is not simply a group of congenial, happy teachers. As Fullan & Hargreaves (1991) point out, in collaborative schools, the natural give-and-take of professionals means that conflict, disagreement, and discord will sometimes occur. But, these situations can be worked out for the good of the students and for the good of the whole school. Thus, CSC may be a way to build a professional capacity for change, improvement, and school-wide success (Peterson & Brietzke, 1994).

In sum, DuFour (2005) succinctly defines collaborative school culture as a “powerful collaboration” involving a “systematic process in which teachers work together to analyze and improve their classroom practice” (p. 36).
Community Building

It may seem logical to assume that school environments are by definition already learning communities. But a school community is not the building but rather the people in the building who breathe energy into the brick and mortar, who create meaning and significance, and who establish purpose around a mutually agreed upon set of norms and goals. Building communities in schools are needed because schools, teachers, administrators, and students are continually bombarded with mandated reform initiatives that require adapting to the needs of a rapidly changing world (Goddard, Goddard, & Tschannen-Moran, 2007; Sergiovanni, 1994).

Community building gives depth and a sense of care and concern to the collaborative school culture and creates a true sense of belonging that goes beyond collaboration. Community building in schools ensures a collaborative spirit and staves off collaboration as compliance. It infuses the school infrastructure with a sense of valuing all people and provides a caring place for teachers and students to learn together. Learning communities invite the conversations, feedback, and risk taking necessary for individual transformation and systemic changes. Altering a structure alone does not necessarily mean systemic change will occur (Sergiovanni, 1994).

Drucker (1992) argues for more gemeinschaft/gesellschaft balance in organizations. And, as Sergiovanni (1994) points out, it is one thing to lament the loss of community in schools because schools can never really replace the family or neighborhood. However, it is important to realize that community building in schools can provide an important safety net to the loss of family and neighborhood and to the rapidly changing social and cultural needs. As schools become communities, they facilitate the strengthening of family and neighborhood. Sergiovanni (1994) argues that the balance of emphases is seriously out of kilter in most schools.
Gesellschaft, which is valuable and inescapable in our society, is characterized by technical rationality. Without gesellschaft we would not have a successful space program or heart transplant technology or great universities or profitable corporations. But, says Sergiovanni (1994), “as gesellschaft strengthens, gemeinschaft weakens. As gemeinschaft weakens, we experience a loss of community with all of its negative consequences” (p. 13). Morris (1940) states,

We know that where community exists it confers upon its members identity, a sense of belonging, and a measure of security… Communities are the ground-level generators and preservers of values and ethical systems. The ideals of justice and compassion are nurtured in communities. The breakdown of communities has had a serious disintegrating effect on the behavior of individuals. We have all observed the consequences in personal and social breakdown. The casualties stream through the juvenile courts and psychiatrists' offices and drug abuse clinics. There has been much talk of the breakup of the nuclear family as a support structure for children. We must remind ourselves that in an earlier era support came not only from the nuclear family but from extended family and community. The child moved in an environment filled with people concerned for his future- not always concerned in a kindly spirit, but concerned. A great many children today live in environments where virtually no one pays attention unless they break the law (p. 26).

In our rapidly changing and complex social and cultural environment of teaching and learning (Goddard, Goddard, & Tschannen-Moran, 2007), community and family try to maintain stability and to prevent, or at least to slow change. Yet the modern organization is a destabilizer and by definition must be organized for the systematic abandonment of whatever is established, customary, familiar, and comfortable (Drucker, 1992). In other words, just when we need
community and family the most in our schools, our schools must be organized for constant change. In modern times the school has been solidly ensconced in the gesellschaft camp with unhappy results (Tyack & Hanson, 1982). It is time that the school was moved from the gesellschaft side of the ledger to the gemeinschaft side (Sergiovanni, 1994).

The path to the core of school reform lies within and through community building: learning communities which generate knowledge, craft new norms of practice, and sustain participants in their efforts to reflect, examine, experiment, trust, and change (Livesay, et. al., 2005). Research shows that conditions for improving teaching and learning and school wide culture are strengthened when teachers continually engage in inquiry about effective teaching practices, rethink what is happening in their classrooms and schools, understand and respond to differences between school and community, and support collegial learning and professional growth (Achinstein, 2002; Little, 2003; McLaughlin & Talbert, 2005). Hargreaves (2003) suggests that there is a parallel between the kind of intellectual community developed among teachers and the kind of learning experiences offered to students. The idea is that teachers who reflect on and explore the nature of learning, engage in collegial learning, draw on research and assessment data, and engage in collective decision making will be able to create similar environments for their students. This line of reasoning can be extended to the idea that teachers who reflect on and explore the nature of learning, engage in collegial learning, draw on research and assessment data, and engage in collective decision making will be able to create similar environments for their school, thereby improving culture school wide.

Creating a school community reflects and reveals our basic psychological needs for emotional and physical safety; for close, supportive relationships, and a sense of connectedness and belongingness (Schaps, 2003; Baumeister & Leary, 1995); for autonomy and for a say in
what happens to us; for a sense of competence – a belief that we are capable people and able to learn. These fundamental needs shape human motivation and have major implications for learning and development. We are willing to work hard to preserve our sense of safety, belonging, autonomy, and competence (Deci & Ryan, 1985).

**Increasing need for collaboration and community building.** Sarason (1966) notes that teaching is a lonely profession. Unlike other professions, teaching does not provide for a shared culture based on the movement from knowledge to experience in the company of one's peers. Doctors, for instance, learn their profession through a graduated set of experiences, all shared with others. Not so the teacher. The neophyte and veteran teacher alike hone their art and expertise behind closed doors, nights, weekends, and during summer break. Teaching lacks a shared culture based on bridging knowledge gained in university training with the experience that results from an embedded collaborative culture grounded in relationships with one’s peers (Sarason et al, 1966).

Consciously or unconsciously, we feel *what* the space tells us about *how* to work. The space in most public high schools built in the last fifty years tells you that it's meant for a group of people to work alone. Closed-off classrooms sprout off of lonely hallways, signs that say “Faculty Only,” one auditorium and two cafeterias ensure that students and teachers are safely separated from one another (Sergiovanni, 1994). Yet, despite compelling evidence indicating that working collaboratively represents best practice, teachers in many schools continue to work in isolation (DuFour, 2004).

Research completed by Thomas, Wineburg, Grossman, Myhre, & Woolworth, (1998) notes that the constraints imposed by the professional culture are well documented. Their study identified organizational features of schools that produce the norms of privacy and
noninterference that shape teachers’ work. For example, professional development programs for teachers are often driven by state and federal mandates and initiatives rather than efforts aimed at supporting a sustainable collaborative school culture (Goddard, Goddard, & Tschannen-Moran, 2007; Smylie, 1988). Such programs elicit compliance from teachers and not collaboration and make it easy for teachers to retreat to their classrooms and close their doors.

While the notion of collaboration is popular, Thomas, Wineburg, Grossman, Myhre, & Woolworth (1998) note it relies on truly collaborative tasks where teachers assume shared responsibility, initiative and leadership. Their study notes that the opportunities for creating such interdependencies are rare and that the most common configurations of teacher-to-teacher interaction may do more to bolster isolation than to diminish it. Collaborative conversations that focus explicitly on ensuring that students learn, call on team members to make public what has traditionally been private – goals, strategies, materials, pacing, questions, concerns, critiques, and results (DuFour, 2004). Such conversations, if held consistently within a setting of professional and mutual trust and respect, and if explicitly structured to improve classroom practice and student learning, potentially give every teacher someone with whom to talk (DuFour, 2004; Sergiovanni, 1994; Thomas, et., al., 1998).

Schools are centers of learning both for students and adults. Fullan, (2001) establishes that for teachers, the process of building collaborative relationships is one that is traditionally unfocused and based upon the choices individual educators make for themselves. This unstructured inconsistency of building collaboration within most schools does not contribute to effective teaching practices, student learning or to improved school culture. Further research shows that school reform lies with administrators and teacher leaders who initiate system change and is accomplished by school leaders who build school culture through collaborative relations...
Evidence suggests that the culture of a school affects student learning, teacher productivity, and teacher efficacy (Little, 1982; Rosenholtz, 1989). In other words, some of the reasons that structures for on-going teacher collaboration do not exist in many high schools might be because the existing school culture does not allow for collaboration to happen. If the status quo of non-collaboration and isolation wins out it is because the existing culture allows it to win out (Deal & Peterson, 1999).

The complex social and cultural environment of teaching and learning calls for increased teacher accountability supported by student test scores, with high schools frequently called upon to improve by developing high levels of teacher collaboration (Goddard, Goddard, & Tschannen-Moran, 2007). Collaborative school cultures are perceived more and more as being essential for better schools (Campo, 1993). And, collaborative school cultures make an important contribution to both the success of school improvement processes and the effectiveness of schools (Little, 1982; Rosenholtz, 1989). Yet, the simple fact is that structures for on-going teacher collaboration do not exist in many high schools for a variety of reasons both from inside and from outside the schoolhouse.

Although collegial relationships have proven to be important (Little, 1982), school administrators do not provide common planning time for teachers to collaborate on best practices. Collegial relationships exist when teachers discuss problems of practice, share ideas and knowledge, observe one another’s work and collaborate on instructional projects (Little, 1982; Rosenholtz, 1989; Smylie, 1988).

The process of shaping a collaborative school culture involves (1) reading the existing culture, (2) identifying aspects of the underlying norms and assumptions that serve the core...
mission of the school and the needs of students and teachers, and (3) reinforcing and celebrating those aspects that support development of a collaborative culture and changing those norms that destroy collegiality, collaboration, and community (Deal & Peterson, 1990; Schein, 2010).

Budgetary and scheduling restraints prevent teachers and administrators from implementing meaningful interdisciplinary courses (Deal & Peterson, 1999; Fullan & Hargreaves, 1996; Goddard, Goddard, & Tschannen-Moran, 2007; and professional development programs for teachers are often driven by state and federal mandates and initiatives rather than efforts aimed at supporting a sustainable collaborative school culture (Goddard, Goddard, & Tschannen-Moran, 2007; Smylie, 1988). In other words, evidence suggests that the culture of a school affects student learning, teacher productivity, and teacher efficacy (Little, 1982; Rosenholtz, 1989).

Research on collaborative practice among teachers at the high school level has found that schools in which a culture of collaboration exists among teachers, on-going teacher professional development is possible, coherence across teaching practices is created, and collective responsibility among teachers for student learning is cultivated (Campo, 1993; Harris, 2001; Harris, Jamieson & Russ, 1995; Little, 1982; Rosenholtz, 1989; Shank, 2006). Yet, developing and sustaining a collaborative culture in the typically independent practice of secondary schools is difficult because, despite compelling evidence indicating that working collaboratively represents best practice, the norms of privacy, noninterference, and isolation dictate how schooling is done. As such, teachers in many schools continue to work in isolation (DuFour, 2004).

**Benefits of Building Community and Collaboration in Schools**

A growing body of research confirms the benefits of building a sense of community in school.
Students in schools with a strong sense of community are more likely to be academically motivated (Osterman, 2000; Solomon, Battistich, Watson, Schaps, & Lewis, 2000); to act ethically and altruistically (Osterman, 2000; Battistich, & Solomon, 1997); to develop social and emotional competencies (Osterman, 2000; Solomon, et. al., 2000); to develop trust and respect for teachers (Osterman, 2000); and to avoid a number of problem behaviors, including drug use and violence (Osterman, 2000). Likewise, teachers in schools with a strong sense of community are more likely to ensure the strength of relationships at school by focusing consistently and constantly on students’ and peers’ abilities to interact and make connections with other people. Furthermore, teachers who incorporate the need for strong relationships, both teacher-student, teacher-teacher, and student-student, into their classroom practices and learning environment will help all players develop caring relationships with each other (Northfield & Sherman, 2004). The benefits of building a sense of community in schools are wide-ranging, enduring, and substantial. Because community building accomplishes multiple objectives simultaneously, a serious focus on it can actually simplify life within schools and enhance and improve school culture and climate for all stakeholders (Schaps 2008).

To be part of a caring school community means that at the heart of a high-community school there is an inclusive web of respectful, supportive relationships among and between students, teachers, and parents. Supportive relationships enable students from diverse backgrounds to fully engage and persevere. Supportive relationships help parents, especially those who otherwise might feel ill at ease, to take active roles in the school and in their children’s education. And, supportive relationships among educators help them deal with the many stresses of their daily work (Schaps & Lewis, 1999).

Emphasizing common purposes and ideals is also important for creating a sense of
community. High-community schools emphasize not only the importance of academic learning, but also other qualities that are essential to social and civic participation: for example, fairness, concern for others and personal responsibility. This emphasis on common purposes establishes common ground and shapes the norms that govern daily interaction (Schaps, 2008; Sergiovanni, 1994). In other words, the establishment of common purpose and common language is necessary for creating a sense of community as well as establishing the fertile ground-work for sustained improvement in school culture.

Regular opportunities to help and collaborate with others is another benefit of high-community schools. With frequent opportunities to collaborate and to be of service, students can learn and hone the skills involved in relating to others and can develop wider networks of positive relationships (Schaps, 2008). A school high in sense of community helps teachers by providing teachers with a “say” in shaping their environment, positive connections with their peers, and opportunities for contribution and meaningful instructional practices. Furthermore, schools with high-community exhibit professional collaborative relationships that support quality work and effective instruction, for example: more complex problem-solving and extensive sharing of craft knowledge; greater risk-taking and experimentation; richer technical language shared by educators in the school that can transmit professional knowledge quickly; increased job satisfaction and identification with the school; more continuous and comprehensive attempts to improve the school (Fullan & Hargreaves, 1991). High-community schools typically feature helpful, trusting, and open staff relationships (Fullan & Hargreaves, 1991). They also may have a commitment to valuing people as individuals and valuing the groups to which individuals belong.

Further research suggests high-community and collaborative schools can result in
important benefits for organizational effectiveness (Curry, 2014). For example, collaborative conversations that focus explicitly on ensuring that students learn, call on team members to make public what has traditionally been private – goals, strategies, materials, pacing, questions, concerns, and results. Such discussions give every teacher someone to turn to and talk to, and they are explicitly structured to improve the classroom practice of teachers – individually and collectively, (DuFour, 2004). Collaborative and high-community environments that make public practices that have traditionally been private, effectively change the norms from privacy, non-interference, and isolation to norms where teachers value professional relationships, share ideas, and exchange new practices and techniques (Little, 1982; Rosenholtz, 1989).

**The teachers’ role in promoting a sense of community and collaboration.** Classroom teachers provide an important but often overlooked pathway to building collaboration and community within schools. Northfield & Sherman (2004) argue that classroom teachers need to strive for an environment that fosters sociability within a social context, particularly that of the classroom community. Yet, despite the arguments for community as a basis for learning and an emotional support mechanism, Northfield & Sherman (2004) argue that schools, particularly high schools, as educational institutions, pay little attention to the socio-emotional needs of students, teachers, or both. In this respect, these researchers echo Sergiovanni’s (1994) position in favor of more gemeinschaft and less gesellschaft in schools.

Current research argues that schools need to emphasize and support a sense of belonging within a school and classroom community, helping students and teachers alike balance their needs and desires for individual and professional identity, self-reliance and autonomy with the ability and desire to be accepted and develop social relationships. Critics argue that a sense of community and experience of belonging are related to autonomy and competence (Deci, et al.,
A teacher’s need for relatedness includes feeling securely connected with others and in doing so, experiencing oneself as worthy of love and respect. Osterman (2000) suggests this need for relatedness is exhibited in the need to experience belongingness or a sense of community.

Although schools, particularly high schools, are aware of the socio-emotional needs of teachers and students, they often underappreciate the importance of addressing these needs explicitly and in an integrated fashion. According to Osterman (2000), achievement and mastery are more important in schools than the sense of belonging. Too often, the concept of belonging is not necessary for engagement in schools, but is, instead, a reward for compliance and achievement. Often, the school assumes that personal and emotional needs of teachers and students are being met elsewhere, either at home or in other social relationships. Institutional policies and practices systematically contribute to students and teachers experiencing isolation (Osterman, 2000).

The teacher’s role in promoting a sense of community in the classroom cannot be underestimated. As classroom teachers, in daily contact with students and other teachers, play a vital role in nurturing a sense of community school-wide. Students construct their own understanding of what is socially valuable and will look to those around them (parents, teachers, peers) for guidance and social cues to help them find their place (Northfield & Sherman, 2004). Teachers, as well, look to their colleagues for professional collaborative relationships that support quality work and effective instruction, for example: more complex problem-solving and extensive sharing of craft knowledge; greater risk-taking and experimentation; richer technical language shared by educators in the school that can transmit professional knowledge quickly; increased job satisfaction and identification with the school; more continuous and comprehensive
attempts to improve the school (Fullan & Hargreaves, 1991).

Teachers are still central in the caring classroom. Schaps & Lewis (1999) suggest that as teachers create more opportunities for students to help shape classroom lessons and decisions, some teachers may move too far from being the “sage on the state” toward “guide on the side” (p. 4). Teachers must be seen and see themselves as occupying key roles in classrooms – not simply as technicians who know how to run good discussions or teaching encoding skills to beginning readers but as persons whose view of life, which includes all that goes on in the classrooms, promises to be as influential in the long run as any of their technical skills. It is this extended view of a teacher’s responsibility that makes it appropriate to speak of teaching as a moral enterprise (Jackson, Boorstrom, & Hansen, 1993; Lightfoot, 1984; Sergiovanni, 1994).

In sum, Ryan & Stiller (1991) suggest that “the experience of relatedness and mutuality that derives from authentic contact with others appears to play a crucial role in connecting individuals to social tasks and promoting an internalization of internal goals “ (p. 119). In other words, teachers must ensure that consistent, caring relationships within the classroom community support the socio-emotional development of students and teachers alike. Teachers and students come to care about their school when the school effectively cares for them. The best schools are those that enlist students, parents, teachers, and administrators as active participants in creating a caring environment. The goal is a culture in which all stakeholders feel a shared sense of purpose and treat one another with kindness and respect (Lightfoot, 1984; Schaps & Solomon, 1990; Sergiovanni, 1994; Sizer, 1984).

The department’s role in providing a sense of community and collaboration.

Research shows Livesay, et al (2005) that the path to change in the classroom core lies within and through teachers’ professional communities: learning communities which generate
knowledge, craft new norms of practice, and sustain participants in their efforts to reflect, examine, experiment and change. Livesay, Moore, Stankay, Waters, Waff, & Gentile (2005) make the case that conditions for improving teaching and learning are strengthened when teachers continually engage in inquiry about effective teaching practices, rethink what is happening in their classroom and schools, understand and respond to differences between school and community, and support collegial learning and professional growth. The researchers put forth the notion that departments at the secondary level can expand the conversation and build a spirit of collaboration and inquiry. Through inquiry-driven collaborative learning, department members can engage in a research-based process of addressing hard questions about enhancing school culture to bring about student learning and achievement.

Harris (2001) argues that the current approaches to school improvement do not adequately reflect or incorporate the department level. Research evidence concerning school effectiveness and culture emphasizes the importance of focusing change efforts at different levels within the school organization (Harris, 2001; Teddlie & Reynolds, 2000). Their research is premised upon the view of school culture improvement as internally generated and internally driven. In taking this view, the researchers argue that the department level within secondary schools is an underutilized but important means of mobilizing and sustaining a positive school culture and ultimately school improvement. Furthermore, their research suggests that both the department and the school should be regarded as units of change. Their article explores the relationship between departmental improvement and school improvement. It suggests some factors that could contribute to improved departmental performance and explores the relationship between departmental, school culture, and classroom improvement. Their research argues that the department is an important ‘missing link’ in school wide culture and climate improvement.
Lomos, Hofman & Bosker (2011) investigate the relationship of math departments perceived as professional communities and student achievement in Dutch secondary schools. According to Lomos, Hofman & Bosker (2011), secondary school teaching, here and in the Netherlands, is organized in departments and effective departments functioning as collaborative teams have been associated with effective schools. The findings of their quantitative study show that those departments that focus on reflective dialogue, collaborative activity, shared vision and student achievement are associated with successful schools and higher student achievement.

Harris, Jamieson & Russ (1995) and Harris (2001) also look at effective departments and school improvement in Dutch secondary schools. Findings from their research highlights the contribution of the department level and classroom level to whole school effectiveness, and explores the relationship between departmental improvement and school improvement. Their studies suggest that the department level in secondary schools are underutilized as means of sustaining school improvement, and in that respect, echo Lomos, Hofman & Bosker (2011).

Schaps & Lewis’ (1999) argument extends Harris’ (2001) position that school wide change is essential in building community and collaborative school culture. Building community must be a whole-school endeavor, and one that succeeds, in order to have benefits. Building community can and should start at the department level and spread to become a successful whole-school endeavor.

**Challenges to Building Community and Collaboration in Schools**

Wineburg, Grossman, Myhre, & Woolworth, (1998) note that the organizational features of schools that produce the norms of privacy, noninterference, and isolation that shape teachers’ work are well-documented. While the notion of collaboration is popular, and talking about schools as communities has become quite common in the literature on effective schools
(Lightfoot, 1984; Bird & Little, 1986; Schaps & Solomon, 1990; Sizer, 1984), both rely on truly collaborative and high-community building tasks - tasks where teachers assume shared responsibility, initiative and leadership. In other words, collaboration and community building can be tricky and messy because they rely on a collaborative school culture that supports a shared sense of purpose, focuses on long-term improvement – three to five years (Deal & Peterson, 1999) - and supports networks of professionals who share problems, ideas, materials, time, and solutions. While these cultures are not easy to develop, they provide substantial and meaningful settings in which teachers develop knowledge about their practice, a powerful sense of efficacy, and a deep connection to fellow educators, students, and parents (Ashton, Buhr & Crocker, 1984; Fullan & Hargreaves, 1991, Lortie, 1975; Rosenholtz, 1989). Despite the evidence, the opportunities for creating such interdependencies are rare and the most common configurations of teacher-to-teacher interaction may do more to bolster isolation, noninterference, and norms of privacy than to diminish them (Wineburg, Grossman, Myhre, & Woolworth, 1998).

Many teacher collaborative conversations tend to take place informally and on-the-run (DuFour, 2004). Studies done by Battistich, Solomon, Watson & Schaps (1997) show that any enduring effects of building collaborative relationships would seem to require a purposeful continuity of experiences. In other words, schools, teachers, and students benefit most from participating in a caring, collaborative community when the experience of collaboration extends throughout the entire school. To achieve this continuity of experience, the entire school would have to constitute a caring collaborative culture, not simply a few informal, on-the-run conversations (DuFour, 2004; Battistich, et. al., 1997).

As teachers, we often ask ourselves how can we best help students who do not achieve
their full potential and who feel alienated and not accepted by their peers? Who is responsible to ensure that students feel a part of the classroom? When classroom teachers are charged with ensuring a full range of pre-determined, and often ambiguous yet extensive curriculum outcomes, how do we find the time and space to encourage students to find ways to be socially and academically accepted and to feel they belong? Public demands for accountability and an increased pressure on school districts and their teachers to use standardized testing methods seem to leave little room in classrooms, or schools for that matter, for an explicit focus on developing a strong sense of community and collaborative relationships for themselves or for their students (Northfield & Sherman, 2004).

Pounder (1998) provides an in-depth look at restructuring schools for collaboration and she claims that prominent features must be considered before looking to restructure schools for collaboration. The most important of these features, which must be evaluated, is the degree to which teachers guard the boundaries of their classroom. Pounder (1998) asserts that autonomy is a norm that thrives within the teaching profession and collaboration will disrupt that norm. In other words, it is important to understand that collaboration does not occur naturally and that each school building has a unique culture.

According to Darling-Hammond (1986), several conditions are necessary for the support of teacher collaborative relationships and community building in schools. The first, teacher isolation must be overcome so that opportunities to discuss problems of practice can be frequent and regular. And, second, a meaningful processes for teacher evaluation must be created to sustain professional development. Finally, teacher involvement in evaluation of practice and in decision-making about policies and practices must be established. In other words, schools must build cultures of collaboration, but before they build cultures of collaboration they must first
build community.

Schaps & Lewis (1999) highlight some of the “perils on the road to community.” They assert their belief in the importance of building community, but they now worry that, if implemented poorly or halfheartedly, community-building will be detrimental to teachers and students, or at the very least will “fail” and be discarded, like so many prior education reforms. In view of their encouragement to schools interested in building community, they offer some caveats. For example, in schools, “caring” and “challenging” are often seen as paradoxical, but they need not be so. Lewis (1995) details how schools can simultaneously be challenging and caring. But to make both happen requires attending to both. The author suggests that teachers and administrators seeking to build community may initially neglect academics as they try to build a more friendly, responsive school environment. The belief is that building a sense of community would “naturally” happen. The logic was the more strongly students and teachers bond to a school, the more committed they will be to its norms and goals, including academic achievement and school reform. The research (Schaps & Lewis, 1999; Lewis, 1995) advocates a deliberate dual emphasis on building a sense of community with building academic rigor. Their studies consistently find that sense of community benefits students and teachers, but the evidence linking sense of community to academic achievement is more mixed.

Schaps & Lewis (1999) argue that school wide change is essential in building community and collaborative school culture. Community building must be a whole-school endeavor, and one that succeeds, in order to have benefits. In their work with twelve elementary schools across the country, they found troubling differences between the schools where half of or fewer teachers changed their classroom practices as compared with those where a large majority of teachers changed their practices. Their studies did not find a heightened sense of community in the
schools where half or fewer of teachers changed. In terms of the impact on students and teachers, the experience of moving between responsive, supportive classrooms and ones that remain impersonal may be worse than no change at all (Shaps & Lewis, 1999).

Students in high-community schools are strongly disposed to adopt their school’s values. So the content of these values becomes critical (Battistich et al, 1997). For example, does the school emphasize immediate compliance with authority or discussion of moral issues? Among the comparison schools in their research (schools which serve as controls and do not participate in the effort to build community) students in the relatively high-community schools actually showed lower pro-social and moral reasoning than students from low-community schools. Because the comparison schools emphasized teacher authority and extrinsic rewards in the classroom, the researchers suggest that the high-community schools among them more effectively led students to value compliance with authority over independent moral reasoning.

This line of reasoning which questions whether to emphasize the value of compliance with authority or the discussion of moral issues echoes Morris’ (1940) research where he found that a healthy community deals forthrightly with dissension and "we-they" polarities, accepting diversity and dissent but using all the various mediating, coalition-building, and conflict-resolution procedures to find common ground. It is necessary to add that a community can be too tightly knit, suppressing dissent and constraining the creativity of its members (Morris, 1940). Walking a line between too much and too little teacher directedness is clearly an issue (Battistich et al, 1997).

Achinstein’s (2002) qualitative study suggests that when teachers engage in collaborative reforms in the name of “community,” what emerges is often conflict. A compelling component of Achinstein’s (2002) study is that the author challenges the orthodox thinking on professional
learning communities of practice and posits that conflict is not only central to collaboration, but how teachers’ manage conflict, whether they suppress or embrace their differences, defines the community borders and defines the potential for learning. Teachers’ collaborative relationships need a learning community in which to engage in dialogue to continually construct and refine their purpose. While it may be true that in a learning community teachers can be committed to continually improving their teaching practice by engaging in reflective collaborations where they can seek new ideas, feedback, and opportunities to reflect and collaborate, one of the dangers of collaborative initiatives is engaging in a type of groupthink, where teachers uncritically accept the groups’ beliefs without questioning or allowing dissent. Achinstein (2002) states “open debate and conflict prove vital to the growth of some professional communities” (p. 450).

Bird and Little, (1985) put forth the notion that present arrangements for teacher preparation and supporting teachers pale beside teachers’ extensive experience as students, beside the classroom’s immediate demands on them, and beside the tasks of learning to teach or advancing as teachers. Teachers inherit the same images of teaching that we all do, struggle toward proficiencies virtually alone, and accumulate as much skill and wisdom as they can by themselves. Superb teachers leave their marks on all of us. They leave no marks on teaching. If teachers’ performances or responses to changing demands and opportunities are disappointing, says Bird and Little (1985), there should be no surprise. Teaching is not yet organized to hold teachers accountable for their work, or, more important, to support them in mastering it (Bird & Little, 1985; Sarason, 1996).

Furthermore, the normal school day provides little time for teachers to observe, discuss, or improve instruction; that isolation is increased by norms of autonomy (Hargreaves, 1984). As a consequence, clear and influential norms of instruction and civility and community building are
difficult to form, and bureaucratic procedures are no substitute for collegial contact (Bird & Little, 1985).

Wineburg & Grossman’s (1998) research eschew the quick fix culture of staff development where schools have six to seven days of staff development and each meeting is unrelated to the others. The notion of making teaching public is a painfully necessary process. Collaborative relationships require that groups learn to confront the conflicts that inevitably arise as the community emerges. People must interact directly with colleagues they may previously have chosen to avoid. They must confront the different perspectives about subject matter and teaching that dwell in the same hallway. The process is not easy or comfortable, but is “painfully necessary” (Wineburg & Grossman, 1998). The authors assert,

We are well aware of the challenges before us. Releasing teachers from the classroom once a month creates bureaucratic hassles, scheduling snafus, and grading crunches when meetings fall at the end of a semester. After-school meetings sizzle with new ideas and stimulating conversations. Others sputter toward a conclusion. Real progress does not come neatly packaged for display in bar charts and growth lines…progress is more akin to making meaning from a Faulkner novel, a process filled with switchbacks and blind curves, ultimately satisfying but long in coming. In an enterprise as rich and as important as teaching and learning, there is no other way. At the heart of our work is the simple but indisputable principle: schools cannot become exciting places for children until they first become exciting places for adults.

The process of shaping a collaborative school culture is neither easy-three to five years - nor quick (Peterson & Brietzke, 1994). It requires close attention to what is going on in the school and to educational values and daily activity. Few longitudinal studies are available on the
ways in which teachers and administrators have shaped collaborative cultures and community. Nonetheless, a number of lessons can be learned from existing research, theory, and practice (Deal & Peterson, 1990; Leiberman, 1988).

**Effects of Collaboration and Community on School Culture**

It can be seen that in collaborative school culture "the underlying norms, values, beliefs and assumptions of the school affect the quality of teaching" (Peterson, 1994, p.7). Fullan and Hargreaves (1991, p.49) determined schools with professional collaborative cultures and exhibited the following characteristics: more complex problem-solving and extensive sharing of craft knowledge; stronger professional networks to share information; greater risk-taking and experimentation (colleagues offer support and feedback); a richer technical language shared by educators in the school that can transmit professional knowledge quickly; a higher job satisfaction level and identification with the school; more continuous and comprehensive attempts to improve the school, when combined with the improvement efforts of the staff.

Fullan and Hargreaves (1991) point out the positive effects of collaboration on schools. First, it is assumed that collaborative school culture breaks the isolation of the classroom, reduces the end-of-year burn-out and stimulates enthusiasm between teachers. Next, it provides a cultural fit between teachers and their organizations that contribute to employee retention and improves the productivity. Further, instead of grasping for the single event or the special achievements of students as the main source of pride, teachers detect and celebrate a pattern of accomplishments within and across classrooms, over time. They work closely together and discuss matters of curriculum and instruction so; they can find themselves better equipped for the class-room work (Stolp, 1994).
By deepening the importance of collaborative school culture (CSC) at schools, the principals need to focus on the continuous improvement of schools equipped by shaping values, beliefs and attitudes to promote a nurturing learning environment (Stolp, 1994). In order to achieve this, they need to build up supportive relationships; provide proper working conditions for teachers to enhance their professional performances. As a result, schools become well-organized places to examine new ideas, methods, and materials for all the members (Little, 1987).

In conclusion, the principal's role would be a significant factor in any kind of collaborative effort at schools. Thus, the prominent role of the principal is to stimulate colleagues’ professional learning communities and create working teams to improve the quality of the school. Results imply that school principals generally created and contributed to develop collaborative school culture by building collective and collaborative relationships in schools (Gumusuli & Eryilmaz, 2011).

Collaboration moves teachers out of isolation and helps them grow in their practice. This growth, which can be defined through student learning data and teacher efficacy, occurs because “teachers do not learn best from outside experts or by attending conferences or implementing programs installed by outsiders. Teachers learn best from other teachers, in settings where they literally teach each other the art of teaching” (Schmoker, 2005, p. 141). Productive collaboration and community building, Schmoker (2005) says, is characterized by what earlier studies found to be frequent, continuous, and increasingly concrete and precise talk about teaching practice…adequate to the complexities of teaching and capable of distinguishing one practice and its virtue from another (p. 141-142).

Schools can become communities in many different forms. They can become caring
communities where members, motivated by altruistic love, make a total commitment to each other; learning communities where members are committed to thinking, growing, and inquiring and where learning is for everyone; professional communities where members make a commitment to the continuous development of their expertise and to the ideals of professional virtue; collegial communities where members are tied together for mutual benefit and to pursue common goals by a sense of felt interdependence; inclusive communities where economic, religious, cultural, ethnic, family, and other difference are brought together into a mutually respectful whole; inquiring communities where principals and teachers commit themselves to a spirit of collective inquiry as they reflect on their practice and search for solutions to the problems of practice (Lightfoot, 1984; Sergiovanni, 1994).

But to be any of these, school must first become purposeful communities (Sergiovanni, 1994). They must become places where members have developed a community of mind that bonds them together in special ways and binds them to a shared ideology. Schools cannot become caring communities, for example, unless caring is valued and unless norms are created that point the way toward caring, reward caring behaviors, and frown on non-caring behaviors. Nor can schools become learning communities, professional communities, collegial communities, inclusive communities, or inquiring communities without valuing these respective images and without developing norm systems that guide their quest for community (Sergiovanni, 1994; Lightfoot, 1984).

Schooling is a shared accomplishment. The public cannot set the goals and leave the means to the professionals, and should not try. Both the goals and the means require community. Teachers, teachers’ organizations, school administrators, schools of education, parents, state governments, and members of the public all have parts to play in teaching. They are most likely
to exert appropriate and effective influence on teaching when they work in and through schools that are organized for improvement.

Limitations to the Existing Research

Schaps & Lewis (1999) argument extends Harris’ (2001) argument that school wide change is essential in building community and collaborative school culture. Building community must be a whole-school endeavor, and one that succeeds, in order to have benefits. Building community can and should start at the department level and spread to become a successful whole-school endeavor. Previous research has shown that establishing a positive school culture and climate for change is an important prerequisite of departmental effectiveness (Harris, 2001; Harris, 1995). Similarly, within school community building theory and collaborative school culture theory literature, creating the conditions for improvement is an essential part of generating a climate for change both at the school and classroom level. However, the school community building and collaborative school culture literature says little about the process of improvement at the secondary department level or what factors contribute to this improvement. Overall, the research (Harris, 2001; Livesay, et. al., 2005) highlights the potency of the high school department as a unit of change and the important interrelationships between departmental and whole school improvement in culture and climate.

While attempts have been made to generate theories of school improvement that reflect the complexity of organizational change and culture, the department as a unit of analysis is rarely featured. By including the department as an important unit of change, along with the school and classroom levels, improvement efforts are more likely to influence communities of practice and to generate greater internal capability for change. Furthermore, by integrating the departmental level into school improvement theory and practice, the field moves a step closer to ensuring that
there is greater linkage between the processes of school culture improvement and the reality of sustainable culture and climate change.

**Contributions to Theory, Research, and Practice**

**To theory.** Organizational cultures develop as groups of people struggle to make sense of and cope with their worlds. The concept of culture is a product of our human need for stability, control, consistency, belonging, and meaning (Sergiovanni, 1994). Therefore, school culture is created through the need for a clear-cut unambiguous framework that will provide stability, consistency, predictability, and meaning (Schein, 2010).

Building communities in schools are needed because schools, teachers, administrators, and students are continually bombarded with mandated reform initiatives that require adapting to the needs of a rapidly changing world (Goddard, Goddard, & Tschannen-Moran, 2007; Sergiovanni, 1994). Community building gives depth and a sense of care and concern to the collaborative school culture and creates a true sense of belonging that goes beyond collaboration. Community building in schools ensures a collaborative spirit and staves off collaboration as compliance.

Sarason (1966) notes that teaching is a lonely profession. Unlike other professions, teaching does not provide for a shared culture based on the movement from knowledge to experience in the company of one's peers. Research completed by Thomas, Wineburg, Grossman, Myhre, & Woolworth, (1998) notes that the constraints imposed by the professional culture are well documented. Their study identified organizational features of schools that produce the norms of privacy and noninterference that shape teachers’ work.

The complex social and cultural environment of teaching and learning calls for increased teacher accountability supported by student test scores, with high schools frequently called upon
to improve by developing high levels of teacher collaboration (Goddard, Goddard, & Tschannen-Moran, 2007). Collaborative school cultures are perceived more and more as being essential for better schools (Campo, 1993). And, collaborative school cultures make an important contribution to both the success of school improvement processes and the effectiveness of schools (Little, 1982; Rosenholtz, 1989).

Collaborative school culture theory (Gruener, 2000; Fullan & Hargreaves, 1996; Little, 1990) together with theory of community building ((Osterman, 2000; Solomon, Battistich, Watson, Schaps, & Lewis, 2000; Sergiovanni, 1994) unites two powerful lenses through which to view and examine the nature of community and collaborative relationships as a model of effective school change. Together these two theories can be used to examine the need for community building and for effective collaborative relationships for teachers, what effective collaboration looks like at the department level, how teachers experience and define collaborative relationships, and how teachers experience and describe how collaboration impacts the school-wide culture and climate at the secondary level.

Specifically, the theory of community building (Sergiovanni, 1994) and collaborative school culture theory (Gruener, 2000) can be used to better understand how high school Math teachers experience and describe collaboration within the community of their department; and, to better understand high school Math teachers’ experience and description of how collaboration impacts the school-wide community culture and climate.

**To research.** Given the importance of building a strong culture of community in schools together with a culture of meaningful, sustained, and embedded collaborative relationships to build a professional capacity for change, improvement, and school-wide success (Peterson & Brietzke, 1994), it is important to better understand how high school Math teachers experience
and describe collaboration within the community of their department; and, to better understand high school Math teachers’ experience and description of how collaboration impacts the school-wide community culture and climate.

The research presents a strong connection between the effects of collaborative school cultures and community building on school improvement and culture, yet, it leaves the dilemma that is at the heart of collaborative relationships and community building – how teachers describe and experience collaboration within the community of their departments, and how they describe and experience the impact of collaboration on the school-wide community culture and climate at the secondary level – underexplored (Livesay, Moore, Stankay, Waters, Waff, & Gentile, 2005; Harris, 2001; Harris, 2001; Teddlie & Reynolds, 2000; Schaps & Lewis’, 1999).

**To practice.** This research will attempt to link collaborative school culture theory (Fullan, 2001; DuFour, 2004; Fullan & Hargreaves, 1996) and Sergiovanni’s (1994) theory of community to explore how teachers’ describe and experience collaboration within the community of their departments, and how they describe and experience the impact of collaboration on the school-wide community culture and climate at the secondary level. Furthermore, it will attempt to suggest how an understanding of and application of the theories of community building and collaborative school culture helps augment and translate community building and collaborative relationships into practice principles at the high school level.
Chapter III: Methodology

Qualitative Research

A qualitative method of inquiry was chosen for this study. The research questions that guided this study are as follows:

1. How do teachers in the Math department of a mid-sized rural public high school experience, describe and understand a sense of community building and collaboration in their department?

2. How do teachers in the Math department of a mid-sized rural public high school experience, describe, and understand the relationship between department community building and collaboration and their individual practice?

3. How do teachers in the Math department of a mid-sized rural public high school experience, describe, and understand the relationship between department collaboration and community-building and the effect on overall school climate and culture at the high school?

Yin (2009) notes that the choice to engage in qualitative research depends largely on the research questions. The more the research questions seek to explain some present circumstance (e.g. “how” or “why” some social phenomenon works), the more that qualitative research will be relevant. Qualitative research is relevant the more the research questions require an extensive and “in-depth” description of some social phenomenon.

Qualitative research is a field of inquiry in its own right. It crosscuts disciplines, fields, and subject matter (Denzin & Lincoln, 2011). Qualitative research is appropriate, as it is “a research paradigm which emphasizes inductive, interpretive, methods applied to the everyday world” (Hatch, 2002, p. 6). My research seeks to explore beliefs, assumptions, and lived experiences of high school teachers regarding the nature of collaborative relationships and
community at a mid-sized, rural, public high school in the Northeast. Qualitative research is appropriate for my study because I seek to explore the phenomenon of collaborative relationships and community building in the natural setting of the high school Math department (Creswell, 2013). Denzin & Lincoln (2011) provide a succinct definition of qualitative research:

Qualitative research is a situated activity that locates the observer in the world. Qualitative research consists of a set of interpretive, material practices that make the world visible. These practices transform the world. They turn the world into a series of representations, including field notes, interviews, conversations, photographs, recordings, and memos to the self. At this level, qualitative research involves an interpretive, naturalistic approach to the world. This means that qualitative researchers study things in their natural settings, attempting to make sense of, or interpret, phenomena in terms of the meanings people bring to them (Denzin & Lincoln, p. 3).

Creswell’s (2013) working definition of qualitative research incorporates many of Denzin & Lincoln’s (2011) elements of “interpretive, naturalistic approach” and “meanings,” but provides greater emphasis on the design of research and the use of distinct approaches to inquiry, and begins with “assumptions, a world view, the possible use a theoretical lens, and the study of research problems inquiring into the meaning individuals or groups ascribe to a social or human problem” (p. 44). Creswell (2013) states,

Qualitative research begins with assumptions and the use of interpretive/theoretical frameworks that inform the study of research problems addressing the meaning individuals or groups ascribe to a social or human problem. To study this problem, qualitative researchers use an emerging qualitative approach to inquiry, the collection of data in a natural setting sensitive to the people and places under study, and data analysis that is both inductive and deductive and establishes patterns or themes. The final written report or presentation includes the voices of participants, the reflexivity of the researcher, a complex description and interpretation of the problem, and its contribution to the literature or a call for change (Creswell, 2013, p. 44).

Hatch (2002) says, “Qualitative research seeks to understand the world from the perspectives of those living in it” (p. 7). Qualitative research is a “legitimate mode of social and human science exploration,” and is thus appropriate for this study of collaboration and community building in an educational setting. Because qualitative researchers seek to understand the perspectives of
participants in a context, qualitative research is a legitimate choice for a school setting. Through the insights and information gleaned from teachers engaged in collaborative relationships and a sense of community at the department level, this researcher will seek to understand the value of community building and collaborative relationships and the impact of collaborative relationships and community building on school culture and climate at the high school level.

Qualitative research begins with the belief that each social setting is unique unto itself and its inhabitants. Qualitative research operates under the assumption that “objects, pictures, or detailed descriptions cannot be reduced to numbers without distorting the essence of the social meanings they represent,” (Hatch, 2002, p. 9), and the qualitative research model is well suited for the unique contexts the public school researcher encounters. This data will be examined to discover the central phenomenon of collaborative relationships, community building, and their impact on school culture. Miles & Huberman (1994) tend toward inductive methods of study because, as they put it,

Social facts are embedded in social action, just as social meaning is constituted by what people do in everyday life. These meanings are most often discovered by hanging around and watching people carefully and asking them why they do what they do…[Given] this orientation toward social meaning as embedded in the concrete, particular doings of people, qualitative researchers are reluctant to see attributes of the doing abstracted from the scene of social action and counted out of context (p. 4).

Miles & Hubermann (1994) suggest that qualitative data are “vivid, rich and meaningful and prove far more convincing to the reader…than pages of numbers…Qualitative data are sexy, and are a source of well-grounded, rich descriptions and explanations of processes in identifiable local contexts” (Miles & Huberman, 1994, p. 1). Qualitative inquiry is well-suited to providing a thick description of how high school Math teachers experience and describe their collaborative relationships and sense of community within their department and how they experience the impact their collaborative relationships have on school-wide culture and climate.
Merriam (1998) explains that the key to understanding qualitative research lies with the idea that meaning is socially constructed by individuals in interaction with their world. Reality is not the fixed, single, agreed upon, or measurable phenomenon that it is assumed to be in quantitative research. Instead, there are multiple constructions and interpretations of reality that are in flux and that change over time. Merriam (1998) suggests that qualitative researchers are interested in understanding what those interpretations are at a particular point in time and in a particular context.

Furthermore, Merriam (1998) puts forth several key characteristics of qualitative design. The first characteristic is that researchers strive to understand the meaning people have constructed about their world and their experiences. As Merriam (1998, p. 5) explains, qualitative research “is an effort to understand situations in their uniqueness as part of a particular context and the interactions there. This understanding is an end in itself, so that it is not attempting to predict what may happen in the future, but to understand the nature of that setting – what it means for participants to be in that setting, what their lives are like, what’s going on for them, what their meanings are, what the world looks like in that particular setting...The analysis strives for depth of understanding.” Qualitative research is appropriate for my study because I seek to understand how high school Math teachers interpret collaboration and community building in their department and how they interpret and understand the impact that community building and collaboration in their department has on school wide culture and climate.

The second characteristic of qualitative research is that “the researcher is the primary instrument” for data collection and data analysis. Another important characteristic of qualitative research is that the process is “inductive rather than deductive,” and the researcher strives to
build toward a theory from observations and understandings gleaned from being in the field (Merriam, 1998). The final characteristic of qualitative research is that the “product” of qualitative inquiry is “richly descriptive.” That is, words and pictures rather than numbers are used to convey what the researcher has learned about the phenomenon. In sum, all qualitative research is characterized by the search for meaning and understanding, the researcher as the primary instrument of data collection and analysis, an inductive investigative strategy, and a richly descriptive end product (Merriam, 1998).

Figure 1.

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Natural setting, a source of data for close interaction</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Relies on the researcher as key instrument in data collection</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Uses multiple methods of data sources</td>
<td>Yes</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Involves complex reasoning moving between inductive deductive</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Focus on participants’ perspectives, interpretations, and multiple subjective views</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Frames human behavior and beliefs within the context or setting of participants/site (social/political/historical)</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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<tr>
<td>Involves an emergent and evolving design rather than</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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Research Paradigm

It is important for the qualitative researcher to be aware of his or her own worldviews of how knowledge is constructed because, “whether we are aware of it or not, we always bring certain beliefs and philosophical assumptions to our research” (Creswell, 2013, p. 15). These worldviews, or paradigms, inform the researcher’s interpretations of data in the writing of qualitative research. Social constructivism paradigm addresses the construction of “multiple realities” through the lived experiences and interactions of the participants. Reality is co-constructed between the researcher and the researched and shaped by individual experiences (Creswell, 2013, p. 36).

Miles & Huberman (1994) contend that for the social constructivist, interpretation comes “via the understanding of group actions and interactions. In both cases there is an inevitable interpretation of meanings made both by the social actors and by the researcher” (p. 8). Research adherents of the constructivist paradigm focus on the specific contexts in which people live and work in order to understand the historical and cultural settings of the participants (Creswell, 2013).

Hatch (2002) says multiple realities of knowledge are human constructs, and the researcher and participant co-construct understandings. Interpretivists or constructivists of all
types insist that the researchers are no more detached from their objects of study than are their informants (Miles & Huberman, 1994). Much like Creswell (2013), Miles & Huberman (1994), argue that researchers have their own understandings, their own convictions, their own conceptual orientations; “they, too, are of a particular culture at a specific historical moment (p. 9). Furthermore, Hatch (2002, p. 9) contends that qualitative researchers must rely on subjective judgment being “more required as researchers move from description toward interpretation.”

Social constructivist research, as this case study is, relies heavily upon participants’ views of a situation, leading the researcher to look for broad complexities in formulating meanings, rather than seeking to narrow findings into a few categories (Creswell, 2013). Hatch (2002) argues that qualitative researchers must “concentrate on reflexively applying their own subjectivities in ways that make it possible to understand the tacit motives and assumptions of their participants” (p. 9). Lincoln & Guba (1985) and Creswell (2013) concur in that qualitative researchers acknowledge that their personal backgrounds and experiences shape their interpretations of the data being studied.

Constructivists (Lincoln & Guba, 1985; Hatch, 2002) adhere to the belief that multiple realities exist within the same context, as each individual has his or her own unique perspectives and understandings through which experiences are filtered and understandings are constructed. According to Hatch (2002), for the constructivist researcher “knowledge is symbolically constructed and not objective…truth is, in fact, what we agree it is” (p. 15). For Hatch (2002), “it is neither practical nor desirable for the [constructivist] researcher to be distant and objective from the participants and phenomenon being studied.”

**Reflexivity.** Reflexivity is the process of reflecting critically on the self as researcher, the “human as instrument” (Lincoln & Guba, 1985, p. 124). In a qualitative research study,
researchers “position themselves” in the study. They tell their background, work experiences, cultural experiences, and history, and how it informs their interpretation of the information in the study (Creswell, 2013, p. 47). As Wolcott (2010) states, “Our readers have a right to know about us. They want to know what prompts our interest in the topics we investigate, to whom we are reporting, and what we personally stand to gain from out study (p. 36).

Reflexivity involves the concept where the writer is conscious of the biases, values, and experiences that he or she brings to the qualitative research study. Hammersley & Atkinson (1995) suggest that an important characteristic of good qualitative research is that the inquirer makes his or her “position” explicit. Creswell (2013) puts forth the idea that reflexivity has two parts. First, the researcher talks about his or her experiences with the phenomenon being explored. This involves conveying past work and school experiences. And, second, the researcher discusses how these past experiences shape the researcher’s interpretation of the phenomenon. This second part is actually “the heart of being reflexive in a study,” because it is here that the researcher is self-conscious about how these experiences may potentially shape the findings and the interpretations made in a study (Creswell, 2013). It is necessary for the qualitative researcher to know and understand his or her “entanglement” in the phenomenon being studied because it is impossible to “disentangle” oneself from the context of qualitative research (Hammersley & Atkinson, 1995).

I enter this study with seventeen years of professional experience within public, secondary education, where I focus on teaching and student learning, advocating for strong teacher leaders, collaborative relationships, and a school culture based on collegiality, and a strong sense of community. My professional experiences include teaching high school English in a mid-size rural public school where I have worked with educators, administrators, students, and
community stakeholders around powerful collaborative endeavors. During the past seventeen years I have promoted academic, social, and civic community building and leadership through curriculum design of courses; demonstrated instructional leadership in the English department through the design and implementation of new courses, and through the high school’s Mentoring Program. I modeled pedagogy and differentiated instructional strategies and collaborated on common assessments with English department colleagues. I have promoted clear and consistent communication among my students, with parents, and with the Guidance Department regarding the learning experience in my classroom and student achievement. Recently, I served as Co-Chair of the NEASC Curriculum Standard where I facilitated the documentation of curricula using Atlas software for all departments as part of the NEASC Curriculum Self Study Report for the high school. Moreover, just this month, January 2015, I am part of a newly formed team at the high school, the Teaching and Learning Development Team (TLDT), where, at the first meeting, I was asked to draft language for the TLDT Mission Statement.

According to Hammersley & Atkinson (1995), I am “entangled” in this phenomenon. I grew up in this community, graduated from the high school, and returned to the community to raise my own family. To echo Hammersley & Atkinson (1995), it is necessary for the qualitative researcher to know and understand his or her “entanglement” in the phenomenon being studied because it is impossible to “disentangle” oneself from the context of qualitative research.

My continuing pursuit of collaborative relationships and community building leads me to seek to understand how high school teachers experience and describe collaborative relationships and community building within the math department, and how they experience and describe the impact that collaborative relationships and sense of community within their department has on school wide culture and climate. These efforts may allow me to advocate for stronger, authentic
collaborative relationships among teachers; to foster a greater sense of community through collaborative relationships; to initiate meaningful professional development at the high school; and, to enhance school culture.

Case Study

I have chosen a case study methodology. Creswell (2013) notes that case study research has a long, distinguished history across many disciplines including psychology, medicine, and political science. Case study research is chosen to study a particular case with clear boundaries, i.e., time, place, system. The intent of a case study is to explore a real-life bounded, contemporary case over time, through in-depth data collection and involving multiple sources of information. (Creswell, 2013). Yin (2009) argues that case study research comprises an “all-encompassing method – covering the logic design, data collection techniques, and specific approaches to data analysis” (p. 18). In this sense, Yin (2009) notes, the case study is not limited to being a data collection tactic alone or even a design feature alone. In other words, case study is an honored method that has multiple research applications across social science disciplines (Creswell, 2013; Yin, 2009). Case study research draws from a long tradition in anthropology, sociology, and clinical psychology, and is visible in community services, health, all fields of education and medicine (Merriam, 1998). Hatch (2002) cites the work of Merriam (1998) and Yin (2009) in noting that case studies are “a special kind of work that investigates a contextualized contemporary phenomenon with specified boundaries” (p. 30). My proposed study falls within the parameters established by these researchers as being qualitative case study research.

This study will consist of a case study focused on one mid-size, rural, public high school, for one semester, and will generate research data from participant interviews, and observations.
Rubin & Rubin (2012) note “qualitative interviewing requires intense listening, a respect for and curiosity about participant’s experiences and perspectives, and the ability to ask about what is not yet understood (p. 6). In other words, qualitative interviewers listen to hear the meaning of what interviewees tell them. Qualitative interviews often yield a depth and richness conveyed by the participant’s descriptions and experiences under study. Geertz (1973) calls such depth and detail “thick description.” Stake (1995) notes that case studies end with conclusions or assertions formed by the researcher about the overall meaning derived from the case. Yin (2009) suggests that the case study ends with conclusions that build patterns or explanations. Creswell (2013) refers to the conclusions as “general lessons learned from studying the case (pg. 99). Through an in-depth description of the case, including participants’ stories and their perceptions of collaborative relationships and school climate, this researcher might uncover meaningful insights about the impact of collaborative relationships on school climate and culture.

**Sampling Method**

The sample consisted of six participants. All are high school Math teachers within a mid-sized, rural, public high school and are part of the same department that appears to be a pocket of collaboration. Merriam (1998) notes that since “qualitative inquiry seeks to understand the meaning of a phenomenon from the perspectives of the participants, it is important to select a sample from which the most can be learned” (p. 12). It is important to select “information-rich cases for study in depth. Information-rich cases are those from which one can learn a great deal about issues of central importance to the purpose of the research, thus the term *purposeful sampling* (Merriam, 1998, p. 13). This criterion purposeful sample will help “inform an understanding of the research problem and central phenomenon in the study” (Creswell, 2013, p. 156). As a criterion purposeful sample, this group of participants “meet some criterion; useful
for quality assurance” (Creswell, 2013, p. 157). Hatch (2002) notes that participants are co-
constructors of knowledge sought by the researcher in qualitative research: therefore, researchers are likely to enlist those with whom they have more collaborative relationships in order to have access to the level of participant knowledge and perspective being sought to further understanding of the phenomenon being examined.

**Recruitment and Access**

Each of the participants works in the same mid-sized, rural, public high school Math department. The entire Math department was contacted in person and followed up with a letter of invitation where appointments were made with those who agreed to participate in the study; informed consent was obtained. Six of the seven teachers who received letters of invitation agreed to participate. The teacher who did not agree to participate shared with me that under normal circumstances she would have participated but that her father was dying and her time was consumed with spending as much time as possible with her father and with helping her mother through this difficult period.

**Data Collection**

The observation was conducted in one of the math teachers’ classrooms where Math department meetings regularly occur, and interviews were conducted in the participants’ own classrooms after school. The “natural setting” where these teachers were comfortable allowed them to “behave and act within their context” which assisted in the observation and interview process (Creswell, 2009). The interviewer used the same interview protocol for each participant. Each interview took approximately one hour to complete. All interviews, as well as Department meeting observations, were taped and transcribed completely by the researcher. Transcripts were analyzed and coded by first and second cycle coding methods. Every attempt was made to
transcribe the interviews immediately following the interviews as well as the observations. Notes taken during observations and during interviews were used to provide context and to assist in telling the stories of each participant.

Several authors have identified steps necessary in conducting qualitative interviews (Rubin & Rubin, 2012; Kvale & Brinkmann, 2009). Kvale & Brinkmann (2009) view the interview inquiry as a logical sequence of stages from establishing themes through reporting the study. Rubin & Rubin (2012) advance the responsive interviewing model, and view the sequence not as fixed, “allowing the researcher to change questions asked, the sites chosen, and the situations to study” (p. 39). Creswell (2013) focuses on the data collection process. Interviews were aligned with best practices of case study methodology, and were conducted according to Rubin & Rubin’s (2012, p. 43) recommended stages for designing research for the responsive interviewing model:

1. Choose a topic that interests you.
2. Define the research questions.
3. Determine whether the proposed research is practical and feasible.
4. Determine the place for conducting the interview.
5. Identify your interviewees.
6. Design an interview protocol with approximately five to seven open-ended questions. Be prepared to modify the questions as you learn more about the topic (Appendix C).
7. Work out ways to ensure the accuracy and thoroughness of the data. Make sure the descriptions obtained are rich, detailed, and evocative enough to convince others of the correctness of your findings. To Rubin and Rubin’s (2012) protocol, Creswell (2013) adds:
8. Use adequate recording procedures

9. Obtain consent from the interviewees at the interview site, and

10. During the interview, stay to the questions, complete the interview within the time specified, be respectful, and offer few questions and advice. Be a good listener.

The interview method used in this study was responsive interviewing. Rubin & Rubin (2012) describe these interviews as “emphasizing the importance of building a relationship of trust between the interviewer and interviewees that leads to more give-and-take in the conversation (p. 36). Responsive interviewing is based on a “pattern of questioning that is flexible.” Questions evolved in response to what the interviewees have just said, and new questions are designed “to tap the experience and knowledge of each interview (p. 37).

Responsive interviewing is also based on trust. Because interviewees share personal experiences of the research topic, researchers “incur an obligation to protect interviewees, especially if they say something that could be embarrassing to their organizations, or their group” (p. 37). This last point will be particularly important because research participants are colleagues and employees of the high school under study.

Good case studies benefit from having multiple sources of evidence (Yin, 2009). Merriam (1998) notes that observations are a second major means of collecting data, and observational data represent a firsthand encounter with the research phenomenon rather than a secondhand account obtained in an interview. For purposes of this study, observations of a Math department meeting were used before interviewing participants in order to see how much of what was observed was in alignment with or in contrast to what emerged in the interviews. Observation is the best technique when an activity, event, or situation can be observed firsthand…or when a fresh perspective is desired. Findings from observations combined with
interviewing provide descriptions that are “rich, detailed, and evocative” (Rubin & Rubin, 2012).

This researcher initially intended to take on the role of nonparticipant/observer as participant where the researcher was an outsider of the group under study, watching and taking field notes from a distance (Creswell, 2013; Merriam, 1998). However, as Creswell (2013) and Merriam (1998) note, “…a good qualitative observer may change roles during an observation, such as starting as a nonparticipant and moving into the participant role, or vice versa” (p. 167). And this was the case in my study. I was welcomed into the Math Department meetings as a participant. Rubin & Rubin (2012) mention conducting participant observations prior to interviewing as a way to sensitize the researcher to key issues, and allows the interviewees to get to know the researcher a bit more before the researcher starts asking them questions. Although this researcher already knows and works with the participants, participant observations were conducted prior to the interviews with the intent of making the interviewees feel more comfortable about seeing me (the researcher) in a different role from the one in which they are accustomed.

Observations were aligned with best practices of case study methodology, and, like interviewing, were conducted according to Creswell’s (2013) recommended protocol:

1. Select a site to be observed, and obtain required permission needed to gain access to site,
2. Identify who or what to observe at the site and when and for how long,
3. Determine the role to be assumed as an observer,
4. Design an observational protocol as a method for recording notes in the field
5. Record aspects such as portraits of the participants, physical setting, particular events and activities, and researcher’s reactions/Reflections,
6. Be introduced to the participants at the site,

7. After observing, withdraw from the site, thanking the participants and informing them of the use of the data and their accessibility to the study,

8. Prepare notes immediately after the observation. Include “thick, rich, and evocative narrative descriptions” (Creswell, 2013, p. 167-8).

The above referenced data collection methods were appropriate for this case study because semi-structured recorded interviews and non-participant/participant observations yielded rich and thick data that enabled the researcher to construct an in-depth description of school climate as seen through a community building and collaborative relationship lens. The above referenced data collection used in conjunction with criterion purposeful sampling as stated above in sampling strategy, ensured that all the participants met the same criterion, and was useful for quality assurance. However, the participants vary in age, sex, prior teaching background, and length of time in the classroom. Hence, this increased the likelihood that the findings would reflect differences in attitudes and perspectives – an ideal in qualitative research (Creswell, 2013). Whether a researcher uses an observational or interview protocol, or both, the essential idea was to record information that, as Rubin & Rubin (2012) state is “rich, detailed, and evocative” (p. 43).

**Data Storage**

The data consisted of interviews in conjunction with observation “fieldwork.” Observations and interviews were recorded and transcribed from the researcher’s iPad as well as an Olympus MP3 digital voice recorder for backup. The data was stored on the researcher’s iPad and MP3 digital voice recorder and kept at the researcher’s home. Creswell (2013) recommends developing backup copies of all computer files, using high-quality recording devices, developing
a master list of types of information gathered, protecting the anonymity of participants by masking their names in the data, developing a data collection matrix as a visual means of locating, retrieving, and identifying information for the study (p. 175).

Any and all information obtained during this study that could identify the participants was kept strictly confidential. Ensuring the confidentiality of each participant was the researcher’s responsibility and all participants’ names are referred to by a pseudonym. Access to data was limited to the researcher and the researcher’s advisor in case there was a specific question under review during the data collection. The data was stored on the researcher’s iPad and MP3 digital voice recorder in the investigator’s home. The data was only be seen by the investigator during the study, and the audiotapes were erased after transcription verification was deemed accurate.

Data Analysis

In this research, the central elements of data analysis were comprised of First Cycle and Second Cycle coding the data into meaningful segments and assigning names for the segments; combining the codes into broader categories or themes; and displaying and making comparisons in the data graphs, tables, and charts (Creswell, 2012).

Interviews were recorded, transcribed, coded, and analyzed for common themes to identify teachers’ perspectives on how community building and collaborative relationships within the Math department impact school climate.

The process of data analysis involved “preparing the data for analysis, conducting different analyses, moving deeper into understanding the data, representing the data, and making an interpretation of the larger meaning of the data (Creswell, 2012).

Coding. After gaining a general sense of the data from the various sources, the data was
transcribed and coded by the researcher. Each transcript was coded with a pseudonym for each participant. Saldana (2013) suggests that the nature of the research questions will influence or determine the specific coding choices the researcher makes. Saldana (2013) outlines coding methods that are broken down into two main sections: First Cycle and Second Cycle coding.

First Cycle Coding: In Vivo and Process coding was used for first cycle coding methods. In Vivo coding uses words or short phrases from the participants’ own language in the data record as codes. In Vivo coding “prioritizes and honors the participant’s voice (pg. 264). Process coding uses gerunds to understand observable and conceptual actions in the data, and to search for ongoing action or action or emotions that might change over time or as more insight emerges (Saldana, 2013). The researcher used this process to help develop theories based on the codes and themes that emerge from the data to gain a deeper understanding of teachers’ experiences with department community building and collaborative relationships and the impact on school climate.

Second Cycle Coding: Pattern Coding was used as a Second Cycle coding method. Miles & Huberman (1994), describe Pattern Codes as “explanatory or inferential codes, ones that identify an emergent theme, configuration, or explanation. They pull together a lot of material into a more meaningful…unit of analysis” (pg. 69). In other words, Pattern Coding takes First Cycle In Vivo coding and groups it into smaller summaries of meaningful sets and themes.

Miles & Huberman (1994) suggest that many Pattern codes are captured in the form of metaphors where they can “synthesize large blocks of data in a single trope” (pg. 302). In other words, several Pattern Codes can emerge from Second Cycle analysis of qualitative date. Each one may or may not merit as a major theme to analyze and develop.

Data analysis will conform to best practices in qualitative case study methodology (Creswell,
Hatch (2002) notes that data analysis is a systematic search for meaning. Data analysis “means organizing and interrogating data in ways that allow researchers to see patterns, identify themes, discover relationships, develop explanations, make interpretations, mount critiques, or generate theories (p. 148). With this qualitative study this researcher will attempt to inductively analyze the data to show the relationships between the various themes and categories of information (Creswell, 2013).

**Inductive data analysis.** To inductively analyze the data means that this researcher will attempt to build explanations from the ground up, based on what is discovered through what the research participants say about collaboration and community building and the impact on school culture. This research is not trying to measure one “truth” or theory, but rather that there are many possible contradictory “truths” (Rubin & Rubin, 2012). Constructionists, in particular, argue that “reality cannot be measured directly, only perceived by people, each of whom views it through the lens of his or her prior experience, knowledge, and expectations. That lens affects what people see and how they interpret what they find” (Rubin & Rubin, 2012, p. 15). In other words, what we know, then, is not objective, but rather always filtered through people, always
Researchers must inductively analyze the data to show the relationships between the various themes, or categories, of information (Creswell, 2013). The primary mode of analysis is the development of the data into themes or categories. The findings result from multiple interpretations made from the raw data by the researchers who code the data. The findings are shaped by the assumptions and experiences of the researcher. Thomas (2006) says the inductive approach “is not as strong as some other approaches, however, it does provide a simple, straightforward approach for deriving findings linked to focused evaluation questions” (pg. 246).

<table>
<thead>
<tr>
<th>GENERAL INDUCTIVE APPROACH TO DATA ANALYSIS</th>
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<tbody>
<tr>
<td><strong>INTENT</strong></td>
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<tr>
<td>To ask: What are the core meanings evident in the raw data, relevant to evaluation or to research objectives?</td>
</tr>
<tr>
<td><strong>OUTCOME OF ANALYSIS</strong></td>
</tr>
<tr>
<td>Identification of themes and categories most relevant to research objectives</td>
</tr>
<tr>
<td><strong>PRESENTATION OF FINDINGS</strong></td>
</tr>
<tr>
<td>Description of most important themes</td>
</tr>
</tbody>
</table>

Hatch (2002) notes that qualitative researchers collect specific details during the course of research, and then analyze the collected information to discover patterns and relationships through the use of inductive data analysis. In Hatch’s (2002) words, “You are not putting together a puzzle, whose picture you already know. You are constructing a picture that takes shape as you collect and examine the parts” (p. 10).

Qualitative data analysis involves a “deductive dimension” as findings are generated from the “ground up,” however, Hatch (2002) posits that the overall pattern of data analysis in qualitative work is “decidedly inductive, moving from specific information gathered from participants to form generalized understandings of the social context of the participant” (p. 10).
Inductive analysis, as it applies to this qualitative study, allows the researcher to “argue inductively,” by beginning with “particular pieces of evidence, then pulling them together into a meaningful whole” (Hatch, 2002, p. 161).

Steps in Inductive Analysis

1. Read the data and identify frames of analysis;
2. Create domains, or categories, based on semantic relationships discovered within frames of analysis;
3. Identify salient domains, assign them a code, and put others aside;
4. Reread data, refining salient domains and keeping a record of where relationships are found in the data;
5. Decide if your domains are supported by the data and search data for examples that do not fit with or run counter to the relationships in your domains;
6. Complete an analysis within domains;
7. Search for themes across domains;
8. Create a master outline expressing relationships within and among domains;
9. Select data excerpts to support the elements of your outline (Hatch, 2002, p. 162).

Trustworthiness and Verification

Creswell (2013) views trustworthiness and validation as distinct strengths of qualitative research because of the extensive time spent in the field, the thick, rich, detailed description, and the closeness of the researcher to participants in the study. Such components of qualitative research add to the value or accuracy of the study. In accordance with Creswell’s (2013) views, there were a number of issues that this researcher needed to address to ensure information was valid and credible. These include prolonged engagement, clarifying researcher bias, triangulation, and member checking. The research site was chosen because it affords the researcher “prolonged engagement and persistent observation in the field” (Creswell, 2013, p. 250). After seventeen years of teaching at the high school, the researcher has built long-standing relationships with all of the participants. The researcher has daily access to the participants and the building, and the researcher has numerous occasions to interact with the participants on a
consistent basis. With this in mind, the researcher will need to be mindful of the relationships she has with the participants in the study.

Clarifying researcher bias is an attempt to set aside the researcher’s personal experiences with the research topic. The researcher gave full disclosure and description, to the extent possible, of her own experience with the research topic. The researcher commented on past experiences and biases regarding collaborative relationships at the high school that were likely to shape the interpretation and approach to the study. Clarifying researcher bias was an important component because of the researcher’s position as a teacher/researcher interviewing colleague/research participants.

Triangulation refers to triangulating or converging different data sources and lines of evidence to check for accuracy, to make the findings as robust as possible, and to build a coherent justification from themes (Creswell, 2013). In triangulation, researchers make use of multiple and different sources, methods, and investigators to provide corroborating evidence (Saldana, 2013). For this study, the researcher used individual interviews, observations of participants’ meetings, and researcher notes as corroborating evidence.

Finally, member checking will provide participants an opportunity to give the researcher feedback on her findings. In this research study, the researcher shared the data, analysis, interpretations, and conclusions with the participants so that participants can judge the accuracy and credibility of the account. Some researchers consider member checking to be “the most critical technique for establishing credibility” (Creswell, 2013).

Threats to Internal Validity

In this research on community building and collaborative relationships at the high school, threats to internal validity might surface through open-ended interview questions that
seek an understanding of the participants’ experience. In other words, participants’ pre-existing attitudes regarding collaborative relationships might be revealed through the interview process. To that end, the researcher will seek to provide descriptions that are context-rich, meaningful, and thick allowing for full and unbiased insights into how participants are experiencing collaborative relationships (Miles & Huberman, 1994).

Researcher bias is another threat to the integrity of the research findings. Therefore, clarifying researcher bias through giving full disclosure, to the extent possible, of the researcher’s own bias and past experience with collaborative relationships will be articulated at the beginning of data collection. Member checking and triangulation of data will seek to minimize the above-referenced threats to internal validity.

**Protection of Human Subjects**

Because qualitative research can contain and reveal highly sensitive and personal information, protection of research participants is extremely important. Rubin & Rubin (2012) stress that at the core of the “conversational partnership” is the assurance that the interviewees do not come to harm as a result of the research. In addition, Creswell (2013) sets forth multiple areas in qualitative research where ethical issues might surface from prior to conducting the study, to beginning the study, to collecting data, to analyzing data, to reporting data, and publishing the study.

In order to ensure ethical protection for the research participants, this researcher submitted the research proposal for institutional review board approval. In addition, the researcher gained permission from the superintendent of schools, from the principal of the high school, and from the chair of the Math department to conduct the study. Participants had a clear understanding of the purpose of the study, and they had a clear understanding that their
participation in the study was strictly voluntary.

Participants discussed personal experiences about their understanding of school climate as it existed at the high school, as well as their beliefs and attitudes regarding collaborative relationships within the context of their experience of existing school climate. The study was disclosed with full transparency, my role as researcher/participant, and how their information would be used for my dissertation. Participants were told both orally and through the consent form that participation was strictly voluntary and that they were free to withdraw from the research at any time.

Although the risks pertaining to the research participants are minimum, appropriate measures were taken to ensure confidentiality because participants were disclosing personal details about their experience regarding school climate and collaborative relationships at their place of work.

Because the researcher has a high level of trust with the research participants, it was incumbent on the researcher not to exploit their trust. Confidentiality was further ensured through the use of pseudonyms in order to maintain anonymity. To the extent possible, the researcher developed composite profiles to further respect the privacy of the research participants (Creswell, 2013). The researcher transcribed the interviews by hand and then shared the transcripts with the participants for accuracy and transparency.
Chapter IV: Research Findings

The purpose of this research study was to gain a deeper understanding of individual and collective teacher experiences regarding community building and collaboration and the impact of community building and collaborative relationships on school-wide culture and climate. This case study sought to identify the actions, strategies, practices, and structures that were in place at the height of the math department’s collaborative community that promoted and fostered a sense of collaboration throughout the department and made it possible to improve culture and climate school wide over time. Furthermore, this study sought to identify the actions, practices, and structures that became barriers to that collaborative community and signaled its demise. This chapter restates the research questions, revisits the research site, presents an overview of the participants, and summarizes key thematic findings from the research.

Research Questions

The following questions guide the direction of this study:

1. How do teachers in the Math department of a mid-sized rural public high school experience, describe and understand a sense of community building and collaboration in their department?
2. How do teachers in the Math department of a mid-sized rural public high school experience, describe, and understand the relationship between department community building and collaboration and their individual practice?
3. How do teachers in the Math department of a mid-sized rural public high school experience, describe, and understand the relationship between department collaboration and community-building and the effect on overall school culture and climate at the high school?
Research Site

The research site in this study was the math department of a mid-sized, rural, public high school in Massachusetts. For the past six years the math department appeared to be a pocket of collaboration within the high school. This research sought to gain an understanding of individual and collective teacher understandings of how community building and collaboration in their math department contributes to overall school climate and culture at the high school level. The significance of this study may provide some insights and recommendations as to how high schools at the department level could incorporate sustainable structures within departments that contribute to a positive school culture overall.

The current high school serves grades nine through twelve, and has approximately 960 students from three surrounding communities as well as students in attendance from various school choice districts. The professional staff includes approximately sixty-five full-time teachers, a library/media coordinator, an academic support center coordinator, four guidance counselors, three part-time school nurses, a school psychologist, approximately fifteen teaching assistants, two assistant principals, and one principal.

The high school has a history of high turnover with principals and assistant principals. In the last nineteen years there have been eight principals and a high number of assistant principals. The last nineteen years have shown that principals at this high school, on average, stay less than three years. Last January 2016, union and non-union faculty took a vote of no confidence on the current principal. No further action was taken and the principal remains in his position. This June, he will have completed three years as principal. Furthermore, in June 2016, twenty-five veteran and non-veteran faculty, the library/media coordinator, and a number of
paraprofessionals resigned. A hand full of the twenty-five actually retired. The others left for new opportunities in other districts.

Moreover, over the same time period, the district has had three superintendents and assistant superintendents. The first superintendent and assistant superintendent held their positions for ten years before retiring. The next superintendent and assistant held their positions for five years. The current superintendent and assistant have been in their positions for four years.

The high school was built in 1957-1959 and an addition was added in 1972. In 2014 the three communities that comprise the district voted for the construction of a new building. The new high school building is on schedule to open in September 2017.

Participants

All participants of this study were high school Math teachers within a midsized, rural, public high school in Massachusetts and were part of the same department that appeared to be a pocket of collaboration within the high school. All participants were identified as veteran teachers who had been teaching Math at the high school from seven to twenty years. One criterion for participation was experience with focused department community-building and collaboration over time. Six of the seven teachers who received letters of invitation agreed to participate. The teacher who did not agree to participate shared with me that under normal circumstances she would have participated but that her father was dying and her time was consumed with spending as much time as possible with her father and with helping her mother through this difficult period.

Of the six participants, five teachers were male and one was female. There were two, 60-minute, one-on-one interviews with all the teachers. Interviews were scheduled at the
convenience of the participants and all interviews were conducted in the teacher’s classrooms at the high school. Each interview was recorded and transcribed by hand by the researcher. Each interview transcription was coded and analyzed for patterns that were relevant and informed by the research questions.

The first round of interviews occurred in late January and early February 2016. The first round of interviews was preceded by an observation of the January 2016 monthly math department meeting. All math teachers were in attendance at the January 2016 department meeting observation except for Larry. The second round of interviews followed in late May and early June 2016. The interviews were comfortable and authentic and it appeared that the teachers were willing and open to participate. Table 4.1 provides a breakdown of the participants’ biographical and significant beginning teaching backgrounds as reported by participants.

Table 4.1

Participant Breakdown

<table>
<thead>
<tr>
<th>Name</th>
<th>Gender</th>
<th>Years Teaching at the high school</th>
<th>Significant Beginning Teaching Experiences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Esmeralda</td>
<td>Female</td>
<td>8</td>
<td>Public Middle School in same district; 8 years at high school</td>
</tr>
<tr>
<td>Herc</td>
<td>Male</td>
<td>17</td>
<td>Outward Bound – 5 years; 17 years at the high school</td>
</tr>
<tr>
<td>Larry</td>
<td>Male</td>
<td>20</td>
<td>Parents were public high school teachers; 2nd teaching job out of college</td>
</tr>
<tr>
<td>Ted</td>
<td>Male</td>
<td>7</td>
<td>First job right out of college; desired to teach music</td>
</tr>
<tr>
<td>Peter</td>
<td>Male</td>
<td>7</td>
<td>Business background – 20 yrs; no education experience or teaching experience</td>
</tr>
<tr>
<td>Frank</td>
<td>Male</td>
<td>8</td>
<td>Nature’s Classroom – 7 years; 8 yrs. at the high school</td>
</tr>
</tbody>
</table>
To paint a more detailed portrait of the individual participants in the math department, quite a disparate group, the following introduction, with salient quotes pulled from their interviews, will help to bring who they are to life and into the fabric of the following narrative.

**Esmeralda.** At the time of the January 2016 Math department meeting observation, Esmeralda was recently back from a year and a half maternity leave. She laughed easily and appeared comfortable and eager to participate in the Integrated Math Model (IMM) curriculum conversations and glad to be back with her colleagues having such collaborative conversations. Yet, she later reported in her second interview, five months later, how so much had changed in the department since she was away. She said,

Yeah, it’s been an interesting journey for sure. Having been out for a year and a half on maternity leave, my last memories before leaving was we’re all in this together. We’re all one happy crew and we can conquer anything. We were definitely riding the high. And then flash forward to a year and a half later I came back and it was just like a tornado had torn through the department. I didn’t know if it was because I had been away for so long and these things had been going on and we were so wrapped up in our little department bubble that we didn’t see the other things. Or, if now I was coming into it with fresh eyes and seeing it all through fresh eyes.

Esmeralda was an extremely committed math teacher who was keenly aware of her students’ learning styles as well as their emotional and psychological well-being. Esmeralda had clear ideas regarding the structures in her department that led to a sense of community, but above all, trust and courage are paramount. She explained, “Trust and courage take time to build, and, so too, with community.” She said through gentle laughter, “I think we’re losing it a bit, but we will build it back up. We had it so we know what it looks like and I think we secretly miss it.”
She laughed softly and I wondered if she was thinking how her “math community of geeks doing what we love to do – teach math” was now a thing of the past and the laugh a wistful emotion.

Through tears of conviction, Esmeralda held fast to the idea that the Math department would bring back their once coveted sense of community and collaboration. Her conviction and passion of wanting to give her “students the best experience we possibly can” has served her well since her earliest years of team teaching at the middle school, but it could not withstand the “tornado” of inside and outside forces that tore through her department. Sadly enough, at the end of last year, a few weeks after this follow-up interview, Esmeralda left the high school for a teaching position in another district.

Herc. On a different note, Herc considered himself “a no nonsense stick to business kind of goal-oriented person.” He compartmentalizes and focuses 100% of his attention and energy on teaching his students math skills. During the 2016 Math department meeting observation Herc was engaged but largely silent as appeared to be his nature. He stated, “I have a job to do, students have a job to do, and that’s what I’m being paid to do. I don’t have a lot of patience for the extracurricular stuff.”

Herc defined community as having layers of relationships. He explained, “So the inner layer, the closest layer, is very much centered around us having a common goal of things we are working on.” For Herc, it seemed he experiences a sense of community in the department when he and his inner layer of people were working on curriculum goals. He cleared his throat repeatedly and lowered his voice and with a sigh and a nervous laugh, as he confided,

There have been changes already in the closeness of the community. There’s been drama developing….there’s not much collaboration as there previously was. I think people chose to go their own way to avoid the conflicts. I don’t like conflict myself so if
somebody is going to insist on always raising issues then I’m just going to ignore that person. So, sometimes Frank and I talk about stuff, but Larry (long pause) does not collaborate with us. So, that’s it in a nutshell!

These sentiments coming from no-nonsense, “I have a job to do” Herc were particularly compelling especially his comment on avoiding conflicts. Herc does not like not knowing what is expected of him. It also seemed that Herc was alluding to factors outside of his domain, outside of his “inner layer of community” that caused conflict and frustration for him. Internal conflict coupled with not knowing what was expected also has a way of eroding a sense of duty that was necessary for Herc to proceed with reaching his goals.

Larry. The deposed math department head (DH), Larry, had the most seniority of all the math teachers in the department. He served as DH for six years then lost the position when a new (former) principal eliminated the position school wide. Currently, Larry was working under a new math DH since yet another new (current) principal reinstated the DH positions school wide this past year.

Larry was the only math teacher who was not present at the January 2016 Math department meeting. No one at the meeting mentioned his absence yet it seemed that his absence was felt and did not need to be verbalized as there seemed to be an unspoken understanding surrounding his absence. Unbeknownst to the researcher at the time, Larry rarely attends math department meetings if he can avoid them. He explained,

I still think that year without a DH, without a central focus caused everyone to go their own way...I don’t know. Now people in the department don’t even know what is going on. There are curriculum meetings and not everyone knows. We’re all teaching the curriculum but we’re not invited to sit at the table to see what the curriculum is!...What I
thought was happening was different for other people. Other people might have had
different views. I think some people got along to get along. As soon as the wind changed
they changed with it. And the thing that really bothered me during this whole process was
I didn’t go the first couple of department meetings (after the DH positions were reinstated
in June 2016) because I was so hurt and I was angry and I didn’t want to say too much…
Larry put forth a definition of community that encompassed a team approach to a shared
vision and shared goal. His definition of community “is where we all have a stake at reaching the
shared goal. Where we all play our part as opposed to just one person’s vision.”

He described the Math community in a “then vs. now” scenario when all the math
teachers would eat lunch together around a huge table in the math department office and discuss
issues, solve problems, and talk to each other about best practices. Larry said, “We were a huge
team then. Sometimes we went to dinner together, or played Frisbee golf on Friday afternoons.
Through some of these events we got to know each other better.”

Now, he said, the department was back to the way it used to be where the math teachers
do not eat lunch together anymore. Everybody spends the lunch period in his/her own room
eating alone. In Larry’s “then and now” chronology it appeared likely that the line of
demarcation was the elimination of the DH positions that marked the beginning of the “falling
off” of the math department. Larry, who recognized the seemingly small stuff that brought the
department all together as a community, now felt “there is a weird dynamic going on.”

Ted. The youngest and probably the most idealistic of the math teachers, Ted moved
around a lot as a child and said, “teachers were one of the stable things in my life.” Ted prided
himself as being highly collaborative and he spends most of his prep periods talking with all his
colleagues about ways to improve his practice. He seeks out just about anybody from whom he can learn.

Ted was very verbal at the January 2016 department observation. On numerous occasions he steered the conversation around to where he was in the curriculum and wanted to gain a clear understanding as to where all the other teachers were in their delivery of the IMM curriculum. He was particularly concerned about whether his grade 10 students would be ready in time for MCAS. Ted states his concern, “I’m not getting to any of the Geometry stuff anytime soon. We will get there by the end of the year. But in order to get there for MCAS, I think we really need to sit down and really rearrange some stuff somewhere. I’m looking to cut down more stuff but I don’t see where we’re going to do it.”

Ted expanded on his definition of community to include interacting socially outside of school which, he said, helped build the inside working relationships. Ted explained, “The social aspect helps toward building community because we can blow off steam outside socially and then we can come back and continue working on what it is we have to do.” Ted sees the interplay between building community both inside and outside of work. This social/professional interplay might account for why Ted uses his prep periods to seek out social/professional relationships with colleagues outside his department. Like Herc, Ted, also dislikes conflict and said, “If we’re not collaborating in our own department, then I’ll go collaborate in another department over here.”

Furthermore, Ted spoke fondly of the annual community volleyball tournament started as a fundraiser by one of his math colleagues. He loves the cohesion generated when all the math teachers wear their math tee shirts. And he beamed with pride as he said, “That’s really the first
time that I realized we are a part of a bigger community…this is more than just a working relationship. We were being friendly with one another!”

**Peter.** The newly appointed math DH, Peter, does not have a background in education or experience in teaching math. Prior to teaching, he was Vice President of manufacturing for a small giftware firm. He explained he always wanted to teach, he could not afford to raise and send his three children to college on a teacher’s salary. When he retired from the giftware industry, he decided to teach. He summed up his day-to-day experience as, “I’m always thinking about my performance and the students’ performance.”

Peter, like Ted, was quite verbal and controlling during the math department meeting observation by steering the conversation to bring the group to a decision regarding cutting material out of the ninth and tenth grade curriculum to allow ninth and tenth grade teachers to prepare their students for the next two years.

His teaching philosophy is based on the business model of “customer satisfaction” by referring to his students as “the customers,” and relating teacher success to customer satisfaction. He said, “As VP of manufacturing, I would always turn everybody’s attention towards the same goal. We’re all supposed to be marching along and what rules us is the customer. If the customer receives a good product and is happy with it, then we’ve succeeded. In school, the customers are the kids.”

He credited the math teachers with “knowing their material” and readily admitted that he “draws on their knowledge a lot.” However, he was most descriptive with and seemed to be most pleased with his social strengths. He said, “I don’t mind saying my strength is social with the kids. They react well to me and my jokes.”
Frank. Frank’s role during the math department meeting observation seemed to be that of moderator. He appeared to bring Ted’s and Peter’s directedness back to the department as a whole, to include Herc, Stacy, and Esmeralda into the conversation and move the meeting forward. With his calm demeanor, Frank clarified, “Everything we’re cutting is on MCAS. So, we’re damned if we do and we’re damned if we don’t. For Sophomore teachers, MCAS scores are part of evaluation even if they say they’re not. So, Principal Connors asks which Standards do you want on your evaluation. Which I have no problem with. It’s the schedule that’s killing us.”

Frank had a deep and abiding commitment to his students that stemmed from the caring teachers he had growing up and from his seven years as a teacher and director with Nature’s Classroom. His caring and gentle nature was evident when he talked about and interacted with his students. At the time of this interview he was overseeing the weekly Games Club meeting in his room. His classroom was a buzz of activity, laughter, and high energy coming from his students. Frank maintained an unflappable calm as he simultaneously navigated this interview and his oversight of the Games Club students.

He explained that the Games Club students, like his staff of “outcasts” at Nature’s Classroom, (and later on in his narrative, what his Math department used to be) were a “bunch of nerds who are really well-bonded. These kids will sit here and discuss dragons biting each other’s heads off, and how to kill a dragon with a marshmallow gun. Completely outrageous things, but they accept each other. They all know this is the nest and it is a safe place.”

Nature’s Classroom was a dominant image and consistent reference point throughout Frank’s entire narrative. It was for Frank, the original “nest.” He articulated a strong understanding of community building and collaboration that was formed and embedded in him
during his seven years with Nature’s Classroom as a teacher and director. The bonds of friendship established at Nature’s Classroom run deep with Frank and inform his teaching philosophy every day. This was clearly evident during the interview and demonstrated by his interaction with the Games Club students. Frank said, “Even though I have not worked with my staff and colleagues from Nature’s Classroom for over fifteen years, I am still very close with all those folks…and that rare and special bond is something I’ve never felt anywhere else…but I don’t really expect it anywhere else.”

Initially, Frank offered a broad and generic definition of community, that later developed into a far deeper understanding. “Anybody working on the same thing, the same project like when we did NEASC. During those few years “NEASC was my community.” However, when Frank attempted to describe what it felt like for him to be part of a community, he again drew on his experience with Nature’s Classroom. Nature’s Classroom continued to resonate far more positively with him than his experience with community here at the high school.

Frank’s narrative gave a rare insight into the most important and influential aspect of his definition of community. He said that the most important aspect of his bonding at Nature’s Classroom “was the caring about people.” And he expressed a desire to be friends with the people he works with and went so far as to say, “I actually want the people I work with to be the best daily friends I have…I expect them to be the friends that I work with for the next twenty years.” But then he said the math department had “gotten so out of control that there is not solution to fix it, and that’s a real shame.”

With a quiet, sad, and tired tone to his voice Frank said, “Spending Memorial Day Weekend with the folks from Nature’s Classroom like we do every year reminded me that priority is your family, your friends, and your kids. And, when people feel so strongly about a
curriculum, it’s just too much. No curriculum is worth that. I mean, I respect Larry and how much work he’s done on the curriculum, and how insightful and creative he is, but…”

It seemed a fitting ending to Frank’s last sentence that trailed off on a note of despondency could be something like, “but I’d rather play disc golf with Herc than argue about curriculum.” Frank left the high school in the summer of 2016 to take a teaching position in another public school district.

The participants in this study depict the growth of community building and collaboration as experienced within the math department followed by the schism that fractured the once highly collaborative math department and derailed collaboration and severely compromised any sense of community within the department.

The next section focused on the participants’ collective experiences and understanding of department community and collaboration within the context of the educational system beginning with the department level, followed by the building level, the district level, and concluding with the community level as discussed by the participants. For clarity of events throughout the following section, see Timeline of Key Events as Discussed by Participants (Appendix A).

**The System**

Herc said when he thinks of community he thinks of layers of relationships. He spoke of the inner layer as the closest layer being centered around people having a common goal - his department. Herc’s description of community with his layers of relationships brought to mind the image of the education system as a Russian nesting doll set with the smallest center doll as the classroom, the next larger doll as the department, next larger doll the building, next the district, then the community, the state, and finally, the federal government, the biggest doll in which all the other dolls nest. The loss of or change in any of the nesting dolls has an impact on
the integrity and value of the entire set. Figure 4.2 illustrates the nesting image of the department within the system. So, too, with the education system. This section focuses on the department, the building, the district office, and the community. The slightest change in any one area has potential for profound ramifications in other areas. When multiple areas are disrupted, train wrecks can occur.

Figure 4.2 The Nesting Image of the System

**The department level.** When asked to define their concept of community in the math department, all participants had a remarkably uniform concept of their math department that was focused around the idea of working towards a common goal. The common goal was writing the new IMM Math curriculum to align with the revised state frameworks and the Common Core. The vision was to insure all math students would be successful on the MCAS and SATs, and ready for Calculus their senior year. It appeared everyone had ownership in writing the curriculum, individually and collectively. The math department, with its common goal and vision, fit together nicely.

Larry offered this insight into the strength of the unified vision and goal of all participants in the department: “It was more of an organic thing that came out of the department. Either way the state was mandating a change, the Common Core, but *how* we implemented the change was up to us…We sat down and looked at both the traditional and integrated pathways
and we discussed which would be best for our students. And we all decided on the integrated pathway.”

Here, Larry was talking about the state level mandating changes that affected teaching at the department level, but he did not seem to be very concerned. He realized the department and not the state will determine how the change would be implemented. He also realized the strength of the department’s unified vision and goal for the new curriculum. Hence, he was not daunted in the face of this mandate.

In addition to the common department goal and vision, it also appeared there was a common department feeling of belonging through the way all math teachers looped or, as Frank says, “slid around.” All the participants felt they had an invested interest in all aspects of the curriculum. Again, Frank: “Looping is one of my favorite things about teaching. And I really like that about the math department. And, I think that’s what made this IMM curriculum easy. That’s what made this whole department project easy. Because when we say, ‘OK, today we’re talking about the freshmen year math’, all of us know we’re going to teach freshman math at some point!”

At the time of these interviews the DH positions had been eliminated school wide for over a year. Prior to the positions being eliminated, Larry had been the math DH for six years. During his six years as DH he focused the entire department on designing, writing and implementing the entirely new math curriculum, the Integrated Math Model (IMM) to align the math curriculum with the Common Core changes. He fostered a highly collaborative environment where all participants felt a sense of belonging and took ownership of their parts. In addition, he fostered an environment of transparency where all information was “shared to a fault.” Herc, who self-defined as not one for investing much in feelings, and choking back
emotion, had this to say about his former department head: “Larry is the smartest guy in the department. The smartest guy in the whole school. He can take on one hundred things and do them all really well. He was a good leader. I told people for years that Larry is the best department head this department ever had!”

Furthermore, the block schedule was in existence at the start of the move to the Integrated Math Model (IMM) curriculum, which means the IMM curriculum, was designed for a 4x4 block schedule. This meant the math teachers wrote the new curriculum based on a year-long schedule of 16,200 hours of teaching time with their students. The math teachers had common prep time and common lunchtime where they could further their discussions regarding the writing of the new curriculum. Esmeralda willingly and wistfully admitted they were spoiled rotten under the block schedule and were “riding the high” in their department.

Referring back to the Russian nesting doll image, it seemed the math department was well insulated as a department community, even insulated in a sense from state mandates, because the department had at its inner layer a common goal, wrapped in a common purpose for student success, surrounded by a sense of belonging with the curriculum, encased in a common language, and, based on the block schedule, and had all the time in the world to accomplish their goal. Yet, at a pivotal moment within the department, a change in leadership at the building level interrupted this seemingly highly collaborative environment and sent waves of conflict department wide.

**The building level.** Most of the participants have been at the high school for at least fifteen years and recall working for as many as eight building principals. With each change in leadership, building principals strive to leave their mark. Change in administration was one structure that was cited as a barrier to community and collaboration by all of the participants.
Larry explained, “The new administration that we have is in their second year. In my years at the high school there have been so many different administrators. But every time we get a new one, it’s almost like they want to take something that works and put their stamp on it. Whatever that stamp is.”

Four years ago, Principal Bennett was building leader at the high school. She inherited a 4x4 block schedule, replete with department wide common planning time, common department lunch time, and a highly collaborative math department in the early stages of writing an entirely new curriculum under the leadership of a strong department head. The math department conceived the plans and implementation of their new curriculum under the block schedule.

Three years into her tenure in 2013, Principal Bennett changed the schedule from the block schedule to an eight day rotating, three period drop schedule. This change sent the math department into a tailspin. As Frank explained, “Under the block schedule I saw my students for 180 days for 90 minutes for 16,200 hours. Now, I see my students for 111 days for 70 minutes that nets 7770 minutes of math. And we’re supposed to prepare them for MCAS and Calculus!”

In addition, Principal Bennett also eliminated the position of department head building wide. This change in leadership at the department level all but sounded the death knell for community building and collaboration for the math department. There seemed to be a “then” and “now” line of demarcation in the math department – when there was a DH in place and when the DH position was eliminated. After the elimination of the DH positions the dynamics of the department changed. It is important to keep in mind the cumulative effects of building leadership turnover and a new schedule followed by the elimination of the DH positions.

Larry stated clearly “the line of demarcation seems to be the decision to get rid of department heads. I believe that changed the dynamic and, you know, at the beginning of the
year we did eat lunch together, and then everything started falling off. Like this person wasn’t coming in as much, then that person, and now we’re all on our own.” In the words of Herc, “Building level decisions are impacting us the most.” And Esmeralda had this to say about the elimination of the DH position: “Losing the DH, whoever it is, whose sole purpose is to drive what needs to be done. Yeah, that hurt this year. Because they’re constantly driving the ship.”

Unfortunately, the following year Principal Bennett left the high school for a position in another district, and left the math department mired in conflict. Consider this quote from Peter about the loss to the department: “The loss of the DH professionally and personally drove a wedge into our very good running department on a personal basis, and from a personality stand-point, and from a professional stand-point.”

Principal Connors inherited a math department mired in conflict, but, nevertheless, the math department successfully implemented IMM1, IMM2, and IMM3 and were still resolute in their common goal.

The first year the high school was on the rotating schedule, Principal Connors made an effort to make sure the math teachers on the same team had the same prep period so they could continue working together. However, their tenuous common planning time did not continue the next year. The new building leadership team, under the direction of Principal Connors, eliminated common prep time and common lunch times across all departments without any input from individual departments.

The change in building leadership, the change in department head structure, and the change in the schedule played a crucial role in interrupting the sense of community building and collaboration in the math department. Hence, the math department went from structures that supported their collaborative work and common goal to structures that became a barrier to
collaboration. And this proved devastating to community building and collaboration in the department. Herc lamented, “I would say some of the biggest obstacles that we have are the powers that be above us who change their minds about important things. Decisions above our pay-grade that have influence about what our decisions will have to be.” And Esmeralda expressed it this way, “I feel a lot of those structural issues have caused us to lose the connection. It’s tough.”

The district level. Central office also underwent a change in leadership that collided with the changes at the building level, but it seemed the math department felt the changes most keenly.

Two years into Principal Bennett’s leadership at the high school, a new superintendent and assistant superintendent took office. The new superintendent did not have the same level of support for the math department’s new IMM curriculum as the previous superintendent had. The previous superintendent and assistant superintendent were very enthusiastic about the IMM curriculum. Herc succinctly summed up the change, “The former superintendent and assistant super were very enthusiastic about the product. When they left, we had a new super and assistant and they are simply not as enthusiastic about it. It’s not important to them like it was to Smith and Colburn.”

In short, Principal Bennett changed the schedule from the block to the rotating, and eliminated the DH positions building wide; a new superintendent hired a new principal, Principal Connors, who eliminated common prep and common lunch for the math department; Principal Connors reinstated the DH positions but not until June 2016, two years after the fateful school committee meeting in May 2014 when the IMM curriculum was “scrapped.” By then the damage had been done. Larry stated,
I’m conflicted, but I would like to think that if I had stayed on as DH this current school year (2015-2016) when we didn’t have department heads, I don’t know if it would have fallen apart so quickly. By that, I mean when the school committee said we’re changing the curriculum. And I think what happened was everyone was on board with this new thing, and then they realized they had to come up with a new curriculum and they were like, oh, wait, wait, wait!...The outside force of the school committee required we change the IMM curriculum and some teachers in the department said they had no problem with that. I said to my colleagues if you believe in the IMM curriculum then fight for it! Well, the fight never happened. And I was the only one fighting and I was fighting a battle that had already been lost and I didn’t know it at the time because we were told by school committee and building leadership we were still going to make decisions.

The community level and the powers that be. The journey that got the math department to the first round of interviews in January 2016 was, by their own admission, still collaborative, but now they were struggling with the changes, not because of the state level, but from the department, building, and district level from the past two years. The IMM1 (Freshman course) and IMM2 (Sophomore course) curriculum had been under way for over a year. According to Larry, the school committee claimed they had never voted on the IMM curriculum. “The school committee says they never voted on it. They say we never presented it. That is untrue because I presented it for over an hour in the auditorium one night and they voted on the program of studies after that. So I don’t know why they’re saying they didn’t vote on it.”

In April of 2014, the math department, with Larry still DH at the time, was asked to defend the new IMM curriculum to the school committee. According to all the participants, this
evening was the zenith, the absolute apex of their sense of community in their department. Ted triumphantly stated with a laugh,

One event where our department felt like a community was when we had to defend our curriculum in front of the school committee. We went as a department…we all stood up in front of them and got yelled at for an hour…but it was another piece of community building because we were a unit…we were a collaborative group…we were all going to defend it; we were all fighting for what we believed in and to see us all on the same page in that one moment even though we were under attack and we just tried to hold our own. It was a massive part of everything we had built together.”

The math department was fighting for what they all believed in. This sentiment has echoes of their department being familial in nature replete with a sense of belonging around not just common goals but common values as well.

Larry, who was DH at the time, related that night in front of the school committee with a proud and hearty laugh,

It was awesome! The whole department was there in honor of me being yelled at! The purpose of the meeting was for me to defend the IMM math program and people actually grabbed the microphone, came out of their comfort zone and some of the people who spoke I was not expecting to see. Even the substitute covering for a maternity leave showed up!”

It seemed this evening, with Larry and the entire math department defending the move to the IMM curriculum to the disrespect, raised voices, and discomfiture by the school committee, was the culmination of everything the department had worked so hard for. For many of the
participants it was a defining moment of what they had worked so hard for and what, exactly, was at stake.

Ironically, and unbeknownst to the math teachers at the time, it was also the evening that signaled the demise of their sense of department community. Although the committee agreed to leave the curriculum in place for the next school year, and to revisit it at a later date, less than two weeks later, in mid May 2014, the math department received word that the school committee had “scrapped” their IMM curriculum in favor of a return to the traditional math pathway. And, less than a month after that, in late May 2014, the DH positions school wide were eliminated.

Herc had this to say about the elimination of DH positions, “I think that one building level decision had more of an impact than the building administrators may necessarily ever know.”

This said by Herc who self-defined as one who avoided conflict by walking away and ignoring. But, it seemed there was no ignoring this mandate.

Furthermore, it was hard to know if, indeed, the scolding and “scrapping” of the IMM curriculum by the school committee was connected to the elimination of DH positions. Some participants believe there was a connection. Others do not agree. No one wanted to say for sure. However, Frank expressed his dismay and also drew on his experience of how collaboration impacted the school environment at the high school when he said, “The entire IMM curriculum and definitely that school committee meeting. That went right to the top. And I think that that meeting, whatever drama there was, or whatever previous conflicts, has impacted everything else since.” Frank bypassed the building level decision to eliminate the DH positions and went to the source as he saw it, the school committee.

But what was certain was most of the participants felt that a tornado had ripped through their seemingly close-knit department. Collaboration was not completely abandoned nor was the
IMM pursuit discarded. Each participant, in their peculiar manner, indulged in open expressions of feelings of hurt, frustration, anger, betrayal, and loss that continue to linger still. However, Larry’s expression of hurt and betrayal was the most visceral and compelling.

Larry used the image of the loss of a child to express his anger, hurt, and betrayal at the hands of the school committee that May 2014 evening and at the hands of some of his own colleagues, when he said, “I’ll be honest, I know the rest of the department was not happy with my reaction.” He commenced to rap his fingers on the edge of the desk as he continued, clearly emotionally charged as he recounted his thoughts and feelings from two years ago. Larry continued,

I don’t think everyone understood how much time and effort and energy I invested in this curriculum and I think some of them think my reaction was not good...I questioned morals on this. I said you are teaching something and calling it Algebra, whatever, but you are teaching the Integrated Math. And you have no problem telling the students in your classroom I’m teaching you Algebra when you’re actually teaching them integrated math! I said I have a huge problem with that! It did not take long for this house of cards to fall apart. Ultimately, what bothers me is I don’t care if you’re going to change the course, but write a new curriculum or buy a new textbook series...don’t give up the fight and say we’re still going to use it. That I have a problem with!

After a lengthy pause, Larry continued with a startling apt analogy,

You know, a colleague of mine said it better than I could have said it. She said it (the IMM curriculum) was my child. And they’re taking the child away from me and they’re changing the beliefs of that child. I mean, they’re totally re-doing everything! So, I buy into that analogy that the IMM curriculum is my child. I mean, for five years of my life...
that’s all I focused on, that’s all I did! I fought for it in front of the school committee. I gave up all my free time in the summers...I believed in it...I just don’t know…

What Larry and Frank seemed to have discovered was that they have a huge problem within the department, and they were shocked that the entire system was as hostile as it appeared to them to be.

The next two sections, The Schism, and Repair and Return, focused on the participants’ collective experiences of what happened immediately after the school committee cancelled the IMM curriculum, and how the participants’ attempted to repair and regain their lost sense of community and collaboration in the math department. Participants’ experiences were far ranging when asked how the department would move forward from the schism and what the department would look like.

The Schism: The House of Cards

Larry expressed the zeitgeist in the math department almost immediately after the school committee “scrapped” the curriculum in April 2014, thusly,

The school committee decided to scrap our curriculum, and I think that caused a huge, huge, huge problem, at least for me…they scrapped it and I took it hard. I freely admit that. But not as hard as what happened after, when you know, this team that I thought was a team, that believed in our common purpose and our common goal, just so quickly abandoned what we had done. It seemed like it was a race to see who could please the Assistant Superintendent first.”

Peter stated,

We had a fairly major disagreement of philosophy and it was not handled correctly. It was handled with a bunch of nasty emails and a couple of people just stopped reading the emails, and a couple of people responded in kind. I responded
with the nastiest email I ever wrote. But the difference between me and some other people is I did not hit ‘send’.

Nasty emails by way of finger pointing and recriminations among and between the math teachers in the aftermath the “scrapping” of the curriculum, were being sent around the math department. And battle lines were drawn.

Frank articulated it this way, “It’s the confusion that has been the worst part. Not having an understanding to what’s been going on and not being able to see a solution.” Esmeralda laments, “We crumbled! That’s a tough one.” She continues through her tears, “It’s been a crazy year. I think we needed to be broken down to really see where our strengths are…”

It seemed as if the cancellation of the IMM curriculum, and the way it was done – so publicly- was a shock to the department system. Coupled with the understanding that there would be no change for one year, and then it was cancelled, added insult to injury. Taken together with no math DH to lead the way, the shock was too much for the math department to absorb and there was no one to manage the conflict the crisis created. As a result, the department splintered off into those who remained loyal to and continued to seek out Larry’s leadership, those who rushed in to fill the void with a business model leadership, and those who felt shocked and betrayed beyond repair.

The idea expressed by Esmeralda that “they needed to be broken down” was very troubling. Broken down because they were “riding the high.” Broken down because other departments were “snubbing their noses” at the math department for the department’s collaborative reputation replete with Math Patrol tee shirts and community wide volleyball games with the local police department and fire department. Broken down because they came to
the attention of the school committee and needed to be put back in their place. Broken down because they had the unmitigated temerity to rail against the system.

Peter referred to the schism as a “fairly major disagreement of philosophy that was not handled correctly.” But Larry referred to the schism as going through the stages of grief. Larry recounts,

You know, my wife, Susan said I was going through the stages of grief over this and they expect you to get over it pretty damn quickly because, you know, they went from a Monday night school committee meeting to a Tuesday afternoon decision of this is what we’re doing...So, I mean, I don’t know. I could probably have handled things better with the way I reacted and all that...but I was so tied to this whole thing. So, yeah at the time I was angry. Now, it’s just more hurt and confusion.

When the department head position was reinstated school wide in June 2016, Peter was asked by administration to take the position and he agreed. When asked how he felt about being department head after so much conflict, he said, “I feel like I can contribute.” He readily admitted his strength was not math. And he asserted he would not tell any of the math teachers how to teach math. He laughed as he said, “I’m not going to tell Larry or Herc how to teach AP Calculus! They’re the professionals. In the same way I did not instruct my purchasing manager how to purchase or my engineering design manager how to engineer and design. I’m going to rely on them to do it!”

Peter said his contribution to the math department will have as its foundation in the philosophy of one of the best managers he ever worked for. Basically, the philosophical model is that every person in the world wants to do a good job, and it is management’s responsibility to allow that to happen. To that end, Peter said he will give the math teachers “the proper guidance,
objectives, tools, environment, schedule, and resources they need to be able to do a good job.” Peter says with conviction, “My degree is in business management. So, maybe what we need is a little bit of business management philosophy to help us manage our time, manage the compromises we have to make. So, hopefully I am going to allow the department to mend. And when I leave in two years, everybody will be happy.”

Perhaps the philosophical business model is what Peter was referring to earlier as the “correct” way to have handled the “fairly major disagreement of philosophy” that erupted in the math department after the school committee “scrapped” the IMM curriculum. Where Peter referred to the schism as a “fairly major disagreement of philosophy”, Larry referred to the schism as raging rapids that divided the once tightly unified department and through the analogy of the loss of a child which left him hurt and confused.

It will be very interesting to note, after so much internal damage and so much human suffering the math department has endured, how Peter’s business management model will fare as compared to Larry’s years of teaching math, adherence to best practices, high standards, expertise in curriculum design, implementation, and evaluation, attendance to the needs of the students, and navigating the political rapids and the interconnectivity of the educational industry. In other words, it will be interesting to note how Peter’s business management model will fare within the educational industry’s Russian nesting dolls.

To sum up the schism, it appeared the math department was built on shifting sand, metaphorically speaking. Larry expressed it succinctly when he said,

It did not take long for this house of cards to fall apart and crumble. I thought we were a pretty strong team and you know, there was another member of the department, who said, the next day after the school committee meeting, ‘Ok, ok, we’ll do this, we’ll do that,
we’ll call it this and this.’ I said why are we so quick to change things? And he said, ‘What will you have us do?’ And I said fight for something you believe in! And that was the beginning of the end for me.”

When any structure is built on shifting ground it will continue to shift - not get stronger. It will begin to break and sink because its members lose confidence in their leaders. When the top of the power structure believes in things that the bottom of the structure does not want (on schedules, on goals, on changes in structures that worked to structures that don’t work) things will sink further. The bottom will begin to feel the top no longer cares about it. That will end and erode their sense of trust and duty in the system.

**Repair and Return**

So, this was how it ended – in a warped version of a Russian nesting doll – frustration wrapped in hurt, lingering anger, and leave taking, both physical and metaphorical. The DH torch was passed from Larry to Peter. Peter has a business management model approach to the education industry whereas Larry had a vision for the design and the implementation and delivery of the curriculum for student success. Maybe under Peter’s direction the department will get a chance to heal through Peter’s business management model absent Larry’s vision for the curriculum and student success.

Esmeralda and Ted felt collaboration was coming back in the math department but they expressed this optimism with far less conviction than they did a year ago. Herc and Peter felt not much had really changed since the fall out from the schism. And still others, Frank and Larry, felt community and collaboration were gone, there’s no solution, it’s a shame. Frank and Esmeralda left the high school in June 2016 for teaching positions in other districts. Larry and Herc stayed, but left Larry left, metaphorically speaking. Larry explained, “I’ll teach whatever
they tell me to teach. I’ll come in every day and go to my room, close my door, teach my classes and go home.”

At first Herc felt there would not be much change in the department. Much would remain the same. He would continue to play Frisbee golf with Frank. Some people still wear their Math Patrol tee shirts on occasion. But then he said no one eats lunch together and conflicts drive people away. Although Herc stated there was not as much collaboration as there previously was, he thinks people will go their own way to avoid the conflicts. With much discomfort he admitted “there has not been much collaboration.” He confessed he and Frank sometimes talk about “stuff.” After a lengthy pause he said, “Larry does not collaborate with us.”

Herc thought the math department would go back to the way it was when he first started working at the high school. Teachers were assigned classes, given a textbook and expected to “just do it!” The big difference, according to Herc, was not everybody would know what was going on at all levels. There would be a loss of connectivity – a loss of community. According to Herc, Larry was the only one that was involved at all four levels. Larry was the one person who connected the entire curriculum. Herc said, “So, going forward we won’t have that. We won’t have that one person who connects it all. Nobody’s going to know everything. Nobody’s going to have worked with all of it…And, so, that will be different, but I’m not sure it will really matter, though.”

It appeared to matter very much to Herc. It appeared he has or will metaphorically go away to avoid conflict and just do his job. It appeared as though, in Herc’s view, the department will regress to an earlier point in time where teachers just did their job and did not desire to be part of a cohesive community. In other words, most of the math teachers will stay to themselves and silo teaching and isolation will, once again, become the norm. Contrary to Herc’s
assessment, returning to teaching in isolation would be a very big change for a department that was once known to be a pocket of community and collaboration within the high school.

For a couple of participants a loss of trust and community was too much to sustain. Frank said he would never forget the way he was treated by the school committee or by Larry shortly thereafter. His voice all but quavered when he said “You know, we can all have disagreements with our co-workers, but this has gotten so out of control the I don’t really see a resolution, and that’s a real shame.” He felt the schism was such a shame because the personal relationships were compromised for the sake of the curriculum. Frank: “When people feel so strongly about a curriculum, it’s too much. No curriculum is worth that.” His voice trailed off and the best he could muster was a sad and tired voice tone for the rest of the interview.

Frank continued to talk about the loss of trust he was experiencing and his ensuing increased sensitivities, insecurities, and motivations. It sounded as though Frank had all but lost his way in the math department. He referenced Nature’s Classroom again and expressed the idea that he had such a “grandiose idea” of building lifelong relationships that were forged during his Nature’s Classroom days that he truly was unable to recreate the sense of community anywhere else.

He lowered his sad and tired voice and said there was a time where the math teachers thought the “problems” were caused by administration. But Frank said this problem was not caused by administration. With deep sadness he said, “This was in our house. This was at our level. This was our fault. Not administration’s fault. They might have created conditions that made it happen, but that doesn’t mean you have to fall for it or give in. We should have been smarter and that’s a shame we weren’t.”
Larry alluded to loss of trust and loss of community through the metaphor of a raging river representing what the math teachers thought they had in terms of community versus what they actually had. Larry explained,

This is going to sound weird, but we’re all on a boat in a raging river with rapids and for some reason we all had to get out of the boat and into little individual inner tubes. And we came to a fork in the river. And I took a fork and everyone else took the other fork in the river. And I thought we were all taking the same fork in the river...but we weren’t. And I’m over here on one side of the raging river and I’m looking over at the other fork and thinking what’s going on? Where did everyone go? (nervous laugh). And that’s what I’m seeing them over there and I’m over here and I confused. I’m angry. And I’m hurt. I thought we were all going the same way

Larry thought he and all the math teachers were all rowing in the same direction through the rapids. But in actuality, they had split off from Larry onto different tributaries. When Larry picked his head up he realized the rapids were too strong and raging for them to become united again.

Esmeralda echoed a similar idea although her destructive image was that of a tornado. She said when she left on maternity leave a year and a half ago, her memories were her math department was “one happy crew” who could conquer anything. She said, “We were definitely riding the high.” Yet, less than one year later she felt this past school year was “just like a tornado had torn through our department.” However, the outside influences that played such a crucial role inside the math department caused too much stress. Still, Esmeralda spoke haltingly yet optimistically about getting back together again because at least, for now, they were beginning to talk to each other. She said, “I don’t know that we’ll ever go back to the way we
were, but I can see baby steps along the way to getting it back. That’s why I say we’re bringing it back because we know what’s important and we know what’s right and that’s what we want to do.”

When asked about the role of the new math DH, Esmeralda had this to say: “My whole view of the DH has changed…It’s just somebody who can keep the peace and keep the boat afloat. Right now, all we need is for somebody to just keep the boat going.”

It is important to remember the human toll this past year took on all the math teachers. Frank and Esmeralda both left at the end of June for teaching positions in other districts. A constant and physical reminder of how high that toll was.

**Thematic Findings**

The first research question sought to provide context relative to the study. In order to understand how the math teachers experience and describe their sense of community building and collaboration in their department they must first have an understanding of what community building and collaboration is and what it means to them. This research question’s analysis provides both the individual participants’ sense of community building and collaboration in their department as well as a collective sense of community building and collaboration among all the participants.

**The Story of Belonging: Caring About Each Other**

The initial theme of Belonging addressed how the participants understand community and collaboration in their department through a sense of belonging as it pertains to their individual experience.

All six participants understand community and collaboration in their department through their experience of a sense of belonging. The source of their belonging was situated in the creation, design, and implementation of the IMM curriculum. Their understanding of belonging
was further articulated through their positive experiences team teaching, the pride they felt when wearing their Math Patrol tee shirts, sharing dinners and game nights with each other, and participating in the annual community volleyball tournament.

A sense of belonging exists when people come together to create meaning and significance, and establish purpose around a mutually agreed upon set of norms and goals. Belonging gives depth and a sense of care and concern to the collaborative department culture and creates a palpable sense of belonging that goes beyond collaboration.

All six participants rallied around the new IMM math curriculum. They wrote the curriculum and collaborated with each other both in teams and across team/grade levels. All participants uniformly expressed a sense of community and belonging surrounding the move to the new curriculum. Many participants said it was difficult at first, changing the way they had always taught Math, and moving away from the textbook into new areas but it was worth it in the end. Esmeralda recounted, “It took a full summer for us to come together over the IMM. For many, we had to move outside our comfort zone and leave the comfort of the textbook. It was difficult at first. But then I found I was working with some great people that I really didn’t know before. And that was nice.”

Much like all his high school math colleagues who rallied around the common goal of developing and delivering the IMM curriculum that would better prepare their math students for success, Frank touched on his sense of belonging through his experience with working closely with his colleagues to create “a really good product.”

Esmeralda and Frank both experienced a sense of department belonging through their belief in and dedication to team teaching stemming from their earliest years of teaching.
Esmeralda said she particularly enjoyed having other adults to turn to. Team teaching, she said, “was a real community. Everybody working together for the common good of the kids.”

Larry most keenly experienced his greatest sense of belonging in the Math department during those years when he was department head and the department was working together as a team to create the new IMM curriculum. A hallmark of that time was team teaching throughout a very highly collaborative department. Larry said there was more of a sense of community during those years than ever before. It was no surprise during those years the entire Math department, under Larry’s leadership, was at its most fertile, collaborative, and united. Larry recalled, “There was more of a community than there had been in the past…We were working towards the goal of implementing a new math program…And part of it was we were divided up into teams like sub groups.”

Under Larry’s leadership, and with the writing of the new IMM curriculum, Herc, too, experienced a sense of belonging and community unlike he has ever experienced before. It was interesting to note Herc did not reference team teaching as a reference point of belonging as did Frank, Esmeralda, and Larry. Rather, Herc referenced Larry’s leadership together with the common goal of the IMM curriculum as the focal point of his sense of belonging.

Peter’s sense of belonging came from hindsight. He spent 22 years in a “backstabbing, cut-throat industry.” When he retired from industry and took up teaching he says he “entered the biggest collaborative society” in which he had ever worked. Interestingly enough though, Peter’s sense of belonging came not from his background as did Esmeralda’s and Frank’s, but in spite of his background. Not from recognizing what he had as a member of the high school Math department, but rather from what he did not have in his previous position in industry.
Ted was arguably the most collaborative teacher in the math department. His collaboration ranged across disciplines. He had clearly fashioned a sense of belonging in the Math department and school wide. Ted said, “During my prep periods I am generally not prepping. I am either working with our choral teacher on our musical, or I’m talking to Science teachers or English teachers, whomever is around to bounce ideas off of.” Ted firmly believes he can learn from anybody, in any discipline, in any kind of conversation. There was a similarity here between Ted’s interdisciplinary collaboration and team teaching as experienced by Frank, Esmeralda, and Larry.

All participants understood and described a sense of community as working together on a common goal, vision, or project. Through the IMM curriculum design and development, all six participants expressed a sense of belonging to the math department team. They had a mutual binding to the common goal of building the IMM curriculum. As a result of sharing the common goal they also had a sense of common membership and identity. In other words, they experienced a sense of belonging as a family through their membership in the Math department.

A strong sense of Math department belonging was evident with all six participants. Belonging is reflected in participants’ background, spirit, and curriculum work with the IMM. Moreover, it seemed fair to say, all participants experienced a remarkably similar sense of community and belonging, but not all participants experienced a sustainable sense of belonging. Herc recounted, “So, up until last year this department was the closest to community that I had ever experienced in the math department. And this year, it is mostly the reverse.”

Of particular note, all six participants uniformly experienced a strong sense of department belonging through their Math Patrol tee shirts.
Tee shirts and volleyball games. It was just a small thing but it made a big impact on the department and school. The Math Patrol tee shirts started one day at lunch (when the schedule allowed for department lunch) with a suggestion of getting department tee shirts. Every Friday every Math teacher wore his or her tee shirt to school. They got a “big kick” out of it. But more than that, all six participants felt a strong bond when wearing the tee shirts. In fact, many of the participants said they felt a sense of department pride when wearing their tee shirts. Esmeralda recalled, “The Math Patrol tee shirts were our team thing, and we would wear them every Friday. The students noticed, too. They saw how we interacted with each other and accepted each other. The students saw our sense of unity, and I think we all had a sense of pride. Then the Science department tried to copy us!”

The participants’ sense of department belonging was not limited to within the math department but extended to socializing outside the workplace such as enjoying group dinners or going over a colleague’s house to play board games. But most importantly, it seemed the community volleyball games added a dimension of belonging that all of the participants recognized and forged. Ted fondly recounted,

We interacted socially with each other outside of school as well which helps build that working relationship...not necessarily all of us but some of us...This may sound insane, but every year when Peter was class advisor he organized a volleyball fundraising tournament on April 1st. And his first year we all signed up as the math group. We all have our Math Patrol tee shirts and we play other teams from the school and from the community. We play against the local firefighters and the local police departments. So, for the last three years we’ve had a math department volleyball team. And that’s really the first time I realized we were part of a bigger
community and this was more than just a working relationship. We were being friendly with one another!

On a final note of belonging, and in keeping with the IMM curriculum, all participants experienced a rousing sense of belonging when they were called on to defend their curriculum before the school committee to which they wore their Math Patrol tee shirts. Interesting to note here is a strong sense of community building and collaboration was experienced by all members of the math department through both positive community and collaborative efforts as well as events that proved contentious.

Though there are obvious similarities and profound differences with the experiences of belonging that the participants brought to the math department, nonetheless, the sentiment of belonging still commanded a wide consensus in the department.

The Shame and Sting of Betrayal

The second theme of Betrayal addressed how the participants understood community and collaboration in their department through a sense of betrayal as it pertained to their experience.

All six participants understood community and collaboration in their department through their experience of a sense of betrayal. The source of their betrayal emanated from the turmoil that ensued after the school committee “scrapped” the IMM math curriculum and the fallout in the department.

Betrayal is oft accompanied by a loss of trust and honesty particularly within relationships where bonding occurred. The entire department roiled from the turmoil that ensued after the April 2014 school board meeting where the school committee “scrapped” the IMM math curriculum. However, three participants in particular experienced the pangs of betrayal most searingly.
The journey of collaboration and community building that brought Larry and the Math department team to where they were at its zenith in April 2014 was one of strong collaboration built around the vision and goal of writing and delivering the new IMM curriculum which engendered a sense of trust, belonging, and pride for all participants.

Yet, a mere two months later everything changed when the School Committee “scrapped” the IMM curriculum and the building leaders eliminated the DH positions school wide. This was a double blow to Larry and he “took it hard” but he was not prepared for what happened next. He recalls, “This team that I thought was a team, that believed in our common purpose and our common goal just so quickly abandoned what we had done! And that caused a huge, huge, huge problem, at least for me.”

It appeared Larry was expressing his hurt, his anger, and his sense of betrayal at what he thought he had with the team and the harsh realization of what he actually had with the team. He said, “It did not take long for this house of cards to fall apart and crumble.” He laughed as he said this but there was no mirth in his laughter. He seemed to be calling into question the very foundation of his most seemingly united department.

Herc shifted uncomfortably in his chair and ran his hands over his face and folded his arms across his chest as he offered the following,

So, this is my side of the story, when Larry’s position of DH was eliminated, ah, he felt slighted. There were all kinds of little things that I am not privy to. But when we were developing the IMM curriculum, he was the mastermind of the whole thing. He was the heart and soul of this curriculum. He is the heart and soul of this curriculum! And so the whole curriculum, in my opinion, is modeled on what he designed. The work is part of
all the members of the department, but it’s really his design. It’s his product. If you talk about intellectual property, I consider it to be his, by and large.

To further express his own betrayal, Larry gave a vivid analogy of what his betrayal felt like. Larry used the image of losing a child that he spent five years of his life raising and caring for and believing in only to have the child taken from him in the end. His sense of hopelessness was palpable. In a long slow breath, Larry explained in a barely audible whisper, “The IMM curriculum was my child. And they are taking the child away from me and changing the beliefs of the child! For five years of my life that’s all I did! That’s all I focused on. I fought for it in front of the school committee. I gave up all my time…I don’t know…I don’t know.”

In this analogy, clearly the IMM curriculum was represented by the child and embodied so much of Larry’s time, energy, and effort invested in creating and raising the child. The stinging pangs of betrayal were viscerally and doubly felt by Larry as he relived the shame again through his narration during this interview.

**Loss and the Raging Rapids of Despair**

The third theme of Loss addressed how the participants understand community and collaboration in their department through a sense of loss as it pertained to their experience.

Frank, Larry, and Esmeralda understood community and collaboration in their department through their experience stemming from a sense of loss of community and collaboration. The source of their loss resulted from the demise of the IMM curriculum and manifested itself in feelings of hurt, anger, frustration, and betrayal. And the fallout had permanent repercussions.

Frank’s sense of loss was visceral, exacerbated by his strong sense of bonding and belonging from his Nature’s Classroom days, and proved impossible for him to overcome. For
Frank, this sense of loss manifested itself in increased sensitivity and heightened insecurity. Frank: “I’m way more sensitive and I don’t feel secure doing things. It’s like I’m questioning my motivations. I’ll listen to somebody or I’ll talk to somebody but now I’m questioning their motivations…It just sucks…no trust.” The unremitting turmoil he felt was an anathema for Frank given his early foundation of caring and belonging. Frank continued, “It just feels like there is no solution. Because even if we work out the curriculum, even if we find the perfect schedule and the way to structure the lessons, I don’t think we’ll ever forget the way we were treated…but this has gotten so out of control that I don’t really see a resolution and that’s a real shame.”

Frank alone appeared to reason on the occurrence, shook his head and was at a loss for words. It became particularly difficult for Frank when the atmosphere surrounding their excellent product, the IMM curriculum, and their highly collaborative, Math Patrol tee-shirted department turned political at the April 2014 school committee meeting. Ironically though for Frank, it was this very school committee meeting where everyone in the Math department showed up to defend their IMM curriculum, to fight for what they all believed in, the height of belonging, that was the death knell for Frank.

Esmeralda, too, felt a keen sense of loss after the school committee scrapped the IMM curriculum. Esmeralda had this to say,

It’s been an interesting journey for sure. My last memories before leaving for maternity leave was we’re all in this together. We’re one happy crew, we could conquer anything. We were definitely riding the high. And then…it was just like a tornado tore through the department…I don’t know that we’ll ever get back to the way we were.

It is very interesting that this tightly knit, highly collaborative department turned on each other, but then tried to turn to each other to seek solace and solutions. When outside forces grew
too large for the group, and battered at and broke down the department walls, still the participants interacted with each other, even though it was not how it used to be. Now their interaction was hurtful, frustrating and negative. But they were still interacting with and turning to each other. Esmeralda says, “I think we turned on each other because nobody else was listening. We know, as colleagues, you can turn to your colleague and say stuff and you turn to them for support.” Any interaction, even unkind and hurtful sentiments, was better than none at all.

Both Esmeralda and Frank put forth a desire to continue to seek a sense of belonging and unity that continued to disappoint and elude them. But the tornado proved too potent.

For Herc the sense of loss sent him back into himself. Moreover, he recounted, “So, up until last year this department was the closest to community that I had ever experienced in the math department. And, now, it is mostly the reverse.”

He lamented the fact that Larry no longer collaborated with him and Frank and that things will be very different moving forward from here. Herc let out a deep sigh and said, “There was only one person that was involved in all of it. That was Larry. So, we had this one person who connected it all. Nobody else was connected to all of it. Only just him. And so, going forward we won’t have that one person who connects it all.”

Peter experienced a sense of loss after the fall of the IMM curriculum but largely in a loss of respect for certain members in the department. It seemed there was a time when nasty emails were being sent all around the department and Peter separated himself from “the back room politics” and focused on his teaching. He claimed a lot of other people did not and, he said, “I lost respect for a couple of people.” He tapped his fingers on the desk and laughed as he continued, “And now, as DH, and with my degree in business management, I am going to try to
weave together a good path we can all work ahead together.” It was not clear what Peter’s laugh intended to convey. However, it may be fair to say Peter’s sense of loss was mitigated by his promotion to the DH position over Larry.

But no one experienced a more poignant sense of loss than Larry. The analogy that follows seems to represent the Math department team as Larry believed it existed. Larry recalled his vision thusly,

We were all on a boat in a raging river with rapids. For some reason, we all had to get out of the boat and into little individual inner tubes. We came to a fork in the river. And I took the fork and went one way but everyone else took the other fork going in the other direction in the river. I thought we were all taking the same fork in the river but we weren’t! I’m over here on one side of the raging river and I look over at the other fork thinking, ‘what’s going on here? Where did everyone go?’ And that’s what I’m seeing. I’m over here and I’m confused, and I’m angry, and I’m hurt. I thought we were all going the same way.

His incredulity was compelling.

When the participants experienced a loss of community in the math department after the schism, they sought to create alternatives to that loss. Some sought to create substitutes for the loss, and some sought to live without community. But, unfortunately, the rift that formed in the department, metaphorically represented by Larry’s raging river, became a chasm with some participants on one side and other participants on the other side of the chasm. Bridging the chasm has been a challenge for all participants. For some it has been insurmountable.

Leave Taking-Physical and Metaphorical
The fourth theme of Leave Taking addressed how the participants understand community and collaboration in their department through leave taking as it pertained to their experience.

Frank and Esmeralda understood community and collaboration in their department through their experiences that made them feel they had no other option but to leave. This leave taking occurred on both the physical and metaphorical level, and stemmed from a visceral sense of loss of community. Ted and Herc tried to create a substitute for the loss of community, and sought to live without community. This created a sense of leave taking on both the physical level and metaphorical level. And for some, the inability to bridge the chasm necessitated leaving the high school altogether for teaching positions in other districts. It appeared the loss of pride and trust, friends and respect ran too deep and were beyond repair. The keen sense of exactly what was lost left them no other option but to leave.

**Physical.** Esmeralda expressed the inevitability of leaving thusly, “I don’t know that we’ll ever go back to the way were, but I think I can see baby steps along the way to getting it back.” Her optimism was only matched by her sadness and the realization of how much had been lost.

She lamented the loss of the DH position and said her whole view of the position and its role in the department had changed. Where once she believed the DH was the most qualified and experienced teacher in the department, she now saw the position as somebody who can keep the peace and keep the boat afloat. (Note the boat analogy here). Where once she thought she was part of an amazing united team, she now felt it had all crumbled. Straining to hold back tears, her grief was palpable as Esmeralda said, “We tried to rally together. But I have to trust the people I work with. I don’t have to get along with them but I do have to trust them to do what’s right.
Trust!” Her last sentence was one word long - “Trust!” and it hung in the air as if it was unable to alight, for Esmeralda thought without trust there may be no place in the department for her anymore.

Frank, too, found the price of loss was too great to stay. Frank felt hopeless as he did not feel as though there was a solution. Even if a solution were to be found, he would never forget the way he and his colleagues were treated at the school committee defense meeting. And for Frank, that was a shame. But the real shame, for Frank, was the loss of respect he had for some of his colleagues and the loss of his friends in the department. Frank said “I want to do a good job for the students through the curriculum, but I also want to be friends with the people I work with. I actually want the people I work with to be the best daily friends I have. I expect them to be the friends that I work with for the next twenty years.”

Metaphorical. For Larry, the loss of DH, the ill treatment at the hands of the school committee, and the loss of trust and respect for and from some of his colleagues caused Larry to go away. He did not physically leave the high school but he metaphorically left the department. To the degree possible, he no longer attended department meetings, he no longer stepped in with possible solutions to curriculum problems, he was no longer vocal and directive regarding the IMM curriculum, and he no longer eats lunch with any of the other math teachers. He said he can not get over how quickly his colleagues abandoned their common purpose and common goal after the school committee scrapped the curriculum. He felt abandoned by his colleagues so he abandoned his colleagues. Larry said,

I’ll be back in my room, watching and just doing my job. Isolated. Once the bell rings, I’m in my room teaching. Just give me a list of topics I’m supposed to teach my classes and I’ll teach them that. But am I going to help out and say this is how this should be
done or that? I don’t know. But I’m conflicted. You know, my anger, my hurt, my confusion…If I don’t step in and help out then the kids get hurt. And I can’t let that happen!”

The underlying collective essence regarding a sense of belonging in their department and their sense of community building and collaboration for all six participants in this study was remarkably positive given their personal and collectives senses of betrayal, loss, and leave taking. It appeared the raging rapids, the tornados, the humiliation, loss of trust and respect, the hurt, frustration, and anger, even the metaphorical loss of a child were not enough to completely extinguish the sense of belonging each participant had early on. But unfortunately for some participants, proved too painful to stay.

**Innovation: Everything Old is New Again**

The second research question focused on participants’ understanding regarding the effect community and collaborative relationships have on their individual practice. A discussion of the themes of innovation and empowerment address how the participants experience and describe the effect community and collaborative relationships within their department had on their individual practice.

Community and collegial relationships exist when teachers discuss problems of practice, share ideas and knowledge, observe one another’s work and collaborate on instructional projects. Innovation is the doing of something new or making something old new again.

The math department collaboration centered around designing and writing the new IMM curriculum that led to a change in teaching practices by breaking down norms of isolation thereby allowing for the exchange of ideas, and the employment of new strategies. Esmeralda explained, “I would definitely say when we were creating the IMM curriculum because I’m
teaching things that I would never have taught before. I had to go back and brush up on stuff I haven’t seen since college. So, that’s where collaboration lead to where I had to do things differently.”

The grade level teams brought participants together with colleagues and further aided in creating fertile ground for an exchange of ideas leading to new teaching practices. Many participants reported engaging in new practices that came about from discussions surrounding the IMM development. Ted, for example, described having conversations with his colleagues about how he could ensure every student in his classroom understood the material and was actually practicing the material. Ted’s flipped classroom model came from such conversations. Ted explained,

I needed to try something different besides lecturing. The flipped classroom practice came out of discussions around how to get kids to do more homework so they could practice the material in class...If they take the material home and say they have no idea how to do the material, that’s when they’re not doing homework…And it was all based on the communication we had with one another in the department.

Frank expanded on department collaboration leading to a change in his own practice when he said with gentle laughter, “Ted’s flipped classroom definitely had me use more videos. I don’t make videos myself but when I refer my students to Ted’s videos they love them. So, basically, I’ve started stealing his videos by referring my students to his videos. I also link his videos to my websites.”

Collaborative conversations that focus explicitly on ensuring that students learn, call on team members to make public what has traditionally been private – goals, strategies, materials, pacing, questions, concerns, and results. Such discussions give every teacher someone to turn to
and talk to, and they are explicitly structured to improve the classroom practice of teachers – individually and collectively.

**Doing things differently or creatively.** Collaborative relationships exist when teachers discuss problems of practice, share ideas and knowledge, and collaborate on instructional projects. Collaboration can affect the quality of teaching by enriching the work of teaching. Based on the comments of the participants, most felt that department collaborative conversations around the IMM curriculum and beyond led to an increase in sharing ideas and knowledge, and improved their individual teaching practices and techniques. Esmeralda:

> We are doing a lot more writing in math class so I have to read papers and learn how to teach students to write mathematically which has changed my instruction. I think it’s fantastic but it’s tough because so much is new now…I’m outside my comfort zone and I think that’s great. That’s where teaching needs to be. It’s a welcomed panic. So that’s another way where collaboration has changed my instruction.

Herc and Peter recalled a time when all teachers at the high school were “forced” to adopt the CC8 model to maximize student achievement. It was mandated that the CC8s had to be posted on the board in the same place every day. Administrators made note of the number of teachers who had their CC8s posted and the number who did not post them. Herc recalled,

> Remember when we had to have up on our boards the agendas and all that other stuff? Well, the math department collaborated to build all that. So for our curriculum, we have all that – we have the warm-up exercises, and Do Now’s for every single day of the year. And we have written agendas for *every single day of the year!* So, that is something that we collaborated on in the department. That was a big change in my own classroom practice.
Larry quickly offered with pride that the entire IMM process designed and implemented by the entire department led to a change in his practice. He said he was initially against changing to the IMM model. But because he introduced the IMM option to the department and they adopted it, his idea was to be part of each team the year they implemented the curriculum. Larry explained,

I was a member of each team. I taught and moved with each year’s students. So, yeah, being a member of all three teams I learned some teaching practices that I normally wouldn’t implement. It was really good for an exchange of ideas. For example, the way I count grades for partial credit vs non-partial credit was a change for me. It was a very good time, and it was a very very interesting dynamic. Truthfully, I’m very upset that we’re not there anymore…

**Empowerment.** The theme of empowerment addressed how the participants experience and understand the relationship between department community and collaboration and their individual practice through a sense of empowerment. All of the six participants experienced and understood the relationship between department community and collaboration and their own individual practice through the enhanced sense of empowerment drawn from their collaborative conversations with colleagues. The sense of empowerment derived from their collaborative conversations that affected their individual practices included greater risk taking and enhanced confidence.

**Greater risk taking and enhanced confidence.** Quite possibly, Ted’s flipped classroom was one of the biggest changes occurring in participants’ individual practices brought about through collaborative relationships in the math department. The whole freshman team currently uses the flipped classroom model. Ted beamed,
It came out of discussions I was having with my colleagues on how to get students to do more homework and how to get kids to learn the topics they are struggling with. It became clear to me that lecturing was not working. I needed to try something different. So, I came across the flipped classroom. The idea is the students can watch the videos at home and practice the math in front of me. I can be with them as a resource when they’re practicing so they can ask me the questions they need to ask. And it was all based on communication we had with one another. There’s no fear of failure in our department!

Because the idea came about through collaborative conversations centered on improving student understanding and achievement, Ted felt he was free to try the flipped classroom model in his own classroom. He also knew he had his team and the entire department to turn to for help if his flipped classroom idea was not working as initially planned. Ted was confident he and his team “would come up with solutions.” Furthermore, although Frank did not fully adopt the flipped classroom into his own practice, he nonetheless, felt confident trying out the flipped classroom on Ted’s coat tails.

It appears the collaborative environment in the math department made teaching practices public that had traditionally been private, effectively changing the norms from private to public, where teachers value professional relationships, share ideas, and improve their own practice through an exchange of new practices and techniques. However, the loss of empowerment and self confidence engendered through the math department community and collaboration struck a fatal blow to Frank’s self confidence and mired him in self doubt and insecurity.

The final research question was concerned with participants’ understanding of how department community and collaborative relationships affected the overall school culture and climate at the high school. The themes of modeling positive behavior, positive competition, and
department and school wide PLCs fostered a positive effect on school culture. And the themes of high administrative turnover, a divergence of goals, and a lack of safety and comfort fostered a negative effect on school culture.

Esmeralda, Ted, and Larry experienced and understood the relationship between department community and collaboration and the effect on school wide culture through a positive lens where modeling positive behavior, positive competition among departments, and department collaboration plus school wide PLCs led to a positive effect on school culture. However, Frank, Peter, and Herc experienced and understood the relationship between department community and collaboration and the effect on school wide culture through a negative lens where high administrative turnover, a divergence of goals, and a lack of safety and comfort lead to a negative effect on school culture.

Relationships that Foster a Positive School Culture

Esmeralda, Ted, and Larry experienced and described a positive relationship between department community and collaboration and school wide culture where modeling positive behavior, positive competition among departments, and department collaboration plus school wide PLCs occurred.

Modeling positive behavior. Esmeralda, Ted, and Larry expressed a positive relationship between department community and collaboration and school wide culture. For example, both Esmeralda and Larry cited the Math Patrol tee shirts as having had a positive impact on the school environment. Esmeralda explained, “When we would wear our tee shirts on Fridays, everybody throughout the school noticed them and had something positive to say about them.” In addition to everyone in the school noticing the tee shirts, Esmeralda also says, “I’d
wear my tee shirt in the community running errands or to a restaurant and people would comment ‘Great shirt.’ I felt proud!”

Modeling positive behavior also took the form of team teaching. Esmeralda and Frank were most enthusiastic regarding the positive effects of team teaching from stemming from Esmeralda’s middle school teaching days and from Frank’s Nature’s Classroom days. Esmeralda said, “Team teaching with our grade level teams made us a real community. Everybody was working together for the common goal of the kids.” She also noted that other departments were aware of the math department’s team approach and tried to emulate it. Frank noted that “working closely with his colleagues to “produce a really good product for the students” was another way that working on the IMM curriculum was a form of modeling positive behavior.

Creating positive competition. Larry had a slightly different perspective on the Math Patrol tee shirts. Larry said other departments noticed the math teachers wearing their tee shirts on Fridays and the tee shirts impacted the school environment. Larry explained,

Just wearing those shirts people commented all the time. I mean, as stupid and as small as that was…once there was a history teacher who walked down the math hall one day, and we’re all standing outside our classrooms doing hallway duty between classes and we’re all wearing the Math Patrol tee shirts, and this history teacher says ‘Wow! This is all very impressive walking down this hall! I’m almost scared!’ But she said it in a positive way! When asked how he understood the relationship between community and collaboration in the math department and school wide culture and climate, Larry further elaborated,

Well, you know, I’m going to be honest here. I think when we were collaborating a lot and getting things done, there was a pocket of the school that didn’t like that. I would hear things like ‘Oh, he’s making them wear the tee shirts’ or ‘He’s making them all eat
lunch together.’ I think when the science department got their tee shirts it was to thumb their noses at us. I think it was like, ‘OK, if they can do it, we can do it too.’ You know, it’s like they thought we were great or something. It was strange!”

With passion and conviction, Larry continued with his understanding of how the math department community and collaboration under his stewardship had a positive effect on school wide culture and climate. Larry:

If people wanted to see it we were showing that we were a very disparate group, we were not a united team. And then we were a united team! And we were wearing tee shirts, and we were eating lunch together, and we were playing volleyball. We were doing things and if people wanted to see it, it was there! We didn’t advertise it but everyone knew what we were doing. We were building this math program together and we were working together as a team!

The Math Patrol tee shirts engendered some inter-department competition and possible conflict when the science department recognized the high standards of collaboration that the math department was exhibiting and sought to emulate it. After all, imitation is the highest form of flattery.

**Department and PLCs.** Ted referenced the mandated interdisciplinary PLCs all teachers are required to attend on days where they have a double prep period as a structure that loops the department collaboration with the PLCs that contributes to a positive school wide culture. The principal decides what the topics will be and he requires written feedback at the end of each meeting. Nonetheless, Ted asserted the PLCs impacted the school environment in a positive way through realizing how positive his math department was. Ted:
It was when the PLCs started and I started hearing about what was happening elsewhere in the school, I realized how positive our department was…I thought all teachers worked together, and everybody worked on writing their curriculum, and everybody tried to better themselves by having discussions with other colleagues. I genuinely thought everybody worked together and I learned very quickly that is not the case in most departments. The PLCs allowed us to see how much positive was happening among ourselves. We could also have the opportunity to spread our positivity and say ‘Hey, this is what you should be doing. Working together. Why fight?’ I understand other department individuals have philosophical differences. We do, too! But let’s find a solution. Figure out a way to work together!

For Ted, at least, he saw from his PLC collaborative conversations that other departments were curious as to what was working well in the math department. Ted liked to see other departments emulating the math department. But more than that, Ted saw that the students recognized something different about math department. He explained,

But it’s not just faculty and staff. The students see it, too. The students are now working together and answering each other’s questions and trying to figure out the material more so than they have ever done. It’s the same with the PLCs. We’re working together and sharing ideas to work things out. Then the departments themselves are probably starting to have conversations, develop ideas, sharing ideas, sharing philosophies. If it’s not happening in the departments, then it’s certainly happening in the PLCs which come back to the departments. It has to come back to the departments at some point. I genuinely cannot imagine working in a department where we’re all isolated!
Esmeralda summed up best the positive effects the aforementioned themes had on school culture when she expressed, “Be the change you wish to see and others will take notice!”

**Barriers to a Positive School Culture**

Peter, Herc, and Frank registered a negative correlation between department community and collaboration and school wide culture and climate citing the themes absence of trust and safety, high administrative turnover, and divergence of goals.

**Absence of trust, safety, and comfort.** Peter said the relationship between department community and collaboration and school wide culture was very different. He attempted to explain that the difference was not in the people nor was it the personalities, nor was it in the leadership. He struggled with verbalizing his understanding and concluded with,

To school wide culture I don’t see a relationship. But, again, you pull people from different disciplines like the PLCs and I see the same collaboration. But as soon as you get outside that small group it just seems to change. I think there’s a *safe feeling* when you have a small group. As soon as you get to a certain amount of people it changes.”

Peter’s notion of there being a “safe feeling” when you were part of a small group was intriguing. It seemed as though he was saying there’s the math department community, then there’s the PLC community, and somehow those two communities are different ways of feeding into a blossoming school culture of community and collaboration. But when pressed on the issue, Peter emphatically asserted, “I don’t see that. I don’t see a *safe* place at the building level.”

Peter said the PLCs are a good idea because each PLC has five to seven participants. This meant five to seven more people who feel comfortable with each other. Peter explained it thusly, “That’s what it is. *Comfort.* We are not *comfortable* with each other at the building level.”
Again, it seemed that Peter was saying that the PLCs, with their small groups of five to seven participants, were on the way to improving school culture. To which Peter replied, “It is a positive move forward, but I think the players change too often to have everybody feel comfortable. That’s all the players.” What was interesting to note here was the math department has seven teachers and yet, Peter did not seem to feel comfortable there anymore.

**High turnover.** Peter seemed to be alluding to high turnover in staff and administration. When colleagues with whom we felt comfortable leave, they take some of our comfort with them. Peter attempted to explain, “And now you have to become comfortable with new people. The PLCs are a positive step, but it takes time. I just don’t see any organization this large getting there with the amount of changes…” In view of Peter’s sentiments, it is important to note here that twenty five teachers, faculty, staff, and paraprofessionals left at the end of the previous school year for positions in other districts. Some of those who left actually retired but the majority left for positions in other districts, including two of the seven math teachers representing more than a quarter of the entire math department.

**Divergent goals.** Herc expressed the idea that department goals and building goals are too divergent to create a positive school wide culture. He asserted the math department goals were too narrow and too defined and not necessarily very important in the overall scheme of the building. He stated, “Math is just not that important...Math is just a piece of a larger puzzle.” He said he thought there might be a relationship between department community and school wide culture but said with a soft laugh,

I suppose there might be a relationship but I’m not sure. You see, I have my department goals, responsibilities, and duties. And everybody else in the school also has their duties and responsibilities and theoretically we are working toward a common goal and the goal
is sometimes not very clear. Maybe we think the school goal changes. School wide goals are sometimes not clear. Goals in the math department are clear. Department goals seem to be more objective. School wide goals seem to me to be very subjective. They can change.

This sounded like a form of the old adage if you are not sure if a relationship exists between department community, collaboration, and school culture, then it probably doesn’t exist.

Herc asserted nobody really cared about Math department because “Math is just a piece of a larger puzzle.” Furthermore, Herc saw a disconnect between department goals and building goals where department goals were clear, objective, and definitive, but building goals were subjective, unclear, and ambiguous.

Frank assessed the concept from a slightly different perspective from Herc’s. However certain Frank was that the IMM department collaboration impacted the school community and manifested itself at the school committee meeting where the math teachers were summoned to defend the IMM curriculum, he expressed uncertainty as to whether there was a relationship between department collaboration and school wide culture and climate. And it did not appear that Frank thought the math department was simply another piece of the puzzle. Frank thought the math department loomed large in the school committee’s field of vision. Frank explained,

The IMM curriculum definitely impacted that school committee meeting. You know, that went right to the top. And I think that that meeting, whatever drama or previous conflicts there were have impacted everything else since. You know, when we went to negotiations the (elimination) of the department positions was a big part of the outcome of that school committee meeting. I never understood what the conflicts were and I still don’t. But I’m pretty sure that Larry’s feelings about this contract are very closely based
on that school committee meeting. I think those two things go very closely together…I never understood why we were the ones called in that night. So, I never understood why that meeting was as tense as it was…They raised their voices at us and I never understood that.

When pressed to elaborate further as to his understanding of the relationship between his sense of community and collaboration in his Math department and school wide culture and climate, Frank gave a lengthy sigh and after a long pause expressed, “Hmmm. I just don’t know.” He seemed to hedge his answer slightly as he continued, “I think any department would benefit from having a project that they want to work on together. But just because some people in the department might want to do it doesn’t mean everyone wants to do it.”

Frank’s response might give the impression that the highly touted IMM curriculum was perhaps not so collaborative after all. He quietly inserted, “That was the moment where I realized that collaboration was different for everybody. You know, people view things differently.”

Regardless of whether the participants saw a positive relationship between their department collaboration and school wide culture and climate or a negative relationship, or no relationship at all, one thing did seem certain. For all of the participants, nothing felt stable or comfortable at the department or building level perhaps because nothing was stable. Within the department, battle lines have been sharply drawn, especially since the fateful school committee meeting, and no one was especially interested in understanding the other side. Inside the math department many of the teachers felt up against it, with uncertainty surrounding the new building leaders, and the school committee arrayed against them, and a not-fully-known quantity as department head.
Participants’ experiences were far ranging when asked how the department will move forward from the schism and what the department will look like. The obstacles, of course, are many. The final verdict depends on Peter’s performance as department head. If Peter delivers as he describes “the proper guidance, objectives, tools, environment, schedule, and resources they need to be able to do a good job,” he will forge a new consensus and remake the math department landscape. It is too soon to know what exactly Peter’s business model will accomplish. He needs to stay focused to avoid falling down the rabbit holes of disputes. The math department needs the change he promised and he needs to commit every ounce of his being into keeping that promise. If he succeeds in keeping the peace and keeping the boat afloat, so too will the math department succeed. It stands to reason because they are all human.

Summary of Findings

The findings of this study were collected through semi-structured interviews conducted in-person with six teachers in the math department of a mid-sized, rural, public high school. All participants were veteran teachers who have been teaching Math at the high school from seven to twenty years. All participants had been intricately involved at multiple levels in the Math department’s move to the IMM curriculum and had been members of each grade level team.

Regarding the perceived effect of community-building and collaborative relationships in their department:

- Teachers perceived their robust sense of department community-building and collaborative relationships was due to strong department leadership and their common goal and vision for the IMM curriculum.
- Teachers perceived their loss of department community-building and collaborative relationships was due to the elimination of support structures and to
outside influences beyond their control.

Regarding the perceived effect of community-building and collaborative relationships on teacher practice:

- Teachers perceived their individual practice was strengthened and enhanced through department community-building and collaborative dialogue.

Regarding the perceived relationship between department community-building and collaboration and school-wide culture and climate:

- Teachers were mixed in how they perceived the relationship between department community-building and collaboration and school-wide culture and climate.

In summary, the teachers felt department community-building and collaborative relationships had a positive effect on their sense of belonging, however they experienced high levels of frustration through the elimination of structures that once supported department community and collaboration, and structures that became barriers to department community and collaboration. They were particularly concerned that outside factors so quickly destroyed their sense of department community and collaboration. In addition, the teachers felt department community-building and collaboration had a positive effect on their individual practices. However, only some of the math teachers experienced and described a positive relationship between department collaboration and school wide culture and climate. The remaining math teachers experienced and described a negative relationship or no relationship at all between department collaboration and school wide culture citing high turnover, divergence of department and building goals, and the absence of safety and comfort at the building level.
Chapter V: Discussion of the Research Findings

Chapter V begins with an overview of this qualitative case study followed by the presentation and discussion of key findings in relation to the theoretical frameworks and the literature review. Chapter V concludes with implications for practice, limitations of the study, recommendations for future research, and a plan for action.

This qualitative case study explored the experiences of and understandings of six public high school math teachers regarding their sense of community-building and collaborative relationships within their department. All the math teachers participating in this study were veteran teachers who had been teaching at the high school from seven to twenty years, and were actively engaged in designing, writing, and implementing a new Integrated Math Model (IMM) curriculum to align with the new standards of the Common Core. The math teachers in this study by no means represent what all math teachers experience, believe, or think. Yet, the results of this study begin to bring insight into not only the key elements that it took to form a collaborative department team, but also gives insights into the varied obstacles teachers faced in the education system as a whole.

The Math department at the high school where this qualitative case study was conducted appeared to be a highly collaborative department where teams of Math teachers worked together to develop and align a new Math curriculum with the Common Core standards. The established collaborative relationships and community building behaviors and events in the Math department are worth researching because a case study of the Math department might provide a pathway for school wide change across departments and might provide an end to the silence.

Therefore, the purpose of this study design was to examine the high school math department regarding community building and collaborative relationships to determine the
teachers’ sense of community building and collaborative relationships in their department, and to see the effect of community building and collaborative relationships on their individual practice, as well as the relationship to school wide climate and culture. In other words, this study attempted to gain a deeper understanding about “what all the rigmarole” (Geertz, 1973) with community building and collaboration is about.

**Presentation of Key Findings**

Taking the collective experiences of all the participants in this study into account, the underlying essence of their department experiences with community building and collaboration and the relationship to school wide culture and climate are revealed. A thorough review of the data collected from the interviews produced multiple themes that support the following key findings:

1. Math teachers understand community-building and collaborative relationships in their department through their experience of a sense of belonging. The source of their belonging stems from the creation, design, and implementation of the IMM curriculum as well as from social interactions both inside and outside the department and school.
   - Math teachers understand community and collaboration in their department through their experience of a sense of betrayal. The source of their betrayal emanates from the turmoil that ensued after the school committee cancelled the IMM math curriculum and eliminated the loss of the DH positions.
   - Math teachers understand community and collaboration in their department through their experience stemming from a sense of loss of community and collaboration. The source of their loss resulted from the demise of the IMM
curriculum followed by the elimination of the DH position and manifested itself in feelings of hurt, anger, frustration, and betrayal.

- Math teachers understand community and collaboration in their department through their experience that made them feel they had no other option but to leave. This leave taking occurred on both the physical and metaphorical level, and stemmed from a visceral sense of loss of community.

2. Math teachers experience and understand the relationship between department community and collaboration and their own individual practice through the incorporation of innovative ideas drawn and through the enhanced sense of empowerment drawn from their collaborative conversations with colleagues.
   - The innovation derived from their collaborative conversations that affected their individual practices includes an exchange of ideas and employing different strategies or employing current strategies creatively.
   - The empowerment derived from their collaborative conversations that affected their individual practices includes greater risk taking and enhanced confidence.

3. Three of the six math teachers experience and describe a positive relationship between department community and collaboration and school wide culture where modeling positive behavior, positive competition among departments, and department collaboration plus school wide PLCs occur.
   - Three of the six math teachers experience and describe a negative relationship between department community and collaboration and school wide culture and climate citing high administrative turnover, divergence of goals, and absence of trust and safety.
Discussion of Findings in Relation to the Theoretical Frameworks

The theoretical frameworks of Community Building Theory (Baumeister & Leary, 1995; Sergiovanni, 1994) and Collaborative School Culture (Deal & Peterson, 1999; DuFour, 2005; Fullan & Hargreaves, 1996; Little, 1990; Sergiovanni, 1994) provided two powerful lenses through which to explore and construct a thick description of how high school teachers in the Math department of a mid-sized rural public high school experience, describe and understand their sense of community and collaboration in their department; their individual practice; and, the relationship between department community, collaboration and school wide culture and climate.

Community building theory provided a critical lens into the basic human need to foster and maintain long-term, social relationships by examining the importance of community building in schools. Sergiovanni (1994) suggests community building is important because it is the tie that binds students and teachers together in special ways to something more significant than themselves: to shared values and ideals. For in the words of the seventeenth century poet, John Donne, “No man is an island, entire of itself; every man is a piece of the continent, a part of the main. (John Donne, Meditation XVII, 1623).

Collaborative School Culture theory provided a powerful lens into the nature of collaboration at the high school department level where creating the appropriate structures for collaboration provides opportunities for teachers. The strength of collaboration comes from time structures for teachers to have meaningful discussions about improving their practice, and to share their expertise (Gruenert, 2000; Fullan & Hargreaves, 1996). Collaboration can affect the quality of teaching by enriching the work of teachers (Peterson & Brietzke, 1994).
Community Building Theory

Sergiovanni’s (1994) community theory uses community as a metaphor for schools. Sergiovanni (1994) suggests that the metaphor for schools is *community* and not formal organizations. Members are part of a tightly knit web of meaningful relationships. Over time, members usually share a common place, and over time come to share common sentiments and traditions that are sustaining (Sergiovanni, 1994).

Furthermore, incorporated within a community building framework, the theory known as *gemeinschaft* and *gesellschaft* can help to bring greater understanding to schools by providing schools with another layer for understanding community building (Sergiovanni, 1994).

Relationships in *gemeinschaft* are built on family like feelings and relationships that emerge through a natural will from sharing a common place and a development of shared values. But relationships in *gesellschaft* are transactional. Sergiovanni (1994) suggests a combination of both *gemeinschaft* and *gesellschaft* is needed in schools for the healthy functioning of the overall organization. However, the focus of this research is on *gemeinschaft* relationships only.

**Gemeinschaft.** Gemeinschaft translates to “community” and exists in three forms: *gemeinschaft* by kinship, of place, and of mind. Gemeinschaft of kinship comes from a sense of identity that is fostered by families and extended families. Gemeinschaft of place comes from the sharing of a common locale, for example, *my* neighborhood, *my* school, *my* class. Gemeinschaft of mind refers to the bonding together of people that comes from their mutual acceptance of a common goal, and shared set of values. Gemeinschaft of mind is essential to building community within schools (Sergiovanni, 1994; Tonnies, 1957).

It appeared the math teachers in this study all had a clearly defined sense of *gemeinschaft* of kinship through their desire to care for and about one another; a clearly defined sense of
gemeinschaft of place through their strong sense of belonging in the math department; and, a
defined sense of gemeinschaft of mind through their shared work of designing, writing, and
implementing the IMM curriculum.

**Gemeinschaft of kinship.** Gemeinschaft of kinship comes from a sense of identity that is
fostered by families and extended families. Over time, the math teachers realized that they had
become a tightly knit web of meaningful relationships (Sergiovanni, 1994) that extended beyond
the department walls and into their personal lives, as well. In other words they had become an
extended family.

The math teachers recognized the familial aspects of their department including the
difficult aspects of family, as well. They all focused on their own practice as well as the group
goal. And the elimination of the DH positions caused much angst and confusion in the
department. They recognized the difficult ebb and flow of familial life within the boundaries of
their department.

Frank expressed a strong sense of a gemeinschaft of kinship and familial relationships
through a very influential boss he once had who showed Frank how to take care of people and
how to care *for* people. It appeared Frank’s former boss was more than a good boss or a great
mentor. His former boss appeared to be almost a father figure who helped to solidify Frank’s
understanding of gemeinschaft of kinship into relief to where it was tangible.

Larry gave a grim perspective of his sense of community and gemeinschaft of kinship
through his expression of grief over his lost child analogy resulting in his sense of familial loss.
Esmeralda lamented the loss of her once happy team upon her return from maternity leave to a
much changed team. And Frank expressed the notion of family or kin through a best friend
analogy. And for Ted, the best aspect of playing volleyball with the department was experienced through the notion of kindness and fraternity.

All the teachers expressed an important tenet of gemeinschaft where caring for the people they work with comes from a sense of identity that is fostered by families and extended families. An example of this is the almost universal behavior where teachers refer to their students as kids. The teachers in the math department were no exception.

*Gemeinschaft of place.* Gemeinschaft of place comes from the sharing of a common locale, for example, *my* neighborhood, *my* school, *my* class. At the beginning of their journey through the last three years, all the teachers in the math department had experience with and an understanding of community through a sense of belonging in the math department - their department.

Peter’s sense of belonging in *his* department started on his first day on the job where, to his amazement, all the math teachers came up to him and asked if there was anything he needed. He was not accustomed to such collegiality and camaraderie having come to education from the business world. And again during his follow-up interview, he expressed his sense of community and belonging in *his* department through the idea that the math department was a huge collaborative community.

Esmeralda expressed an enormous sense of pride and belonging about *her* department most poignantly on days when all the teachers would wear their Math Patrol tee shirts on Fridays and how all the students would notice the teachers in their tee shirts and joke and tease in a warm and gentle fashion. Esmeralda derived a great deal of pride from being part of the math department in those days.
Frank expressed a similar sense of identity in his department when he experienced profound disappointment at the falling out that ensued after the school committee scrapped the IMM curriculum and some of his math colleagues turned on each other with nasty emails and some lashed out in hurtful ways. Initially, all the math teachers thought administration was the cause of their angst. But Frank concluded the department members themselves caused the falling out in the math department. In other words, the source of the problem was inside their own house.

Frank reminded the department that the shame and the fault rested at the feet of their department thereby evoking a strong sense of gemeinschaft of place.

_Gemeinschaft of mind._ Gemeinschaft of mind refers to the bonding together of people that comes from their mutual acceptance of a common goal, and shared set of values (Sergiovanni, 1994). All the teachers in the math department came together to write a new math textbook to better prepare their students for the skills they would need to be successful on the MCAS, SATs, and AP tests. The shared idea was the importance of creating a textbook that would equip their math students with the skills they would need to be successful. But for Herc, and for all of the math teachers, the most important factor about writing the new math curriculum was the belief in the same common goal. All the teachers wrote the entire IMM curriculum from scratch - notes, problems, everything. Together they build the entire curriculum. Together they reaped the benefits of their shared common goal. And together they fell on their shared sword.

**Collaborative School Culture Theory**

Sarason (1966) notes teaching is a lonely profession because teaching lacks a shared culture based on bridging knowledge gained in university training with the experience that
results from an embedded collaborative culture grounded in relationships with one’s peers (Sarason, et. al., 1966).

Yet, collegial relationships have proven to be important. (Little, 1982). Collegial relationships exist when teachers discuss problems of practice, share ideas and knowledge, observe one another’s work and collaborate on instructional projects (Little, 1982; Rosenholtz, 1989; Smylie, 1988). And, when afforded time in the teaching schedule to collaborate with their colleagues, focusing explicitly on building collaborative relationships and looking at best practices to improve student learning and school culture, teachers are more than willing to break through barriers to collaboration, take risks with new materials and engage in new instructional practices (Thibodeau, 2008).

At the height of the math department’s community and collaborative relationships, all the teachers in the department experienced a surge in their risk taking endeavors to forge ahead with the new IMM curriculum design and implementation. They exchanged best practices through routine collegial discussions with the explicit intent of improving student learning. Even when the teaching schedule became a barrier to their curriculum, still they persevered because they had established an embedded collaborative department culture grounded in relationships with their colleagues (Sarason et al, 1966).

**Discussion of Findings in Relation to the Literature Review**

Chapter II includes a comprehensive review of the literature related to department community building and collaborative relationships at the high school level. Additionally, the relationship between department community building and collaboration and individual teacher practice was examined, as well as the relationship between department community and
collaboration and school wide culture and climate. The discussions that follow describe links between study findings and literature reviewed.

Community building and collaborative relationships at the high school level. To link the literature on characteristics of highly collaborative school cultures to this study, it might be helpful to think of the high school math department as a microcosm of the school as a whole.

The literature review revealed characteristics of highly collaborative school cultures such as strong instructional leadership; a clear and focused mission; high expectations for students, and a climate conducive to learning (Levine & Lezotte, 1990). The math department exhibited most of these characteristics at the inception of developing their IMM curriculum.

The characteristic of strong leadership as put forth by Levine & Lezotte (1990) was the most pronounced hallmark of the Math department under Larry’s stewardship and design of the math curriculum. Fullan & Hargreaves, (1991) puts forth the notion that when teachers and administrators work together the level of commitment, energy, and motivation is likely to be higher and change efforts are more easily implemented. Under Larry’s teacher leadership and vision as DH all of the participants appeared to agreed that not only was Larry’s leadership an important structure that contributed to their collaborative relationships when writing the new IMM curriculum, but so too was the leadership and commitment from the former superintendent in the early years. Under Larry’s leadership, the math department concurrently had the unwavering and enthusiastic support of the previous superintendent and assistant superintendent. However, the current superintendent does not share the same level of endorsement for the IMM curriculum as her predecessors had.

The first three years of the highly collaborative department relationships yielded an entirely new curriculum that met with the new standards of the Common Core. Larry’s
leadership coupled with the support of the (former) superintendent was clearly evident to this case study that strong leadership at the department level and at the district level was a catalyst of energy and motivation that made it possible for the math department to implement the change efforts for the new IMM curriculum.

Another characteristic of highly collaborative schools is a clear and focused mission (Levine & Lezotte, 1990). Research finds that members of a learning community put meaning into their work by defining a common purpose and function. The emphasis is on building commitment, not on constructing compliant structures. When solutions are mandated solutions, forced upon the participants from outside, such as a change to the high school schedule, or the use of prep periods for analyzing test scores and responding to surveys, there is little possibility for building commitment for implementation of shared solutions and little possibility for willingness to continually revisit the effectiveness of the mandated solution over time (Sergiovanni, 1994).

The evidence is clear in this case study that the math teachers had, and continue to have, as their focus a clear mission to create a new curriculum that aligned with the standards of the Common Core and that improved student learning. To that end, all the math teachers were highly engaged in an on-going dialogue to continually construct and refine the new IMM curriculum to better meet the needs of their math students and to better prepare their students for success.

The math department colleagues were a community of math teachers who were working towards a common goal for student success. And they were doing what they love to do - teach Math. However, it was not easy to come together over a common goal. It took a full summer for the department to come together and to figure out what their ultimate goal would be.
Community building and collaboration and individual practice. Little (1982) and Rosenholtz (1989) put forth key behaviors in schools with strong collaborative cultures. In these schools, teachers value professional relationships, share ideas, and readily engage new techniques.

The data from this case study show the math teachers valued not only their professional relationships but their personal relationships with their math colleagues, as well. Their relationships with their colleagues, both inside and outside the department, led to a robust exchange of ideas as well as improvement in their own practices. Aside from Larry’s vision and design of the IMM curriculum, Ted was perhaps the most innovative in his sweeping collaboration across disciplines and the most vocal in reaching out to all his colleagues in search of a better way for him to help his students understand Math. Ted’s wide swath of collegial dialogue led to his flipped classroom practice.

It appeared the math teachers were willing to try new things because they knew they were in an environment where they felt comfortable. The level of comfort they felt in the department extended to an enhanced sense of confidence and a reduced sense of fear of failure. Collaborative school cultures typically feature helpful, trusting, and open staff relationships. They also may have a commitment to valuing people as individuals and valuing the groups to which individuals belong (Sergiovanni, 1994).

The strength of collaboration comes from time structures for teachers to have meaningful discussions about improving their practice, and to share their expertise (Gruenert, 2000; Fullan & Hargreaves, 1996).

Franks enthusiastically recounts the team teaching practice that is a hallmark of the math department and a way of sharing their expertise. But he became the most animated when he
spoke of looping which came from meaningful discussions about improving their practice and improving student learning. Looping is a way of fostering and enhancing teacher-student relationships and is a way of supporting quality work and enhancing effective instruction.

Highly collaborative schools exhibit relationships that support quality work and effective instruction such as complex problem solving and extensive sharing of craft knowledge, greater risk taking, and a rich technical language that transmits knowledge quickly (Fullan & Hargreaves, 1991).

In the early years of the IMM curriculum work, all the teachers felt their department relationships with their colleagues supported quality work and effective instruction together with the use of a rich technical language which transmitted knowledge quickly to all members. They had a common goal, a common purpose, a common curriculum with the IMM, and they all talked the same language. The rich technical language that all the math teachers shared was what made their IMM curriculum successful. When they sat down to talk about the freshmen curriculum, for example, all of the math teachers had taught or would teach freshmen math at some point. They all knew what they were talking about.

**Relationship between department community and collaboration and school culture.**

Hargreaves (2003) suggests that there is a parallel between the kind of intellectual community developed among teachers and the kind of learning experiences offered to students. The idea is that teachers who reflect on and explore the nature of learning, engage in collegial learning, draw on research and assessment data, and engage in collective decision making will be able to create similar environments for their students.

In keeping with the idea that the math department is a microcosm of the school as a whole, this line of reasoning could be extended to the idea that the math department teachers
reflected on and explored the nature of learning, engaged in collegial learning, drew on research and assessment data, and engaged in collective decision making should be able to create similar environments for their school, thereby improving culture school wide. However, the links between this study’s findings and the literature reveal something quite different.

This study’s findings revealed that only three of the six participants experienced and described a positive relationship between department community, collaboration, and school wide culture. Two participants experienced and described a negative relationship between department community, collaboration, and school wide culture. And one participant stated he simply did not know.

Shaping school culture is tricky because it is difficult for people to become aware of their own practice without a conscious effort to get outside the existing culture and to see things objectively without the lens of local norms or the shroud of tradition (Gruenert, 2000). Shaping a new school culture has a double edge to it, and collaborations can turn into “grapevines.”

However, a school’s culture defines the context in which the whole educational process occurs (Gruenert, 2000). Teachers and students come to care about their school when the school effectively cares for them. The goal is a culture in which all stakeholders feel a shared sense of purpose and treat one another with kindness and respect (Lightfoot, 1984; Schaps & Solomon, 1990; Sergiovanni, 1994; Sizer, 1984).

The findings from this study show all the math teachers experienced a positive culture in their department through their sense of belonging, their collegial discussions, and collaborative relationships, but only half of the participants described a positive relationship between their positive department culture and school wide culture. And one third of the participants
experienced or described a negative relationship between their positive department culture and school wide culture.

In the halcyon days of the math department, prior to the elimination of the DH positions and prior to the command performance before the April 2014 school committee defense meeting where their curriculum was scrapped, it appeared the math department benefitted from structures that supported their sense of a positive department culture such as strong leadership, a common goal, team-teaching, shared decision-making, a beneficial teaching schedule, common planning time, common lunch, department tee shirts, and community volleyball tournaments.

These structures afforded teachers the time to collaborate with their colleagues, to focus explicitly on engaging best practices to improve student learning, and to take risks with new materials and engage in new instructional practices. In other words, it appeared the math department was poised to “be that of culture builder” (Campo, 1993).

However, as the findings from this study show, their positive department culture of community and collaboration turned into “grapevines” faster than Cinderella’s coach turned back into a pumpkin upon the stroke of midnight. When the teaching schedule changed, DH positions were eliminated, and common planning and common lunch were taken away, betrayal and not belonging reigned. And as stated in Chapter IV, Larry’s words echoed through the findings of this study. “It didn’t take long for this house of cards to fall apart and come crashing down.”

The math department was not simply a group of congenial, happy teachers. As Fullan & Hargreaves (1991) point out, in collaborative schools, or in this case the collaborative department, the natural give-and-take of professionals means that conflict, disagreement, and discord will sometimes occur. And discord did occur in the math department. But, the
department discord could not be worked out for the good of the department or for the good of the whole school.

Morris (1940) has this to say about communities and their demise, “We know that where community exists it confers upon its members identity, a sense of belonging, and a measure of security. The breakdown of communities has had a serious disintegrating effect on the behavior of individuals.” Amid the confusion, hurt, frustration, anger, and sadness, in other words, amid the breakdown of the math community, Frank will never forget the way he was treated. Ted tries not to dwell on Larry lashing out. Esmeralda held back tears as she described the tornado that tore through the department. And Larry felt the department was split apart by a raging river.

**Conflict.** Achinstein (2002) suggests that when teachers engage in collaborative reforms in the name of “community,” what emerges is often conflict. The author suggests conflict is not only central to collaboration, but how teachers’ manage conflict, whether they suppress or embrace their differences, defines the community borders and defines the potential for learning (Achinstein, 2002).

The findings from this study indicate that while the math teachers were committed to continually improving their teaching practice by engaging in reflective collaborations where they sought out new ideas, feedback, and opportunities to reflect and collaborate, one unintended consequence of their collaborative efforts resulted in a type of groupthink, where the math teachers uncritically accepted the group’s beliefs without questioning or allowing for dissent. Herc offered absolute unadorned praise for Larry’s masterful curriculum vision and design, and Larry himself actually referred to the IMM curriculum as “his child.”
If, as Achinstein (2002) suggests, “open debate and conflict prove vital” to the growth of some professional communities, then there does not appear to be much room if any for open debate about the IMM curriculum under Herc’s and other’s groupthink and Larry’s leadership. It is hard to know for certain which factor or factors were responsible for this house of cards to come crashing down. Some of the reasons that structures for sustainable collaboration do not exist in many high schools might be because the existing school culture does not allow for collaboration to happen. If the status quo of non-collaboration and isolation wins out it is because the existing culture allows it to win out (Deal & Peterson, 1999).

Perhaps the existing school culture at the high school was toxic to the growth of collaboration and community to begin with given the high turnover in building and central office administrators, combined with the school committee’s public scolding of the math teachers where some of the math teachers felt shamed, and given the strong influence which Larry appeared to command over the IMM curriculum. Perhaps it was the change in schedule or the loss of common planning time and the disregard to the effect those changes would have on community and collaboration within departments.

The findings from this study show it has been an interesting journey for all the math teachers. As strong as the math teachers’ sense of community was in their department, they were unable to sustain their sense of community or to sustain the strength of those relationships. They were unable to sustain their caring relationships in their own department. It stands to reason they could not bring their caring relationships to the building level because they were in an environment where they did not feel safe, comfortable, or valued.
Implications for Practice

The following implications from this study are important as they demonstrate the need for high schools to view department collaboration as a cornerstone for improving culture school wide:

1. The findings from this study indicate that teachers can harness the power of collaboration in their departments to change the school culture, but first they must have an understanding of the purpose of their collaboration, and they must have the support of their building leaders for managing conflict. The findings from this study indicate that the math teachers understood community and collaboration in their department, but they did not have the tools or the support to harness their power of department community and collaboration once they became mired in conflict and hostility;

2. Department community and collaboration must have a means of sustainability built into the overall school structures including time during the school day for common planning time. The findings from this study seem to indicate that a change in teaching schedule, the elimination of common planning time, and the elimination of the DH position were structures that became barriers to community and collaboration in the math department;

3. Building leaders must help build leadership capacity within departments and provide conflict resolution teams to help navigate conflict and tensions that will arise;

4. Building leaders must support department community and collaborative efforts and provide regular, substantive feedback to teachers regarding their collaborative work in their departments. The findings of this study seem to indicate that high administrative turnover at the building and district level, and a lack of consistencies at both levels
prohibited building leaders from supporting the math department community and collaborative efforts through regular and substantive feedback;

5. Teacher efficacy might increase as a result of department community building and collaborative relationships. Again, findings from this study show that the math teachers experienced a surge in innovative practices and empowerment through their collegial dialogues.

6. Teacher-student, teacher-teacher, and student-student relationships might increase as a result of strong department community and high levels of department collaboration.

The results herein may benefit educators at all levels of the education system to foster a positive and sustainable school culture by identifying the forces of community-building and collaborative relationships that may already exist in their very buildings, and by incorporating those structures that are lacking.

**Limitations of the Study**

Creswell (2013) suggests it is not the intent of qualitative study to generalize beyond the study context, and, as such, this qualitative study has several limitations.

The small sample size and purposeful participant selection in this research are factors that limit the generalizability of the findings. The participants were all high school math teachers who have been teaching for eight to twenty years at this high school. The perceptions of the participants may not be representative of other teachers in other departments at the high school. Additionally, high school math teachers from other districts may not perceive department community building and collaboration in the same way that the study participants did. Furthermore, this study was limited to participants who had previous experience with community-building and collaborative relationships in their department and who were known
throughout the high school to be a highly collaborative department at one time. Newer teachers who have been teaching less than five years may have very different perspectives regarding community-building and collaboration.

Data collection in this study involved semi-structured interviews that asked teachers to recall community-building and collaborative experiences they had had in their departments and from their early years of teaching. As such, the teachers’ responses were based on memory, and it can not be assumed the memories were accurate. Further, the perceptions expressed by the teachers may not remain static and may change over time.

Finally, responsive interviewing style was used to gather data. Responsive interviewing is based on forming a relationship with the interviewee, a relationship that is mutual and based on respect and trust (Rubin & Rubin, 2012). Because the interviewees were my colleagues and they were being asked to share their personal and professional experiences, thoughts, and feelings with the researcher, the math teachers could have held back or slanted their responses for fear of saying something that could embarrass themselves, their math colleagues, or fear of saying something that could put their employment at risk. As such, this researcher had to trust their responses and deem them accurate.

**Recommendations for Future Research**

This study recommends some additional considerations for future research. An ongoing, longitudinal study of this rural, mid-size public high school could elicit additional information regarding the impact of department community building and collaborative relationships on school wide culture which could be measured through the study of school culture and climate over time. This would be beneficial because the thoughts of the current participants may not remain static and could change over time. In addition, new teachers could join the math
department and teachers might leave the department. And, given the high turnover rate in teachers and administration, it would be beneficial to study the long term impact of such turnover on department and school culture. It would be interesting to see how the math department teachers fared over the next two to five years. Such data would add additional knowledge and insights to this important body of research of teaching, learning, and school culture. Additionally, research could focus on the specific departments and teaching and learning goals implemented by each department to determine which had the greatest impact on department culture and ultimately on school wide culture.

Another consideration for future research lies in the area of teacher efficacy. Teacher efficacy would be an important area because the findings from this research indicated that the math teachers experienced enhanced teacher efficacy through their collaborative conversations, and researchers might seek to determine the specific collaborative behaviors that have the greatest influence on teacher efficacy, student learning, and an institutionalized focus on improving school culture.

While attempts have been made to generate theories of school improvement that reflect the complexity of organizational change and culture, the department as a unit of analysis is under utilized. Research evidence concerning school effectiveness and culture emphasizes the importance of focusing change efforts at different levels within the school organization (Harris, 2001; Teddlie & Reynolds, 2000). The researchers argue that the department level within secondary schools is an underutilized but important means of creating and sustaining a positive school culture and ultimately school improvement. Therefore, additional research might explore the relationship between departmental improvement and school improvement, and the specific
factors that might contribute to improved departmental performance and to the relationship between departmental, school culture, and classroom improvement.

Although progress has been made in our understanding of how collaborative school cultures develop and influence school improvement, and research has provided rich descriptions of schools as well as analyses of the characteristics and factors that either support or impede the change process, further research is needed to provide additional understanding regarding how successful school improvement efforts are developed and sustained over time. Topics that research might address:

1. How are school improvement activities and a collaborative culture sustained in a school with significant teacher and administrator turnover?

2. What is the context of schools and school districts that support (or inhibit) the delivery of high-quality professional development as collaborative schools are being developed?

3. What are leadership roles that school psychologists, counselors, teachers, and other school personnel may take to facilitate the development of a collaborative culture?

(Waldron & McLeskey, 2010).

**Plan for Action**

Include the department as an important unit of change, along with the whole school. Improvement efforts are more likely to influence communities of practice and to generate greater internal capability for change. Furthermore, by integrating the departmental level into school improvement practice, the field moves a step closer to ensuring that there is greater linkage between the processes of school culture improvement and the reality of sustainable culture and climate change.
Along with including the department unit as an important unit of change, there needs to be the practice of hiring and keeping people that fit the collaborative vision. But first the high school needs to understand what characteristics constitute a high community and a highly collaborative school. In other words, the entire high school must focus on the processes that foster collaborative cultures.

Gruenert (2000) suggests developing a collaborative school culture by focusing on processes that foster collaborative cultures: Learning about the concept of school culture; collecting data to assess your school culture; and, creating structures and opportunities for collaboration.

An important preliminary step to shaping a positive school culture is for principals to become familiar with the concept of school culture. The next step is for building leaders to learn their current school culture by collecting data, mostly qualitative data, for example, observations and interviews or surveys to help assess the degree to which their school culture is collaborative. And, most importantly, fix the degree to which their school culture is not collaborative. And, then create the appropriate structures for collaboration to provide opportunities for teachers.

Fullan and Hargreaves (1996) warn against contrived collaboration, where principals mandate and micromanage the processes of collaboration. There are many structures that contribute to teacher collaboration, such as team teaching, peer observations, common planning times, and shared decision-making. The strength of collaboration comes from time structured for teachers to have meaningful discussions about improving their practice and to share their expertise.
Deal & Peterson (1999) assert shaping school culture is not for the faint of heart and it takes five to seven years. It is not a cut-and-dry process where one day the school becomes collaborative. Culture has a double edge to it and collaborations can turn into grapevines.

What might be especially helpful in building community and developing a collaborative school culture would be funding for district-level staff developers/coaches who work directly with teachers to support implementation and improvement efforts. When coaches are actually deployed to work with teachers in their departments in an ongoing way, improvement in school wide culture may be realized.

In conclusion, a possible plan of action, as informed by the findings of this study, could include the following four steps:

1. As a classroom teacher, begin the change process in my classroom by celebrating what my students are doing well: being respectful, being prompt to class, and being kind to each other. Be the change I wish to see in the school.

2. As a building principal, change the teaching schedule to include common department planning time and common lunch time for teachers to establish an embedded culture of collaborative conversations.

3. Present to teachers and administrators the following questions: Who are we? What are we here for? What do we want for our students? The answer is student achievement and success. Then aim to live out the answers to those questions.

4. Engage the community. Inform parents of who we are, what we are here for, and what we want for our students. All parents want to be involved with their children’s education. It is the duty of the school to make parents feel welcome.
Hess (2013) reminds us that public schools and district leaders are mired in red tape. And he illuminates how we often – and unwittingly – tie our own hands in the course of attempting to make reform thereby perpetuating a ‘culture of can’t.’ But building leaders can change policies more easily and immediately than imagined.

Conclusion

Achinstein (2002) suggests that the term community often conjures images of a culture of consensus, shared values, and social cohesion. But Deal & Peterson remind us that collaborative communities can just as easily turn into grapevines. In practice, as the findings from this study show, the math teachers enjoyed the heady and intoxicating effects of bonding and creating a sense of belonging in the math department in the early stages of their community building days with their new IMM curriculum. Yet, in reality, over time they ran headlong into enormous conflicts over professional beliefs and practices. The conflicts and the teachers’ responses to those conflicts played a crucial role in defining the boundaries of their community. And managing, or rather mismanaging, relationships seems to be a weak link in their apparent structure and demise.

As mentioned earlier, the findings from this study show that participants’ experiences are far ranging when asked how the department will move forward from the chaos and confusion, and what the department will look like. The obstacles, of course, are many. The final verdict depends on Peter’s performance as department head. If Peter delivers as he describes “the proper guidance, objectives, tools, environment, schedule, and resources they need to be able to do a good job,” he will forge a new consensus and remake the math department landscape. It is too soon to know what exactly Peter’s business model will accomplish. He needs to stay focused to avoid falling down the rabbit holes of disputes and getting tangled in the grapevines of
relationships. The math department needs the change he promised and he needs to commit every ounce of his being into keeping that promise. If he succeeds in keeping the peace and keeping the boat afloat, so too will the math department succeed in forging new respectful and supportive relationships that may foster a positive culture school wide.

**Reflections**

I embarked on this research journey to learn from my math colleagues how they experienced a sense of community building and collaborative relationships in their department, and their experience with department community and collaboration and the impact on school wide culture. As I became more and more engaged in my research and as the findings of this study emerged, I was taken back in my mind to the English department meeting five years ago when my over-eager and much younger colleague forcefully told me I needed to get over my obsession with the Western Canon. I am reminded that it often takes patience and equanimity to navigate the switchbacks of meaningful relationships.

Instead of taking offense at her retort and feeling hurt, frustrated, and undervalued as a member of the English department, perhaps I should have sought her out after the meeting and said, “It seems as if you and I are possibly the most misunderstood teachers in the department. Maybe we can have a brief conversation to see where there might be some common ground between us moving forward from here.” Perhaps she and I could have forged a new consensus in the English department moving forward instead of the schism that befell the entire department.

When reflecting on community building and collaborative relationships and the findings from this study, I am reminded of a Shakespeare play - a web of messy, mixed up relationships, multiple plots and sub-plots, confusion and chaos. Ultimately, as rich and important as teaching and learning and certainly worth the wait. I feel more committed than ever to persevere in
building community and collaborative relationships with my colleagues, as messy and as mixed-up as they may be.

At the heart of a caring high-community school there is an inclusive web of respectful, supportive relationships among and between students, teachers, and administrators. Supportive relationships enable students and teachers to fully engage and persevere in the arduous work of teaching and learning. And, supportive relationships among educators help them deal with the many stresses of their daily work (Schaps & Lewis, 1999).

Yet, at the heart of the math department there appeared to be an inclusive web of supportive, collaborative relationships but in reality those relationships did not enable the teachers to persevere in their arduous work of teaching and learning and did not help the teachers deal with the stresses of the aftermath of the school committee meeting and the elimination of the DH position. I am left with a nagging feeling of knowing exactly what went wrong and how to fix it.

Furthermore, in reflecting on a plan of action, the findings from this study sent me back to readings from Hess’ (2013) Cage-Busting Leadership where the author challenges leaders to break the status quo. He reminds us that public schools and building and district leaders are mired in rules, regulations, and legal red tape. He illuminates how we tie our own hands in the course of attempting to make reform, thereby perpetuating a “culture of can’t.” My plan of action, as meager as it is now, requires breaking through the barriers of a school culture that has “You can’t” or No, we can’t because” as its default response (Hess, 2013).

I had hoped to find a happy ending to the experiences that my math colleagues described regarding their sense of community building and collaboration in their department. I had hoped that their happy ending would be easily transferred, in a neat little package, to the high school as
a whole. Instead, what I discovered was the conflict that emerged in the math department is not unique, and there is much work still to accomplish at the department and building level regarding shaping a positive school culture through community building and collaborative relationships to ensure that the students we serve receive the highest quality education they deserve. For at the heart of our work is the simple but indisputable principle: schools cannot become exciting places for children until they first become exciting places for adults (Wineburg, et. al., 1998). I would further add: schools cannot become caring places of community for children until they first become caring places of community and collaborative relationships for adults.

In closing, I wish, like a pebble tossed in a pond that ripples outward, my research might influence other teachers somewhere to foster a more caring and collaborative environment among their colleagues and peers in their own schools. For Margaret Mead, American cultural anthropologist, reminds me, “Never doubt that a small group of thoughtful, committed citizens can change the world. Indeed, it is the only thing that ever has.”
References


Achievement: Goals and Self Regulatory Processes (7), 115-149.


Appendix A: Timeline of Key Events as Discussed by Participants

SY: 2013-2014
- New Superintendent and Assistant Superintendent
- Principal: Ms. Bennett (4th year)
- Math DH: Larry
- April 2014: School Committee Meeting
- May 2014: School Committee "scraps" new Math IMM Curriculum
- May 2014: Schedule change from Block to 8 day rotating drop 3
- May 2014: DH positions eliminated school wide
- June 2014: Principal Bennett resigns

- Principal: Mr. Connors (1st year)
- First year without DH positions school-wide
- First year with new schedule

SY: 2015-2016
- Principal: Mr. Connors (2nd year)
- January 2016: Math Department Meeting Observation
- Jan./Feb.: First round of interviews conducted with Participants
- March 2016: Vote of No Confidence on Principal Connors
- June 2016: DH positions reinstated for next school year (2016-2017)
- Math DH: Peter
- June 2016: Second round of interviews conducted with Participants
- Math DH: Peter - Starting September 2016