The purpose of this case study was to examine ways that middle school teachers use their common planning time (CPT) to develop professionally, specifically through the implementation of a professional learning community (PLC). A team of five eighth grade teachers on an interdisciplinary team and their use of CPT was the center of the study, but they were also followed to their respective content PLC meetings.

The teachers were observed, interviewed, and administered questionnaires to determine how they used their time during their CPT and PLC meeting times and what perceived professional growth they had gained. Additional data were collected through interviews with the principal and curriculum director, as well as observation of an in-service day.

Results showed that the anticipated professional learning during CPT was not as strong as the professional growth that was observed in the content PLCs. The role of collaboration played a major part in the effectiveness of this form of professional development and had a direct effect on the outcomes within the PLC. A distinct pattern of discussion topics in CPT and PLCs emerged. These topics were used as evidence of teacher learning and growth. Since the PLCs were job-embedded professional
development rather than a one-shot workshop, it helped foster long-term learning among the teachers and allowed them to develop sustained professional relationships within their PLCs. Also, this model was a teacher-led initiative and allowed certain teachers, especially experienced teachers, to make decisions that affected their professional growth. It also gave them the ownership to take their PLCs in the direction that best suited the needs of not only their own personal growth, but also the growth of their students. Overall, the results showed that the PLC professional development model led to teacher professional growth; however, with the continuation of addressing critical elements, its future will have an even more positive impact on the teachers and students.
AN EXAMINATION OF HOW MIDDLE SCHOOL TEACHERS USE COMMON PLANNING TIME TO FOSTER THEIR PROFESSIONAL LEARNING

A dissertation submitted to the Kent State University College and Graduate School Of Education, Health, and Human Services in partial fulfillment of the requirements for the degree of Doctor of Philosophy

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CHAPTER I
INTRODUCTION

Being a teacher involves focusing on students. That is why teachers enter the profession. It is not because they want personal gain, such as wealth or fame. Teachers enter into the profession for the sake of the students. A teacher is typically willing to do whatever it takes to help a child succeed, despite the cost. Teachers have the hope that their efforts will help students learn how to “act toward each other, and toward their environment, with compassion, understanding, and fairness” (Brookfield, 1995, p. 1). Because of this non-selfish attitude, teachers tend to become overwhelmed with all of their roles. Their days become filled with being teachers, mentors, health providers, disciplinarians, counselors, and psychologists, just to name a few. Teachers often refer to their profession as a vocation, a calling that is marked by selfless service to their students and to the school. Teachers sometimes feel that being exhausted at the end of the day is part of the job and that any day in which complete fatigue does not occur is a failure, since profound dedication of this type is often associated with a vocation (Brookfield, 1995). The one role that teachers tend to overlook is that of student--teachers tend to forget that they are students themselves and that through it all, they need to take time for themselves in order to continually learn. An important issue, then, becomes one of time: When do teachers have time to learn how to be better educators? What is the best way to go about achieving that goal?

Statement of Problem

A typical professional development situation consists of a group of teachers
sitting together at a workshop. They have been brought together by their administrator to learn a new skill or technique that the administrator or district feels that they should know. Typically, the session is after school and the teachers can think of a million other places that they would rather be, including working in their classrooms. If they are “lucky” enough to be granted release time from their classroom to attend, they had to spend time creating lesson plans and materials for their substitute. During the workshop, they worry about what the substitute is doing in their room and figuring out how to “pick up the pieces” once they return. At the front of the conference room is an “expert” lecturing to the teachers. The "expert" is often unknown to the teachers and is failing to capture their attention. Some teachers have been successful at sneaking in papers to grade as they hide in the back of the room so that others won’t notice them. In the other corner of the room, a small group of teachers writes notes back and forth to each other and continually whispers comments to each other. One figure conspicuously absent from the room is the administrator. Shortly after introducing the “expert,” the administrator has left the room to attend to other important business. At the end of the session, the teachers take their handouts and packets, return to their individual classrooms, close the doors, and continue to take on the many roles that they have adopted as a teacher, never to discuss the day’s topic.

New expectations are continually placed on teachers. With the increased emphasis on meeting state standards and with the development of more stringent requirements for teachers to become highly qualified, there is a greater urgency to pay more attention to the teacher's role as a learner. Teachers face new challenges daily.
Their students must meet higher standards, and those same students are coming to them with more disadvantages and disabilities than ever before. Teachers are under pressure to meet new and increasingly arduous qualifications simply to keep their jobs. As a consequence, professional development must become more efficient; it must address the specific needs of each teacher and individual classrooms while simultaneously fulfilling the standards of the school district and state. It should teach teachers how to meet the growing demands that are placed on them, and at the same time, allow them to grow professionally, guiding them toward being able to take ownership of their own learning.

Traditional forms of professional development are not meeting these challenges. Teachers are left uneducated, unmotivated, and unsatisfied with the knowledge that they are receiving from their experiences. One 19-year veteran describes a traditional professional development experience:

Have you ever been to a party for teachers? What do they talk about? They talk about teaching. Why will teachers talk for hours passionately about teaching at a party or happy hour but remain silent as stones at in-services? Could it be that professional development in the form of the in-service model is not the most accommodating mode of learning? (Haymore Sandholtz, 2002, p. 815)

Other teachers' experiences with professional development are also negative. When teachers were asked to describe professional development experiences that were negative, 70% of respondents recalled a school or district in-service (Haymore Sandholtz, 2002). One teacher’s description is very similar to the others:

The [worst experiences] are the times where we are grouped together to generate
reams of meaningless data in order to create some document that has little or no impact on my day-to-day existence in class. If in-services add more work without a direct and tangible benefit to my students, I don’t see the value! (Haymore Sandholtz, 2002, p. 822)

Another teacher responded, “The worst [professional development] experience I ever had was when a lawyer read to our staff verbatim from the US Code concerning Title IX in our school cafeteria. I literally became drowsy and nearly nauseated” (Haymore Sandholtz, 2002, p. 822).

New reform models are being introduced, such as professional learning communities, to change the face of professional development. The call for reform in schools from the National Middle School Association includes a call to improve professional development of teachers. In a research summary, NMSA calls for professional development that includes content knowledge, pedagogical knowledge, and the knowledge of the specific and unique needs of young adolescent learners (NMSA, 2004). They promote professional development that takes place on a regular basis and is of high quality. Currently middle school teachers only participate in professional development activities several times a year (Flowers & Mertens, 2003). In response to this call for reform, NMSA supports recommendations made by the National Staff Development Council that professional development should consume ten percent of a school’s budget, excluding salaries and benefits, and that professional development should be at least 25 percent of a teacher's work time (NSDC, n.d.).

To implement these recommendations, many models have been proposed. These
models take into consideration what may already be in place in schools. One proposal, the focus of this study, advocates the use of common planning time in a middle school, for both interdisciplinary and content teams, which would provide opportunities for teachers to collaborate with each other on a variety of topics, such as designing interdisciplinary units, creating common assessments, discussing student issues, and assessing data. Incorporating professional development into that already established domain of a middle school allows teacher learning to take on a new form.

Purpose of Study

From this new model of professional development, several questions arise from a foundational one. To begin, how do teachers use common planning time to foster their professional learning, both within interdisciplinary and content teams? More specifically I have chosen to focus on the following questions:

1. What does an embedded professional development model look like at in a middle school for both content and interdisciplinary teams using professional learning communities?
2. What events take place during common planning time that foster professional growth?
3. What role does collaboration have during common planning time to cultivate professional growth?
4. How are content teams’ common planning time like or different from interdisciplinary teams’ common planning time?

If professional development is going to continually evolve to meet the changing
needs of teachers, then the elements of professional development need to be examined to
determine what is effective and what is not, including looking at the role of common
planning time in specific models. The components of common planning time of different
teams, such as interdisciplinary and content teams, are both relevant to professional
development as they both allow teachers to collaborate and learn from each other.

The purpose of this study was to focus on the role of an interdisciplinary team’s
common planning time and how that team used this time for the purpose of professional
development. Secondarily, this team’s content team meetings, specifically professional
learning communities, were examined to further study their impact on the teachers’
professional learning. This was done while keeping in mind that the primary focus of the
study was the original interdisciplinary team and their common planning time.

Professional development is not new; however, a renewed emphasis is now placed
on its importance to teachers. The spotlight has been placed on teacher education, and
continual research in this area remains to be done. As our society and its demands
change, so will the needs of students. Consequently, teachers must be educated about
how best to teach students who face greater challenges than ever before; teacher-
education must move well beyond the traditional in-service preparation. As society
evolves, so must professional development. Professional development must not be
allowed to stagnate, simply because teacher learning is a continual process. Just as
teacher education must keep pace with the demands of a changing world, the need to
examine professional development practices is growing exponentially as well.
CHAPTER II
REVIEW OF LITERATURE

This chapter provides an overview of literature relevant to the study. It includes a definition of professional development, its historical context, adult learning theories in which professional development is based, what elements are included in successful professional development models, new demands on professional development, and the National Middle School Association’s research agenda. It also includes an overview of specific topics related to this study, such as professional learning communities and common planning time. Each section will also highlight its relevance to the study and how its context may influence any themes that may be a result of the study.

Definition of Professional Development

The definition of professional development is evolving. Professional development is in a period of reform and change, moving from a linear concept to one that is complex and in-depth. Historically, professional development has consisted of teachers attending half- or full-day workshops that are sponsored by the district or school and are offered at limited times throughout the school year. Teachers in the past also had the option of attending off-site conferences, taking courses, and participating in other activities (Corcoran, 1996). A 1993-1994 survey by the National Center for Statistics in 1998 found that 96 percent of public school teachers participated in some form of professional development, particularly in workshops and in-service programs (Choy, 1998). One problem, however, is that many of these programs are perceived as ineffective and of poor quality (Jackson & Davis, 2000). Recently, movements have
emerged to change the way that professional development is viewed. Researchers (Darling-Hammond & Ball, 1997) have found that teacher knowledge and expertise is the most important factor when looking at student achievement. Knowledge about the impact of the teacher on student performance, in conjunction with new federal guidelines for professional development, has begun to impact and change the basic definition of professional development. According to The National Education Goals, “By the year 2000, the nation’s teaching force will have access to programs for the continued improvement of their professional skills and the opportunity to acquire the knowledge and skills needed to instruct and prepare all American students for the next century,” (www.ed.gov/pubs/AchGoal4/neg.html). The task of implementing and overseeing professional development has been placed on the states. Most require that teachers partake in some form of professional development in order to renew their certification and provide funding for those programs (Corcorcan, 1995). For the purpose of this study, professional development will be defined as any activity, formal or informal, which leads to the improvement of teacher knowledge, skills, or attitudes with the intention of enhancing student performance.

History of Professional Development

Teacher professionalism and professional development have taken many forms since the first teachers began to teach, and it can be traced back to the beginning of education in America. The history of teacher professionalism and professional development can be delineated into four ages: the pre-professional age, the age of the autonomous professional, the age of the collegial professional, and the post-
According to Hargreaves (2000), the pre-professional age began with the first teachers. In the beginning of teaching, teachers were left alone to teach to the masses. They were responsible for teaching large amounts of content to large numbers of students. They often had limited resources, and teaching itself gathered little recognition. Education was delivered according to a factory-like model; teaching was done through lecturing, note-taking, and seatwork. This allowed teachers to manage large groups and still cover huge amounts of information. Teachers received no feedback on their practice, were isolated in their classes, and learned through trial and error, because no formal professional development was available to teachers once they entered the classroom (Hargreaves, 2000).

This approach began to evolve in the 1960s with the advent of the age of the autonomous professional. Due to the international space race, nations were looked upon to strengthen their academics, and more money was invested in education. Teachers were given greater autonomy to make decisions in their classrooms regarding pedagogy. In return, it was expected that teachers meet increased academic standards. With the baby-boom, schools were expanding, and education was seen as an investment in human capital. New pedagogy began to surface, including child-centered and subject-centered education, open classrooms, and progressive methods. Teachers were left to adopt the methods they felt best for their own individual classroom and seek their own individual training on those methods. This professional development typically occurred off school grounds and teachers received little support or follow up once it was implemented in the
classroom. Most teachers taught in isolation in their classrooms and based their pedagogy on the methods that they chose (Hargreaves, 2000).

In 1983, the publication of *A Nation at Risk* (National Commission on Excellence in Education) sparked a new focus on education. It advocated various changes in the traditional approach to education, such as longer school days, more days in the school year, and standardized testing. During the mid-1980s, policymakers, educators, researchers, and community members realized that changes in schooling that were being envisioned by the reform efforts required fundamental changes in what teachers knew and in how they worked with students. These pedagogists also realized that the current form of professional development was inadequate for this task. It was at this time that the federal government, states, districts, schools, and professional organizations designed a variety of professional development models to improve teachers’ learning experiences (Choy, 1998).

This period marked the onset of the age of the collegial professional. Teachers were now required to teach in mandated ways. In order to meet these new standards, teachers found themselves pooling resources in order to make sense of the new practices. Teachers began to turn to each other for support and consultation. The integration of special education also expected regular education teachers to collaborate with special education teachers to provide for the education of special populations. Growing multicultural diversity challenged teachers to seek knowledge about others in order to integrate it into their classrooms. This changed the way that professional development was structured. Professional development was now more collaborative and allowed
teachers to work together to learn and solve problems (Hargreaves, 2000).

During the 1990s, a shift occurred from a quantitative look at education to one that includes qualitative data. Goals of professional development called for data on how students and teachers think. This again necessitated a change in professional development (Choy, 1998). In 1994, a goal for professional development was added to the National Education Goals; it stated that “[b]y the year 2000, the Nation’s teaching force will have access to programs for the continued improvement of their professional skills and the opportunity to acquire the knowledge and skills needed to instruct and prepare all American students for the next century” (National Center for Education Statistics, 1998).

At this time, the federal government began to establish additional specific funding for the purpose of professional development. These funds were made available through programs such as the Eisenhower Professional Development Program, the Comprehensive Technical Assistance Centers, and Title I. Other funding became available through programs such as special education, bilingual education, and vocational education. The federal government also began to work with other agencies such as the National Science Foundation and the National Board of Professional Teaching Standards (Choy, 1998).

The final age of teacher professional development, according to Hargreaves (2000)--the age of the post-professional, or postmodern professional--actually began in the turn of the 21st century. This age is characterized by approaches that are inclusive and democratic. It encourages a broader scope and it includes and involves more groups
outside of teaching, such as members of the community and political arena. However, it is ever-changing and teachers need to continually work to ensure that their professionalism, through their professional development, is maintained and not lost to standardization (Hargreaves, 2000). Professional development models are being adopted to meet the needs of the teacher. They are based more on teachers’ professional needs. They include teachers working in communities to meet common goals, and they allow teachers to maintain their individuality while working within a community of learners. This more comprehensive impetus manifests itself through the use of professional learning communities in which teachers work together to grow professionally.

Adult Learning Theory

Several different theories, in which professional development is grounded, need to be considered when establishing a professional development model. Since professional development deals with the education of adults, not children, the way in which learning takes place is quite different and needs to be considered. If professional development is set up in the same way that lessons are taught in a school’s classroom, then learning will likely be less successful since adults learn differently than children. Two educational researchers spearheaded studies which provided information about the way that adult learning differs from that of children; their work initiated a movement toward differentiating the approach to teaching adults and children, and their theories serve as a basis for various approaches to teacher professional development.

Knowles

The first of these researchers is Malcolm Knowles. Knowles developed an adult
learning process which he called “andragogy.” Knowles recognized that adults enter educational settings with more experience than children. Because adults have lived for a longer period of time, they have developed different perceptions about the world and experience different realities than children; these perceptions and realities dictate how they should be learning (Knowles, 1984). It is up to the teacher of these adults to work with these perceptions and realities. Knowles (1984) recognized that it is often easier to tell a child a fact; they will simply believe it. However, with an adult, a teacher needs to break down previous beliefs about reality before she or he can teach certain materials. Also, andragogy teaches that adults willingly enter into a classroom with a specific purpose, typically one that is job-related, whereas children are in a classroom to learn in general, usually not by their own choice. Adults have a specific objective that they would like to learn and are focused on that particular skill or knowledge. Also, because they are focused on that particular skill, adults are usually more motivated to learn and to attain the objective than a child because adult motivation tends to be internal, unlike a child’s motivation to learn in school which is often extrinsic (Knowles, 1984).

Based on this knowledge about how adults learn, Knowles (1984) created a theory of what professional learning of adults should look like. Knowles sets up adult education in which adult students control the learning that will take place. The teacher serves as a facilitator instead of a dictator of knowledge. In the beginning of the session, the student works with the facilitator to set up the objectives for learning, based on the personal needs of each individual learner, designs the course of study based on the personal learning styles of the student, sets up individual plans and rubrics for evaluation, and
creates ways to evaluate the process in the end. This theory of learning allows adult
learners to take control of their learning and design what each student wants to know
based on their own needs and learning style and in a way that aligns with the personal
beliefs and experiences of the teacher (Knowles, 1984). The concept of andragogy can
be related to professional development. It gives teachers the freedom to develop their
professional development to meet their own needs and the needs of their individual
classrooms. This form of professional development, allowing teachers to work with a
facilitator and not just go to workshops where someone feeds them information, is based
on Knowles’ concept of adult learning.

Brookfield

In the footsteps of Knowles’ theory of andragogy came a theory created by
Stephen Brookfield. Brookfield agreed with Knowles’ theory, took the basis of these
teachings to form his own theory of adult learning, and named it Self-Directed Learning
(SDL) (Brookfield, 1985). Similar to andragogy, SDL allows students to control their
own learning. Brookfield’s theory is based on six main beliefs. These are that the learner
is partaking in the activity voluntarily; there is a vast amount of collaboration present;
participants mutually respect those around them; critical reflection is used; praxis is
present; and adults should be nurtured to be empowered (Brookfield, 1985).

Brookfield agreed with andragogy's view that adults are different from child
learners in bringing different experiences and expectations to a learning experience. He
also felt that adults are different than children because they come to a learning experience
with distinct patterns of learning already in place. These patterns include a sense, on the
part of the adult learners, that they are cognizant on how they learn best and expect to be taught in that particular way. SDL allows instruction to be based on both personal learning styles and on personal interests of the learners. Brookfield felt that learning is most likely to happen when learners set up their own course of study, when learning is based on interests, the teacher is the facilitator, the climate is conducive to learning, and past experiences are part of the learning (Brookfield, 1985).

In terms of professional development, Brookfield’s theory of SDL allows for teacher learning to move away from one-time workshops and move toward experiences that are meaningful and chosen by the teacher. Teacher learning is more likely to happen if teachers have a voice in what they are going to learn, are working with a facilitator, learn in a way that is congruent with their learning style, and takes into consideration their interests, as in a professional learning community.

*Age Theory*

In addition to adragogy and SDL, other adult learning theories related to professional development are significant. These theories “provide a powerful set of concepts for understanding adults’ motivation, personal life choices, and principles for personal and professional effectiveness” (Oja, 1991, p. 37). Age Theory (Trotter, 2006) posits that people don’t stop learning as they age. However, they do tend to be more reflective as they become older (Trotter, 2006). More specifically, adult age transitions begin to occur during the late teens and early 20s. During this period, adults are concerned with exploring new options in life and developing their own life structure. It is during this period that they make initial job commitments, decisions about marriage and
children, buying a house, and such. In the late 20s or early 30s, one begins to question these early commitments and may begin to make transitions from those commitments, including a change in careers or personal relationships. During the 30s, adults “settle down” and begin to commit time to their careers, and their professional goals become more important. Adults break away from others and become more independent. During the 40s, another period of transition occurs when adults realize that time is finite and that success may be limited. They reinvest in personal relationships and lose focus on professional goals (Oja, 1991). Educators, like all other professionals, move through these various stages. Knowledge of these developmental steps and of where an individual teacher happens to be among the various age periods can help those who design professional development curriculum to differentiate activities to meet the needs of those in all age-levels.

**Stage Theory**

Stage Theory (Trotter, 2006) divides our lives into stages. Rather than mark discrete stages by age, each period of development is marked by a frame of reference (Oja, 1991). As we move along these stages, we begin with being concerned with our own survival. In the next stage, we move from being concerned with our own survival toward being concerned with gaining acceptance of those around us; we achieve the final life stage when we are no longer worried about fitting in with others and are more concerned with our personal happiness (Trotter, 2006). Oja (1991), based on Loevinger (1976), further breaks down this continuum of development into eight concrete stages. The placement of the teachers in professional development activities can be structured to
meet the individual needs of teachers based on their stage growth and on where they are in life; their experience may, in return, impact their professional learning.

**Fundamental Theory**

Taking into consideration a teacher’s life experiences is at the heart of Fundamental Theory (Gibb, 1960). In 1925, Eduard C. Lindeman in *The Meaning of Adult Education* stressed that books should not be the primary resource for learning, but rather secondary. This concept has been carefully considered by many researchers since its origin. After studying Lindeman, Gibb (1960) developed Fundamental Theory which asserts that adult education should use an adult’s experiences as learning tools and that learning should be meaningful to the learner (Gibb, 1960). Teachers of adult learners should “respect adult experiences and apply them to current situations to produce good educational results” (Trotter, 2006, p. 11).

Professional development of teachers is the education of adults. Based on these theories, teachers have different developmental needs than children. In order for teachers to acquire new knowledge through professional development, models need to be based on these developmental needs. Within professional development models, including professional learning communities, these important aspects of adult learning should be present in order to help teachers grow as professionals. A summary of these critical factors are included in the next section.

**Elements of Successful Professional Development**

Many factors influence the quality of a professional development program. Research has been trying to find the “missing link” in identifying which element of
professional development is most important in influencing teacher learning and student outcomes. However, no single identifier has been deemed as most significant. Instead, researchers seem to agree that many factors need to be in place in order for professional growth to occur and for that growth to have an impact on student learning. Many agencies and organizations have taken it upon themselves to create lists of characteristics of “effective professional development.” These lists vary in naming consistent characteristics, and most of the evidence cited in these lists is inconsistent and contradictory (Guskey, 2003). However, several key components of successful professional development have been identified, including the type of activity, the content of the activity, the administration and environment in which the activity occurs, and collaboration within the activity.

Type of Professional Development Activity

The first of factors which nurture success is the type of the professional development activity itself. Loucks-Horsley, Hewson, Love and Stiles (1998) have identified fifteen main types of activities that are being used as professional development. These fall roughly into five categories: (1) Immersion in which teachers learn about a topic by “doing” something such as solving a mathematical problem, (2) Curriculum in which teachers are given specific teaching materials and they are involved with those materials to develop or adapt them to their current ways of teaching, (3) Examining practice during which teachers are given the opportunity to reflect on aspects of their teaching such as students’ work, assessments, or teaching situations through the use of video, observations, or action research, (4) Collaborative work which includes teachers
creating professional networks within schools and districts, partnering with outside experts, or coaching or mentoring, and (5) Vehicles and mechanisms which expect teachers to participate in outside workshops and institutes. These types of professional development need not be completed in isolation and typically are not. Each of these types has not been researched thoroughly, but it is suggested that those done in tandem with other forms of activity are most successful (Loucks-Horsley, 1999).

Within the variety of activities that are available for professional development, it is essential for teachers to have a voice pertaining to which activity they would like to participate (Sparks & Loucks-Horsley, 1989). When teachers are involved in decisions regarding their professional development, their decisions in respect to its implementation are also affected and can lead to great success (Loucks & Pratt, 1979). Teachers need to own their own professional development:

Teacher development is considered especially productive when teachers are in charge of the agenda and determine the focus and nature of the programming offered. In the name of professional autonomy, many argue that teachers should determine the shape and course of their own development. (Ball, 1996, p. 502)

A wide range of research has been completed that examines the success rate of each type of professional development activity in a variety of situations. In a large scale empirical study completed by Garet, Porter, Desimone, Birman and Yoon (2001), a comprehensive view of the effectiveness of professional development was completed. According to Garet et al. (2001), despite a large number of “best practices” related to research regarding professional development that is available, little systematic research
has been completed on how professional development affects teacher learning and student outcomes. In examining the types of activities used for professional development, it has been found that the workshop format [defined as a professional development experience that occurs outside of one’s classroom where a leader with special expertise shares information with participants who attend at times, often not during school hours (Loucks-Horsley, Hewson, Love, & Stiles, 1998)], is most commonly used in schools, but is also the most widely criticized in literature. Critiques of workshops, including conferences, courses, and institutes include arguments that these seminars do not provide adequate time for activities and content so that they effectively increase teachers' knowledge in the classroom and result in changes in classroom practice (Loucks-Horsley, Hewson, Love, & Stiles, 1998). These workshops are also critiqued by teachers as the lowest ranked professional development activity in terms of its overall value (Smlyie, 1989). In looking at the use of these traditional forms of professional development compared to other “reform” methods, such as mentoring and study groups, it was found that the reform methods offered higher levels of active learning opportunities and produced better outcomes. It was noted though that this could be a result of the duration of the activities; traditional activities were short, typically lasting only one day while reform methods were sustained, lasting up to an entire school year (Garet et al., 2001). The longer, sustained method allows teachers a greater chance not only to acquire new knowledge, but to practice any new skills, receive feedback, and have continual support throughout the learning process.

Professional development does not always need to take on the form of formal
activities. The importance of informal professional learning is often overlooked and discredited when looking at teachers’ professional growth. Informal opportunities for professional growth, including, but not limited to, discussions occurring in hallways and lounges, borrowing of materials, asking for advice, praising other teachers, and reviewing lessons plans are seen to contribute to building school-wide norms that support staff development. It is as if “learning on the job” is just as powerful as formal professional development. When teachers foster each others’ ideas, resources, and experience, they are more likely to embrace participation in formal professional development (Warren Little, 1982). Both forms of professional development, formal and informal, are essential elements. Neither should be discredited as a contributing factor to successful teacher learning.

Content of the Professional Development Activity

Another factor contributing to an effective professional development model is the content of the activity. In order for teachers to gauge their success, they look at their students’ outcomes, not at their own individual terms or criteria (Harootunian & Yargar, 1980). In looking at professional development, teachers look to find activities that not only expand their own professional knowledge but will increase their effectiveness with their students. What they hope to gain in professional development experiences are skills that are concrete, practical, and specific that they can directly relate to their individual classrooms (Fullan & Miles, 1992). When professional development activities do not address those specific needs, they are unlikely to succeed (Guskey, 2002).

When the content of professional development that has been chosen by teachers
and administrators is research-based, it enhances reflection and leads to a higher probability of increasing student achievement (Joyce & Showers, 1995). The process of searching through the results from research allows teachers to reflect on whether or not particular research conflicts with their own personal knowledge about teaching and learning. The process of becoming familiar with research also allows teachers to become aware of effective teaching strategies and skills and to learn how to incorporate them into their classroom (Joyce & Showers, 1995). Frequently, content is designed by what is convenient or what is being recommended by a consultant. As a result, many workshops contain content that is not likely to increase student achievement (Joyce & Showers, 1995, p. 68). Despite this lack of applicability, even those professional development experiences that claim to be research-based, few are thoroughly or extensively studied. When one claims to be research-based, it typically means that it is based on a piece of literature and its effects have not been empirically studied (Guskey & Sparks, 1991).

An important aspect of selecting the content for professional development is that it be based directly on teacher needs. Teachers should be asked to examine their teaching practices, including what they teach, how they teach, and the materials that they use. Based on this, they should make a decision as to what type of knowledge they feel would best improve their teaching (Joyce & Showers, 1995, p. 98). Allowing teachers to have a voice in their professional development experiences empowers them to conduct and guide their own learning. Since adults are able to make decisions based on their own needs, they are also able to make decisions that can affect their environment, which in turn empowers them. It is essential to empower the teachers in order for them to take the
knowledge they have learned and implement it (Lawler, 2003, p. 19).

According to Loucks-Horsely (1999), professional development content should focus on three main subjects: subject matter, learners and learning, and teaching methods. Great variances exist within each of these topics. The emphasis placed on the subject matter that teachers are expected to teach and their teaching methods widely vary. Also, these topics vary in the scope of anticipated teacher change. Some topics of professional development focus on a specific change in teaching material, while others focus on general teaching practices such as classroom management. Other variances occur in student behaviors. While some professional development activities have goals that focus on specific skills such as multiplication, others may focus on developing cognitive thinking skills. Lastly, a broad spectrum on how students learn is found. The content ranges from specific learning strategies to a broader understanding of student learning and development (Garet et al., 2001). However, the optimal professional development would incorporate all three of these subjects (Loucks-Horsley, 1999). Teachers should be able to acquire “pedagogical content knowledge” which includes what concepts in their subject-area are most appropriate for their particular learners, how students learn those concepts, what prior knowledge they are likely to have, and what representations, examples, and experiences would help them learn best (Shulman, 1986).

The content of professional development should aim to help teachers gain this knowledge, keeping in mind that it should be subject specific and relevant to each teacher’s own classroom. Professional development that is focused on a specific subject as opposed to being general has a larger positive impact on student achievement.
outcomes (Kennedy, 1998). When content is specific to a teacher’s classroom, they are most likely to focus on the student outcomes and instruction in which they teach. Teachers will see this professional development as more relevant and are more likely to apply it within their classrooms (King & Newmann, 2001).

**Role of the Environment in Professional Development**

Another aspect of effective professional development is the role of the environment in which it takes place and the administration’s role within that environment. Guskey (2000) states that, “The school principal is a key figure in organization support and change.” According to a study completed by the U.S. Department of Education, 72% of principals felt that they had a great deal of influence on the content of professional development (National Center for Education Statistics, 1998). Despite this, administration is not seen as having a direct link in increasing student achievement (Guskey, 2000). However, their indirect link through professional development has been found. Overall, they are responsible for helping set up an environment that supports improvements and values effort. From the beginning, administrators need to set up an environment to support their teachers. They need to understand the unique subcultures within their school and find a fit between them and the administrator’s leadership style, including knowing the staff’s needs and demands (Guskey, 2000). This needs to be completed by continually assessing the educational climate of the school (Joyce & Showers, 1995).

During professional development, administrators interact with teachers in the form of supervision, coaching, and evaluation (Guskey & Sparks, 1996). Also, during
professional development, administrators have the responsibility to provide the time and support necessary for teachers to participate in various activities. This should include making professional development a part of the daily workday by providing common planning time (Jackson & Davis, 2000). This also includes providing adequate funding for materials for teachers to implement what they have learned (Joyce & Showers, 1995). Providing these basic necessities, such as time and materials, shows the teachers that the district values the importance of teacher involvement in professional growth and learning (Sandholtz & Scribner, 2006).

When professional development is conducted, administrators are responsible for providing key components to professional development. They need to provide evaluation and feedback for their teachers. There is likely to be a higher level of implementation of a model within a teacher’s classroom if there is some sort of follow-up support from the administration (Guskey, 2000; Jackson & Davis, 2000). Also, after professional development is complete, the administration needs to provide their teachers with support systems and trainings in order for teachers to problem solve and troubleshoot any issues that may arise after the initial professional development (Guskey, 2000).

*Collaboration during Professional Development*

The last element considered to be essential for successful professional development is collaboration. Professional development needs to move from isolated activities that rely on outside experts to ones that rely on collaboration and personal reflection (Burbank & Kauchak, 2003). Professional development opportunities that include collaboration provide an opportunity that includes a sense of equity and mutual
participation. It also allows teachers to move from a passive role to a collaborative one that involves creating situations in which they can, “generate, invest in, and participate actively and equally in the professional development opportunities before them” (Burbank & Kauchak, 2003, p. 500). This includes allowing them to partake in an active, interpretive process in which they examine professional development from the lens of their own individual contexts. Collaboration encourages teachers to use personal reflection to “promote dialogic examinations of practice” (Burbank & Kauchak, 2003, p. 500).

The National Staff Development Council’s plan for improving professional development includes an increase in collaboration (Sparks & Hirsh, 2007). Teachers who collaborate with each other are more likely to have the opportunity to discuss topics such as concepts, skills, and problems that may develop during a professional development experience (Garet et al., 2001). Depending on the teachers they are collaborating with, they may also have the opportunity to collaborate about curriculum materials, course offerings, and assessments, in addition to how they are going to integrate their new knowledge with other contexts of learning. If this collaboration occurs, teachers are more likely to implement change within their teaching (Garet et al., 2001).

Teachers who work together, both formally and informally, will benefit in several ways. They will generate new ideas, creative energy, and the support needed to work with students. It also leads to more cohesion as a staff, increased faculty social support, and higher self esteem of the staff (Johnson & Johnson, 1987). This type of professional development, in which teachers work together and learn from each other, is one of the
most effective forms of professional development (Sparks & Hirsh, 2007).

On a more personal level, when collaboration occurs, it results in feedback that leads to an increase in confidence. When interactions occur between teachers, they experience the satisfaction of accomplishing goals together (Hargreaves, 2001). Collaboration among teachers also allows them the opportunity to personally reflect on their own practices, approaches, and reasoning. It causes them to reflect on their practice in their classrooms and provides them the opportunity to observe other teaching practices that they may want to implement in their classroom. Fostering collaboration among teachers provides them with support of other professionals about critical issues that they may be facing (Haymore Sandholtz, 2002).

The opportunity for teachers to work together is also important because it allows them the freedom and flexibility to think critically and to analyze situations. With regards to professional development, teachers tend to be more comfortable discussing their needs or new concepts with other teachers than with administrators before changes are made in their practice (Haymore Sandholtz, 2002). Teachers who collaborated in the absence of a formal leader were found to be the most comfortable due to an overall sense of equality (Schwartz McCotter, 2001). Also, teachers search for approval from their peers rather than from their administrators or from an outside expert. In addition, teachers feel most comfortable with people that they have already established a relationship with rather than an outsider (Haymore Sandholtz, 2002).

However, collegiality and collaboration cannot be forced. There are significant tensions between teachers’ autonomy and collegiality. Clement and Vandenbergh
(1999) found that collegiality does not necessarily lead to teacher learning and that the dominance of autonomy impedes teachers and administrators having open dialogues in schools that could eventually lead to increased professional knowledge. Tension between teachers’ autonomy and collegiality can also affect professional learning. Teachers have a sense of protecting themselves and therefore do not feel the need to be collegial with others. When this struggle is present, it does not lead to learning. Even when collegiality exists, it does not necessarily lead to professional development. Teachers also may not desire to be collegial with others because they claim that their central focus is their individual students and therefore are more apt to be autonomous within their own classroom. Teachers should be encouraged to participate in collegial professional development, but “longing for a completely collegial school is as unrealistic as undesirable” (Clement & Vandenberghe, 1999, p. 93).

Professional development should be a balance between teacher collaboration and a sense of autonomy (Clement & Vandenberghe, 1999) because when both exist within a model, it allows teachers to maintain their own sense of identity and protect themselves. It also allows them to benefit from collaborating with others. Within professional learning communities, teachers work together, often during common planning time, to meet their teams’ goals. There is also time allocated for individual planning time in which teachers can work alone to focus on their personal needs or professional goals. This structure allows teachers the chance not only to learn from each other and be part of a larger learning community but also to have the time to devote to their own goals and needs.
New Demands on Professional Development

There is increasing demand for an increase in effective professional development of teachers. With the spotlight on student achievement, a close lens is being placed on teachers’ roles in increasing student success. Policy makers are demanding an increase in professional development. For example, the No Child Left Behind (NCLB) act of 2001 requires that states ensure that all teachers have available to them “high-quality” professional development. However, it does not define what “high-quality” professional development looks like or how it should be designed so that it is accessible by all teachers (Borko, 2004). Likewise, “Teaching at Risk: A Call to Action,” a report authored by The Teaching Commission (2004) outlines an approach to help teachers succeed in their classrooms. This plan includes setting high standards for all teacher and student performances and calls for “ongoing and targeted professional development” to help them meet those standards. Similar to NCLB, a call for reform has been made and demands are being placed on the profession, yet the report says little about the content and character of that professional development (Borko, 2004).

In attempts to define what “high-quality” professional development looks like and how it relates to student achievement, researchers are still unable to make a concrete connection between high quality professional development and an increase in student achievement (Guskey, 1997). Researchers have used a variety of methods from surveying literature, analyzing studies to identifying elements of successful program implementation, and creating guidelines for specific professional development strategies. The answer is not clear. The difficulty may be linked to three criteria: 1) confusion about
the definition of “effective,” 2) the misguided path of searching for main effects, and 3) the neglect of quality issues (Guskey, 1997). This ambiguity may be related to the fact that there are different perceptions about what makes a professional development program effective, and debates about how to define and measure it continue. Also, there has yet to be a clear element of professional development identified that has a direct affect on student achievement. In order for professional development to effect change, each of the variables of professional development needs to be examined, rather than simply identifying that particular elements were present within a model (Guskey, 1997; Loucks-Horsley, 1999).

The demands being placed on professional development are continually increasing. In order to find new and more effective techniques, research is looking at current models in an attempt to determine what elements contribute to their success. However, there is a lack of clarity within the research that leads to confusion about those successful elements and their links to student achievement. One of the models that emerged from this research and call for reform is the use of professional learning communities.

National Middle School Association’s Research Agenda

The need for improved professional development was called on for all grade levels. However, many transitions and reforms were continually in place within middle schools. They had been evolving since the 1970s and educators were seeking ways to improve them, including the professional development of the teachers.

During the 1970s, middle level education became its own separate entity within
the field of education. It was during this time that schools began to make the shift from traditional junior highs to middle schools. In 1973, the National Middle School Association (NMSA) was founded to provide middle level educators with the support they needed to act in the best interest of young adolescents. They began to provide conferences, publications, and other opportunities for educators to learn how they can refine their practice (NMSA, 2003).

In 1982, there was an outcry from the field for a document that supports the middle level philosophy and also help the public understand this viewpoint. The first of these was produced by NMSA in 1982. *This We Believe* calls for best practices in the education of young adolescents. This document was written by a committee appointed by NMSA president John Swaim. After publication, this document became the most cited statement regarding middle level education. It was reprinted seven times to update its content. In 1992, the statement was reissued and subsequently reprinted five times. In 2002, it was updated again to meet the ever changing needs in the field. NMSA published its latest version, *This We Believe: Successful Schools for Young Adolescents* (2003) with updated positions on supporting a successful middle school (NMSA, 2003).

In addition to *This We Believe*, one other important document was created to support middle level education. In 1986, the Carnegie Corporation of New York created the Carnegie Council on Adolescent Development (CCAD) with the purpose of highlighting the challenges that are faced during the education of young adolescents. The CCAD examined the education that America’s 10 to 15 year-olds were receiving and suggested improvements on those practices (Jackson & Davis, 2000).
This research identified that current practices during these critical years in a student’s education fell short of meeting the specific needs of this age group. In response to their findings, they created a document, *Turning Points: Preparing American Youth for the 21st Century* (1989). It described an approach to the practice of educating young adolescents based on best practices and research. This document called for reform in the way that middle school students are educated. It called for eight principles to be infused in schools with the intent of improved middle level education (Jackson & Davis, 2000).

During the decade following the original publication, its recommendations became pivotal in the reform of middle schools. A decade long follow-up study was conducted by The Middle Grade School State Policy Initiative with the purpose of assessing the recommendations as they were put into place. The leader of this study, Dr. Anthony Jackson, along with Dr. Gayle Davis, examined their findings from this initiative, several other national efforts, and the latest research to create *Turning Points 2000* (2000).

Together, these two documents are fundamental in leading the reform of middle schools. *Turning Points*’ (2000) recommendations include calling for eight essential elements in a successful middle school. These include having curriculum and assessment in place that improves on teaching and learning using methods such as backward design to ensure that this improvement occurs. Secondly, they call for instruction that is designed to improve teaching and learning. This approach includes the incorporation of technology, recommendations for providing intervention for language minority students, and a basis for differentiated instruction. Next, they advocated for preparing teachers
who were experts in middle level education through specialized pre-service education programs, a middle childhood license, and providing adequate professional development for teachers that address the unique needs of young adolescents. Fourth, the document describes the organization and structure of a middle school. This includes encouraging use of the teaming approach and the use of advisory units. The next focus was on creating a democratic environment in order to improve student learning. This includes the leadership roles of students, teachers, administrators, and district leaders to create an environment best suited for middle school students’ learning. A safe and healthy environment was addressed next. This document stresses the importance of providing health services and education for all students. These include physical, mental, and emotional support for creating well-rounded students. Lastly, the role of the parents and community is addressed. It explores the importance of linking learning to the community through the use of service learning and building relationships between schools, families, and communities (Jackson & Davis, 2000).

Despite the publication of these two documents and the strides that researchers have made during the last forty years, further research is needed to explore developmentally appropriate practices and their impact on teaching young adolescents. In 1996, NMSA created a task force to develop a comprehensive middle level education research agenda. The purpose of this agenda was to “promote an on-going conversation in which subsequent issues, topics, and questions are generated from emerging themes, all of which compel individuals and groups periodically to contribute information reflecting new knowledge and applications” (NMSA, 1997). They drafted not only over
200 research questions addressing the needs of middle level education, but also designed an action plan to help answer these questions.

Several of the research questions address the role of professional development and teacher learning in middle schools. These include:

1. What strategies do principals use to promote learning communities for adults?
2. What types of professional development enable teachers to be self-directed learners who take responsibility for their learning and the learning of their students?
3. What types of professional development programs impact teaching-learning and in what ways?
5. What is the impact of professional development on teaching?
6. What processes and activities promote schools as learning communities?

(NMSA, 1997)

These questions help guide research on professional development and the use of learning communities in middle schools with the intent of gaining a better understanding of teacher learning and the impact it has on student learning. These questions address the unique needs of teachers and the role of creating communities within a school.
Professional Learning Communities

In order to better serve the needs of teachers’ professional learning, schools are moving away from professional development that involves teachers as passive recipients of knowledge from an expert to teachers becoming active participants through job-embedded learning. This type of professional development links teacher learning to immediate and real world problems. It allows for immediate application, experimentation, and adaptation to each teacher’s situation (Sparks & Hirsh, 1997). One example of this type of learning is the use of professional learning communities (PLCs) in place of traditional workshops.

History of Professional Learning Communities

Historically, PLCs were envisioned from two researchers, Rosenholtz and Senge. Susan Rosenholtz (1989) found that teachers who felt supported by other teachers and administrators in their own professional learning were more likely to be committed and effective than those teachers who were not. Rosenholtz also found that this feeling of support led to a higher and stronger sense of teacher efficacy; teachers felt more encouraged to adopt new behaviors within their classroom. These teachers also felt encouraged to stay in the profession of education due to this elevated sense of efficacy.

Peter Senge’s book, The Fifth Discipline, (1990), while based in business, has findings relevant to teacher professional development. Senge advocated for a change in the way that businesses were organized. He wrote that mediocre performance among workers can be related to trying to meet someone else’s expectations instead of learning how to improve a given work situation. This new type of organization that Senge
proposed was centered around learning, rather than on control. Shortly after its publication, Senge’s concept of people working together to solve solutions was applied in various educational contexts. It was then explored by educators and became known as “learning communities” (Hord, 2004, p. 6). Senge’s (1990) vision included a workplace: where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning how to learn together. (p. 3)

This idea quickly caught on and researchers in education began to look at it more closely as they related it to teacher learning. Schriber and Reyes (1999), examined the role of communities within schools. They concluded that the presence of a community increases levels of collaborative inquire (McLauglin & Talbert, 1993) and allows for shared decision making which relates to curriculum reform (Darling-Hammond, 1996). They began to observe what improvements were occurring in schools where learning communities were present.

**Definition of Professional Learning Communities**

The type of professional development embodied by PLCs has become one of the most widely talked about topics in education today (Thompson, Gregg, & Niska, 2004) and there has been an increasing call for their implementation (InPraxis, 2006). One of the influences on the creation of PLCs grew from a business model which believed that organizations can learn and grow while they are still conducting business (Thompson, Gregg, & Niska, 2004). The idea soon manifested itself in a structure that enables
professional collaboration, resulting in the improvement of student learning (Thompson, Gregg, & Niska, 2004).

Definitions of PLCs vary. Within the literature, there are a great number of interpretations, descriptions, and elements of a PLC, and none of them are exactly the same (Bredson, 2003). There is even inconsistency in their name. They might be called learning communities, communities of practice, professional communities of learners, or communities of continuous inquiry and improvement (InPraxis, 2006). A PLC could include a range of participants including individuals on grade level teams, high school departments, school committees, professional organizations, and entire school districts (DuFour, 2004). These groups encourage participants to take on professional development as part of their job. This professional development includes linking together performance standards, strategies for assessment, and the consequences of those assessments (Bredson, 2003). The purpose of a PLC is for the community of learners to work together and help the organization grow (Zepeda, 1999). “Individual and team judgment is valued more than rules, policies, forms, and procedures. Most importantly, everyone is encouraged to take responsibility for their own learning and development and this is considered to be a norm of the school’s culture” (Thompson, Gregg, & Niska, 2004, p. 5). Thus, for the purpose of this study, the definition of a professional learning community is a group of professionals who join together to collaborate with each other for the purpose of professional growth with the goal of nurturing student achievement.

*Foundations of a Professional Learning Community*

In order for a PLC to be effective, several essential elements must be in place.
However, there are few guidelines or models on how to set up PLCs within schools (Morrissey, 2000). First, there must be some purpose or issue in which the staff is interested that ultimately benefits the students. Secondly, an external force, such as a new curriculum, in addition to an internal force, such as a principal’s leadership, is needed to provide the initial structure for the PLCs. Third, a climate of democracy needs to be established in order to reach goals. Lastly, a school-wide focus on students must be present (Protheroe, 2004). Within these elements, teachers may also need initial training on collaboration. Since PLCs are based on teacher collaboration, which may not already be established within a school culture, any hostility that might surface toward their implementation needs to be addressed beforehand (Graham, 2007).

Structures of Professional Learning Communities

Within PLCs, there are six universal reoccurring attributes that are acknowledged consistently throughout the literature. These attributes are: (1) a supportive and shared leadership capacity, (2) a shared mission, focus, and goals, (3) collective learning and application of learning, (4) continuous inquiry and practice, (5) a focus on improvement, and (6) supportive conditions and environments. These attributes are evident in PLCs and are the foundation for them to be effective (Hord, 1997).

The first of these is that leadership is shared. The traditional role of the omnipotent principal is no longer in place. Instead it is replaced with a model including administrators and teachers questioning, investigating, and finding solutions that will lead to school improvement (Morrissey, 2000). Leadership needs to be supportive and creative; in place must be an environment in which all members feel empowered to share
in the mission and goals that have been established within the school. This allows teachers to make decisions more effectively that ultimately have a positive impact on student achievement and learning (InPraxis, 2006). According to DuFour (2001), the role of the principal changes from a leader to a staff development facilitator. The principal’s role is to embed collaboration among the staff and school. In order to do this, principals must: (a) provide for adequate time throughout the school day and school year for collaboration, (b) identify and provide collaborative teams with critical questions to guide their work, (c) encourage teams to create products as a result of their collaboration, (d) be insistent that student achievement goals are specific and identified by each team, and (e) provide relevant data and information to the teams. Above all, administrators must be willing to partake in collaborative dialogue with their staff—without dominating—and share in the decision-making with them (Morrissey, 2000).

Secondly, the goals of the PLC need to be shared and focused. They also need to be embedded within the daily practice of the school and in sight of all to see. They need to be inter-mingled throughout the school and community life in a way that is centered on the improvement of student achievement, growth, and learning (InPraxis, 2007). In order for a school to establish a shared mission, focus, and goals, it is critical that the teachers change their mindset from thinking about teaching to thinking about learning. According to DuFour (2004), crucial questions teachers need to consider are:

1. What do we want each student to learn?

2. How will we know when each student has learned it?

3. How will we respond when a student experiences difficulty in learning?
It is the third question that drives PLCs. Teachers begin to coordinate efforts to ensure learning for all students. These efforts are timely, based on intervention—not remediation, and directive (DuFour, 2004).

The next focus of PLCs is collaboration through collective learning and application of learning (InPraxis, 2006). “Through collaborative efforts, a community of learners creates synergy, a synchronized energy where the power of the group is more profound than any one individual” (Zapeda, 1999, p. 58). Teams are given a set time to work together to collaborate and communicate in order to answer the questions about student learning. This collective learning can also take the form of whole faculty study groups, focused conversations, critical friends, mentoring, and coaching (InPraxis, 2006). It is important that these conversations are not limited to day-to-day operations, such as scheduling and discipline, and are genuinely focused on student learning. The questioning promotes “deep team learning” and the result is higher levels of student learning and achievement (DuFour, 2004, p. 9).

Throughout the school, PLCs need to embrace continuous inquiry and practice. The content of professional development does not change; it still focuses on student improvement through the use of examining standards, instruction, and assessments, but now it is embedded at the building level where the strategies can be instantly implemented, applied, and evaluated (Lumpe, 2007).

The next attribute of PLCs centers on results and improvement. The use of PLCs involves not judging success simply by how many programs are initiated, but on each program’s success rate. PLCs need to be research-based and data driven, since they
require inquiry-based models as a basis for the decisions that emerge from them (InPraxis, 2006). These data-based inquiry results allow PLCs to make decisions “in a more purposeful, professional culture that facilitates professional dialogue and reflective practice centered on the rationale of school improvement and student achievement and learning” (InPraxis, 2006, p. 26). PLCs welcome data and use them as a comparative tool with other teachers as a basis of improvement. Individual teachers can collaborate with others to help them reflect on areas in which they need to improve and help them find resources and ideas (DuFour, 2004).

The final attribute is the establishment of supportive conditions and environments. Creating these environments has been described as “the single most important factor” for school improvement to occur and “the first order of business” for those who are looking to improve their school’s effectiveness (Eastwood & Louis, 1992, p. 215). There are certain conditions that need to be in place in order for a community to accept and embrace change. According to Hord (1997), there are two types of structures that need to be in place: structural conditions and collegial relationships. Structural conditions tend to be more logistical and include schedules, the size of the school, proximity of teachers, and the procedures teachers use to communicate with each other and with the administration. Collegial relationships are less concrete. They include a widely shared vision, norms of respect and trust, and positive and caring relationships.

**Benefits of Professional Learning Communities**

If successfully created, PLCs have many benefits. First, they increase support for school improvement efforts (Protheroe, 2004). Within PLCs, professional development
is no longer a separate entity; rather it is embedded everyday through collaboration. PLCs provide time for staff to work together to solve problems within their schools. They encourage collaborative cultures between teachers and reduce isolation (InPraxis, 2006). When teachers collaborate, they take on a shared responsibility for their students’ success and development (Hord, 1997). PLCs also provide support for teacher development (Protheroe, 2004). With the increase in teacher development, their knowledge of content will increase. This will lead to professionally renewed teachers who are more likely to inspire students. This new knowledge also allows them to more quickly adapt instruction in traditional schools and they will more likely be committed to these changes and adaptations (Hord, 1997).

Next, there is an impact on student learning. A positive relationship between PLCs and student achievement has been found (Protheroe, 2004). Lee, Smith, and Croninger (1995) discovered many benefits to both students and staffs in secondary schools that implemented learning communities within their schools. In a study that examined 11,000 students enrolled in 820 secondary schools, they found that compared to schools that did not have communities, schools with communities engaged their students more in high intellectual learning tasks and reported higher academic gains in math, science, history and reading. In addition to test scores, they saw a drop in the achievement gaps between students from different backgrounds and saw more equally distributed learning among its students. The staffs of these schools had heightened senses of responsibility for the development of their students and of their success. They reported a higher staff member satisfaction rate, lower drop out rates, fewer cut classes,
and lower absenteeism among students and staff. However, the schools that were studied also implemented other organizational changes such as creating a common academic curriculum and authentic instruction and so the benefits of PLCs were not seen in isolation.

Reyes, Scriber, and Paredes Scribner (1999) found that when PLCs were established in low-performing elementary, middle, and high schools which were predominately Hispanic schools, the school staff was able to work together and implement reform efforts that had failed in the past, such as increase parental involvement, increase expectations for limited English proficient students, and develop cooperative learning strategies. PLCs resulted in improved student outcomes from year to year. Thiessen and Anderson (1999), in a research study of twelve schools in Ohio, ranging from elementary to high schools, which implemented learning communities, also found that when these learning communities were implemented and collaboration was encouraged, schools became stronger and were more productive. They noted that teaching improved and student learning increased. Despite the fact that research shows the influence of PLCs on significantly improving teacher effectiveness, it should be noted that this effectiveness is also dependent on other factors within the PLC such as leadership, organizational practice, and the development of the community (Graham, 2007).

Many forms of professional development are currently being used, and PLCs is one kind. Research is continually being conducted to search for which form is the best. Similarly, the use of PLCs is still being examined in order to identify its strengths and to
encourage its continued use. Some fear that its benefits will be lost and that it will soon be just another fad in educational history. DuFour (2004) believes that:

The professional learning community model has now reached a critical juncture, one well known to those who have witnessed the fate of other well-intentioned school reform efforts. In this all-too-familiar cycle, initial enthusiasm gives way to confusion about the fundamental concepts driving the initiative, followed by inevitable implementation problems, the conclusion that the reform has failed to bring about desired results, abandonment of the reform, and the launch of a new search for the next promising initiative. Another reform movement has come and gone, reinforcing the conventional education wisdom that promises, ‘This too shall pass.’ (p.6)

Theorists and practitioners, such as DuFour, have been researching and identifying the numerous strengths of PLCs in order to provide the educational community with the support it needs to believe that this is not just another educational fad, but that it is sustainable, effective, and produces results (InPraxis, 2006).

Role of Common Planning Time

One of the common issues related to implementing professional development is the availability of time. One solution to this dilemma is the use of common planning time (CPT) for professional development. CPT is defined as “a group of teachers from different subject areas who plan and work together and who share the same students for a significant portion of the school day” (Flowers, Mertens, & Mulhall, 2003, p. 58).
Teachers need time to plan lessons, develop assessments, create and refine instructional strategies, and collaborate with other professionals (Jackson & Davis, 2000). In looking at middle schools, even when common planning time is given for teams to work together, it has been found that few middle schools actually provide enough time for focused, ongoing professional conversations to occur that result in higher performance standards. According to the National Center for Public Education and Social Policy, teachers need three to four hours of CPT per week to positively affect student learning (Jackson & Davis, 2000). At a basic level, a team should utilize this time for coordination of team activities such as homework, tests, and schedules. However, an advanced level team with high levels of implementation (in which CPT lasts at least 30 minutes a week, at least four times a week) should use this time to coordinate and integrate curriculum, as well as plan for instruction and create assessments (Mertens & Flowers, 2004).

In looking at schools that implement teaming and CPT, many benefits were found for both teachers and students. Overall, teachers were more engaged in practices such as curriculum integration and the creation of common assessments and assignments (Flowers, Mertens, & Mulhall, 2000a). Teachers also integrated more instruction into their classrooms (Flowers, Mertens, & Mulhall, 2000b). Teachers who work on teams with CPT also report a higher sense of personal teacher efficacy along with a more positive perception of the school’s environment than teachers who do not team or have CPT (Warren & Payne, 1990). This can be linked to the fact that teachers have the opportunity to collaborate with other teachers and discuss problems and concerns (Warren & Payne, 1990).
In regard to student learning, schools with CPT, along with advisory units and small teams, were found to have higher levels of student achievement and increased levels of students’ self-esteem (Felner et al., 1997). Over time, schools that have a higher level of CPT show gains in student achievement at a higher rate compared to schools that are not teaming or who have low levels of CPT (Flowers, Mertens, & Mulhall, 1999). Schools that also implement teaming with high levels of CPT tend to have improvement in student self-reported outcomes (e.g., academic efficacy, self-esteem, depression, behavior problems) (Mertens, Flowers, & Mulhall, 1998). One study, completed by the Center for Prevention Research and Development (CPRD), along with Michigan Middle Start Schools, found that when schools had high levels of CPT, achievement scores rose dramatically (60% or more), especially for students who qualify for free or reduced lunch programs (Mertens & Flowers, 2003).

However, these findings do not isolate CPT as the sole contributor to the increase in student achievement. When studied in isolation, there does not appear to be any correlation between CPT and student achievement (Flowers & Mertens, 2003). It is only when they are combined with other contributing factors that positive results occur. There are many contributing factors to this success including the adoption of core middle school beliefs, commitment to quality and effective teaching practices, and the ongoing education of the teachers. Of these numerous other factors, the connection between CPT and PLCs is one that has yet to be examined.

The role of CPT can be critical in affecting student achievement. The events that occur during CPT are one factor that contributes to successful professional development.
It is up to the administration to provide the structure needed within the school day to have adequate CPT and for the teachers to use the time for professional development. With this element embedded within the school day, teachers have the opportunity to learn on a daily basis and have a positive impact on student achievement.

The role of CPT within PLCs has also yet to be determined. Both structures include a community of educators working together to better meet the needs of their students. However, research showing how these two elements of a middle school are or are not linked has not been done. The connection between middle school teachers who already have the component of CPT in place, together with the elements of a PLC, can further show how collaboration and the formation of a community can benefit teacher and student learning.

Statement of the Problem and Research Questions

Professional development must meet the needs of teachers so that they can best meet the needs of their students. Teachers learn differently from their students and professional development should take into account these differences. In order to be successful, the format of professional development activities also ought to include several key elements, including its type of activity, content, environment, and level of collaboration. Schools are continually required to meet higher levels of professional development standards for their teachers and evolve to meet the ever-changing needs of their staff and students. The National Middle School Association recognizes how imperative it is to research these demands and the impact that professional development has on teachers and students.
One model that has emerged from these demands is professional learning communities. This model incorporates a teacher-led organization that allows teachers to collaborate with each other to design their own learning and work out solutions that are specific to their students. This model has been incorporated into some schools, through their use of common planning time, in which teachers come together during a specific time period to communicate with each other about a shared group of students.

Based on this review of the literature, a line of questioning has emerged regarding the role of common planning time as a professional development tool in a middle school. These questions include: How do teachers use common planning time to foster their professional learning, both within interdisciplinary and content teams? More specifically, sub-questions include:

1. What does an embedded professional development model look like in a middle school for both content and interdisciplinary teams using professional learning communities?

2. What events take place during common planning time that foster professional growth?

3. What role does collaboration have during common planning time to cultivate professional growth?

4. How are content teams’ common planning time like or different from interdisciplinary teams’ common planning time?
CHAPTER III
METHODOLOGY

This chapter outlines the methodology of the study beginning with a rationale for the research paradigm. Entry to the setting, the setting itself, and the participants are described. The methods used to collect data and analyze the data are included. Background information on the site, along with possible design limitations, are also discussed.

Rationale of Research Paradigm

In order to observe and document professional growth of the teachers, I completed a school-year long case study, specifically an observational case study. A case study involves one case and includes as much information that can be gathered about the case in question (Patton, 1980). In this type of study, non-participant observation, along with formal and informal reviews of documents, focused my study on a particular aspect of an organization (i.e. a middle school team) (Bogden & Biklen, 2003). For my study, my case consists of teams at a middle school. By selecting a case that is a specified population, and not one that is randomly selected, it limits variables across the population and therefore strengthens my external validity (Eisenhardt, 1999). This method allowed me to focus my study on the specific part of the teacher’s day that includes common planning time and even more specifically, it allowed me to narrow my attention to how teachers use common planning time, if at all, for the purpose of professional development.

By completing an observational case study, I completed an in-depth study that
was comprehensive and systematic (Patton, 1980). Since I looked at a specific situation at a single setting, the professional development model at Topper Middle School (a pseudonym), by completing a case study, I was able to gather a large amount of data. From this data, I was able to get a thorough view of how this professional development model functions. In order to achieve this focus, I used a variety of forms of data collection. In case studies, a combination of data collection methods are used, including interviews, observations, artifacts, and questionnaires (Eisenhart, 1999). Within a case study, data collection methods are flexible and can be adjusted to meet the needs of the study. This allows the researcher to take advantage of any emergent themes that may arise mid-study and also adjust for any unique situations that may occur within the study (Eisenhart, 1999).

From the various forms of data that I collected, I was able to view how the teachers use their common planning time for their professional growth. I was able to see how they interacted with other team members, the effects the physical environment had on their professional growth, how their professional learning was applied to their classroom teaching and other variables that otherwise might not be visible through another research method (Platt, 1999). From those observations, I was able to suggest hypotheses, future investigations, interpretations, and any uniformities that I noted.

Since I am not comparing settings, looking at the historical context of a situation, or looking at changes that occur over a long period of time, other forms of qualitative research designs were not chosen. Also, because of the depth of the information I was seeking to obtain from this setting, along with the number of variables that affect
professional development, a quantitative study also was not chosen.

Research Questions

This study centers around the following question: How do teachers use common planning time to foster their professional learning, both in interdisciplinary and content teams? Within this focus, I sought answers to the following questions:

1. What does an embedded professional development model look like at a middle school for both content and interdisciplinary teams using professional learning communities?
2. What events take place during common planning time that foster professional growth?
3. What role does collaboration have during common planning time to cultivate professional growth?
4. How are content teams’ common planning time like or different from interdisciplinary teams’ common planning time?

Setting

The research site was chosen through a convenience, purposeful sample. In a search for schools that were implementing non-traditional forms of professional development, a limited number of settings was found. Due to the limited number of possible cases to study, a purposeful sample was chosen. This site was selected because I wanted to look at one particular case in-depth to seek out certain understandings, knowing that they would not be generalizable across all situations and cases due to the fact that I would only be examining one case (Patton, 1980).
Gaining Entry

Through a conversation during the spring of 2007, with the curriculum director of Topper School District, during a non-related meeting held at a local university, I discovered that Topper School District was implementing a new form of professional development and would be willing to have a researcher in their district. The district wanted to look at how the new model would be implemented and invited me into their district, with the agreement that I would share my data with them after the study was complete. The interdisciplinary team of teachers who participated was the one suggested by the administration. Thankfully, they were willing to participate in the study. The content professional learning community (PLC) members were chosen by default since I would be following the interdisciplinary team to their respective PLCs.

Prior to collecting any data, an application for approval to use human research participants was submitted and approved by Kent State University’s Institutional Review Board. A consent form was given to each participant (Appendix A). The form fully described the study and explained the rights of the participant, including anonymity and the right to withdraw from the study at any point without penalty. To ensure the anonymity of the participants, the school, and the district, pseudonyms are used in all reports of this study. At no point in the study were children observed or recorded, nor were participants compensated for their participation.

Description

Topper City School District is located in a suburban residential community in northeastern Ohio. Topper is in close proximity to a major metropolitan city but still
maintains a suburban distinction. Major housing developments are continually added to the community, increasing the number of residents within the city and adding students to the district. The school district is composed of five buildings including a K-1 building, a 2-3 building, a 4-5 building, Topper Middle School (grades 6-8), and a high school (grades 9-12). As of the 2006-2007 school year, the enrollment of the schools totaled 2703 students, with 1462 males and 1241 females. Based on historical data and grade-to-grade trends, there has been a fairly stable growth rate in enrollment over the past number of years and it is expected to continue. The ethnic composition of the district is 94% white and 6% minority. The percentage of students with a disability is 13% and economically disadvantaged is 13% (www.topper.k12.oh.us/misc_files/other/district_information.pdf).

According to the district’s 2005-2006 School year report card, issued by the Ohio Department of Education (www.ode.state.oh.us/reportcard), the district’s rating was “excellent.” They met 25 out of 25 state indicators on their report card, including scores on standardized achievement tests given in grades 3 thru 8, the Ohio Graduation Test administered in the tenth grade, and graduation and attendance rates.

The staff within the district was composed of twelve administrators, including the superintendent, directors, principals and assistant principals; 205 certified teachers which includes teachers, tutors, counselors, librarians, speech and hearing pathologists and psychologists; and 142 support personnel which includes educational aides, bus, lunch, secretarial, custodial, and maintenance staff. The classroom teachers average 13.3 years of experience; 100% have a Bachelor’s degree and 61.4% have a Master’s degree. The
teaching staff is 23% male and 77% female.

*Context of the Professional Development Model*

Recently, the Topper City School District hired a new superintendent who began a new professional development program that implemented district and building-wide professional learning communities (PLCs). The purpose of these communities is for teachers to work together to identify needs within their district, particularly within their buildings and the district. From these needs, the communities were to work together to create goals to work on those needs and determine steps they need to take in order to accomplish those goals to meet those needs. This model is in contrast to the traditional model of professional development that has occurred within the district in the past. Traditionally, within the Topper School District, teachers were removed from their classrooms to attend workshops and seminars that were planned by the administration. This model typically relied on the teachers to implement independently what they have learned. Teachers generally did not have input on the workshops that they would be attending, nor did they generally receive feedback from the administration after they attended these workshops. They received little follow-up or support from their administration about the professional development they were receiving. This model also did not encourage teacher collaboration within their team. The new model implemented in Topper School District helped to address these issues.

The district identified that two of the first issues that needed to be addressed were trust and team building within the district and the individual buildings. In order to accomplish this, they set aside two days in July for the PLC committees of each building
to meet and assess the current needs of the district and of their individual schools. They also set definitive plans for their professional development for the upcoming school year. The intent of these planning sessions was for teachers to work on these goals during their common planning times and PLCs. At this point in time, the district was not coordinating this with each teacher’s Individual Professional Development Plan (IPDP). These plans, which have been implemented in Ohio and several other states, focus on each teacher’s individual professional development goals. These goals include activities that the teachers must complete in order to renew their teaching license. They can include taking graduate courses, attending additional workshops, or mentoring student teachers.

Participants

The study revolved around one eighth grade interdisciplinary team. This was the third year that the team has been together. Several had worked together on teams prior, but the current team was formed three years ago. It consisted of five teachers: language arts, social studies, science, math, and an intervention specialist.

I studied five teams of teachers at Topper Middle School, although the focus was on one eighth grade interdisciplinary team. The interdisciplinary team was composed of five teachers. Each teacher taught one of the four core academic subjects-- math, science, language arts, or social studies, and one teacher was an intervention specialist. This team met two times a week during their common planning time (CPT) for the purpose of designing interdisciplinary units, discussing student affairs, engaging in professional development, and discussing any day to day issues.
Mrs. Basking was the newest member of the team and taught social studies. Her education included a Bachelor’s degree in middle childhood education, with concentrations in social studies and math. She held a five year license in middle childhood education (grades 4-9), with a reading endorsement. This was her third year teaching, all which had been at this school and on this particular team.

Ms. Bellum taught science and held two degrees. The first was a Bachelor’s degree in elementary education (grades 1-8). The second was a Master’s degree in science education. She held an eight-year professional license in elementary education. She had a total of eleven years teaching, all of them in Topper Middle School.

Mr. Dorian was the math teacher on the team. He earned a Bachelor of Science degree of Middle Level Education. He was certified in middle childhood education with concentrations in math and social studies (grades 4-9). This was his fifth year teaching, all at Topper Middle School.

Mrs. Kennedy was the intervention specialist on the team. She earned a Bachelor’s degree in learning disabilities and a Master’s degree in Elementary Education reading (grades 1-8). She held two teaching licenses. She had one in learning disabilities (grades K-12) and one in elementary education (grades 1-8). In addition, she had a reading endorsement. This was her thirteenth year teaching; all of her years had been in Topper Middle School.

Mrs. Masters taught Language Arts. She held a Bachelor’s degree in Elementary Education and a Master’s degree in the Art of Teaching. Her teaching certificate was an eight-year license in elementary education (grades 1-8). She had been teaching for
eleven years, all at this school.

**Figure 1.** Teachers within each PLC.

Observations then extended to each member of the interdisciplinary team’s content specific PLC meetings. Each of these PLCs consisted of a total of three members, with the exception of the language arts PLC, which had five members (Figure 1). Content teams exist at each grade level, made up of the content teachers from each team. For example, the math content team was composed of all of the eighth grade math teachers. Each grade level had a math, language arts, social studies, and science content team. The purpose of the content teams was to align curriculum throughout the content areas, share resources, and create common assessments. The content teams’ PLCs met twice a week during their CPT. The purpose of the PLC was to align curriculum through
the creation of common assessments and create a pyramid of intervention. This CPT was in addition to the daily individual planning time that they have to complete lesson plans or work on their own professional development goals. A focus of the observations was on how teachers bring back new knowledge from their PLCs and influence members of their interdisciplinary team during CPT. Observations of the PLCs were made on a rotating basis that occurred on a bi-weekly basis. During one week, observations were made of two of the PLCs. For example, observations of the math and science PLCs were made. During the next week, observations of the science and social studies PLCs were completed. This rotation was continued throughout the study.

Data Collection

A variety of forms of data collection were used. Data collection tools that were planned included initial and final questionnaires, field notes and personal memos written during and after observations, interviews with the teachers, principal, and curriculum director, and a collection of artifacts related to the professional development model. These tools were used to monitor the progress of the professional development model and note the record the characteristics of it.

At the beginning and end of the study, a questionnaire was given to the team members (Appendix B). The questionnaire included demographic information. Teachers were asked to record their years of teaching experience, teaching certifications, how many years they worked on the team, their involvement with PLCs, and past experiences with professional development. Additionally, this questionnaire also included questions to elicit each teacher’s feelings and attitudes towards professional development. They
were asked to describe characteristics of what they feel makes effective professional development and how they feel professional development can be changed to better meet their learning needs. However, when the questionnaires were distributed to the interdisciplinary team, the teachers commented that they didn’t have time to complete them. They were informed that they could take as much time as they needed. One teacher, Mrs. Masters, stated that she only agreed to be observed in this study and would not fill out the questionnaire. The original questionnaire was completely filled out by Mrs. Basking, and partially filled out by Mr. Dorian and Mrs. Kennedy. Mrs. Masters and Mrs. Bellum only filled out the demographic information on the questionnaire at the end of the study after they were given additional copies of it. Due to this initial resistance, a final questionnaire was not given.

The majority of my data was collected through non-participant observations and interviews. I observed the team of teachers during their common planning time as a non-participant. Non-Participant is defined as when a researcher does not directly involve themselves in a particular activity that they are observing, but rather sits “on the sidelines,” (Frankel & Wallen, 2003, p. 451). Within this role, I identified myself as a researcher but made no effort to participate in the activities that I observed. Since the purpose of the team’s CPT was to serve functions other than just professional development, I observed the interdisciplinary team once a week on the dates which the team determined that they set aside to work on their professional development. I also observed two content teams per week on a rotating basis. With this schedule, I observed each content team once every other week.
Descriptive field notes, whose concern is to provide a picture of what the setting looks like including people, actions and observations as observed by using words (Bogden & Biklen, 1998), were taken during each school visit. Reflective field notes, in the form of personal memos, were completed in order to record the feelings, ideas, concerns, and frame of mind of the observer during the study (Bodgen & Biklen, 1998).

I also planned on giving each teacher a spiral notebook to use as a journal to record any professional development activities that occurred when I was not there. The intent of these journals was that I would collect them periodically to note any valuable data up to that point. This would allow me to have knowledge of any outside factors that may influence what occurred during common planning time, but that I would not be always able to observe. However, due to the initial resistance by the teachers to respond even to a brief questionnaires, the use of the journals was not implemented.

Originally, I planned on performing interviews three times throughout the year with the teachers, principal, and curriculum director and audio-tape their responses. By audio-taping these interviews, I could focus my attention on asking questions rather than recording the answers. These questions were designed to see the progression of professional development and to determine various perceptions on the model (Appendix C). These questions also helped identify each person’s role within the model and to receive individual feedback on the model throughout the year. However, these questions served as a guide for the interview and throughout the interviews, new questions were created or original ones deleted based on the answers that were given. The scripted questions gave direction for the interview but were not always followed exactly.
Due to the late start of the data collection because of the district’s contract negotiations, the initial interviews did not occur until later in the school year. The mid-year interviews did not occur because it was felt that they were too close to the initial interviews and that not enough time had lapsed for any new data to occur. Instead, informal conversations were collected with team members about the status of the PLCs.

In addition to the original planned interviews with the interdisciplinary team, an additional team of two teachers approached me and volunteered to be interviewed about their experience with PLCs. In December, I conducted an interview with them as well. Final interviews were conducted with the interdisciplinary team and curriculum director in April. A separate interview was conducted with the two teachers from the interdisciplinary team, Mrs. Kennedy and Mrs. Basking, who served on the middle school’s PLC committee during the year about their experiences on the committee. Several attempts were made to have a final interview with the principal, but they were unsuccessful.

Throughout the year I also gathered various artifacts: staff development agendas, staff professional development worksheets, a copy of a grant, and handouts during an inservice regarding professional development. This data allowed me to see what forms of formal professional development were occurring outside of my observational time and also allowed me to see components of the environment that might influence professional learning, such as the format they are written in and the tones that are used. This also helped with gathering information on the level of collaboration that occurs between the teams and administration.
The use of a variety of data collection tools allowed me to ensure that I gathered evidence to answer my questions (Table 1). To answer question one, “What does an embedded professional development model look like at in a middle school for both content and interdisciplinary teams using professional learning communities?” observations, interviews, and collecting artifacts were used. The observations of CPT and PLC allowed me to observe what events the two different types of teams took part in throughout the year. I was able to support these observations through their interviews and collecting artifacts about their PLC.

Table 1

Data Collection Tools Used to Answer Research Questions

<table>
<thead>
<tr>
<th>Data Source</th>
<th>Question #1</th>
<th>Question #2</th>
<th>Question #3</th>
<th>Question #4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observations</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Interviews</td>
<td>x</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
<tr>
<td>Questionnaire</td>
<td></td>
<td></td>
<td>x</td>
<td></td>
</tr>
<tr>
<td>Artifacts</td>
<td>x</td>
<td>x</td>
<td></td>
<td>x</td>
</tr>
</tbody>
</table>

Observations, interviews, and artifacts were also used to answer question number two, “What events took place during common planning time that foster professional growth?” Through the observations of the interdisciplinary team during their CPT, I was able to observe during activities that led to professional learning. Through interviews with this team, I was able to further discuss with them about any professional learning
they felt they were gaining and collected any artifacts that may have been relevant to this learning.

Question three, “What role does collaboration have during common planning time to cultivate professional growth?” was answered by observing, interviewing, and having the teachers complete questionnaires. Through the observations, I was able to see teachers collaborate with each other for the purpose of meeting their students’ needs. I was also able to support these observations with interviews and although the responses were limited, a few teachers answered questions on their initial questionnaire about teaming and working with others.

The last research question, “How are content teams’ common planning time like or different from interdisciplinary teams’ common planning time?” was also answered by observations, interviews, and collecting artifacts. Similar to the other questions, observations were used to observe both types of teams to collect data about what types of events took place during their meetings. These data were further supported through interviews with the team members and any artifacts that might support the data.

Throughout the school year, a variety of activities was used to collect data (Table 2). They were planned around the school’s calendar. These included observations of the interdisciplinary team’s common planning time (CPT), observations of each content team’s professional learning community (PLC), and interviews with the principal, curriculum director, and teachers. Data collection activities also included observations of the building-wide PLC committee’s planning meeting for the February in-service and the in-service day itself.
Table 2

*Data Collection Sources*

<table>
<thead>
<tr>
<th>Sources</th>
<th>Time Spent in Data Collection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observing CPT, 16 periods</td>
<td>7 hours 34 minutes</td>
</tr>
<tr>
<td>Observing Math PLC, 6 periods</td>
<td>3 hours 9 minutes</td>
</tr>
<tr>
<td>Observing Science PLC, 7 periods</td>
<td>3 hours 47 minutes</td>
</tr>
<tr>
<td>Observing Language Arts PLC, 7 periods</td>
<td>3 hours 7 minutes</td>
</tr>
<tr>
<td>Observing Social Studies PLC, 7 periods</td>
<td>2 hours 15 minutes</td>
</tr>
<tr>
<td>Observing PLC In-service</td>
<td>8 hours 15 minutes</td>
</tr>
<tr>
<td>Observing school-wide PLC Committee</td>
<td>30 minutes</td>
</tr>
<tr>
<td>Interviewing teachers, twice</td>
<td>37 minutes</td>
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<tr>
<td>Interviewing principal, once</td>
<td>10 minutes</td>
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<tr>
<td>Interviewing Curriculum Director, twice</td>
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</tr>
<tr>
<td>Interviewing school-wide PLC committee, once</td>
<td>7 minutes</td>
</tr>
<tr>
<td>Total time of data collection</td>
<td>32 hours 17 minutes</td>
</tr>
</tbody>
</table>

**Data Analysis**

Data analysis occurred throughout the study instead of isolating it at the end of the process. It was anticipated that during the data collection, a large amount of data would be collected and would need to be analyzed initially in order for the data to help inform any future decision I made during the study (Maxwell, 2005).
Each form of data was analyzed. Field notes from the observations were coded to arrange pieces of the data into categories that would help me make comparisons between them and aid in the formation of theories (Maxwell, 2005). Transcripts from interviews were transcribed within a day or two at most and were also coded to look for similar categories. In coding interviews, I specifically looked for themes that coincided with those found in the field notes, but I also looked for how the interviewees understood the events that occurred during the observations, looking for underlying themes (Rubin & Rubin, 1995). I used the memos that I had written throughout the year to help identify possible thoughts or themes that emerged during the observations or interviews. These memos helped me identify initial reactions of the situation and apply them to the data analysis. Keeping in mind the original research questions, data were continually analyzed to look for relationships and single incidences; those that did not fit into categories were looked at to examine their meaning as well (Hays, 2004).

Once the data were coded, a two-stage process of analysis was engaged to analyze the data. In the first stage, I looked for patterns within the categories that I created. In the second stage, I compared data across the categories to look for themes (Rubin & Rubin, 1995). By doing this, I looked for connections between critical components of professional development, such as collaboration and common planning time. Once this was complete, I was able to identify any themes that are specific to my case, and also anticipate, not predict, what may occur in other similar situations (McMillian & Schumacher, 1997).
Internal Validity and Reliability

In order to ensure the validity and reliability of this study, I utilized several methods. Internal validity was ensured through the use of triangulation in order to improve the data that was collected and the accuracy of my interpretations (Frankel & Wallen, 2003). This was completed by comparing the multiple sources of data that were collected, (i.e. field notes, interviews, documents collected) to confirm data within them. To expand my triangulation, I also used investigator triangulation which includes having others oversee the data analysis in order to expand on, make corrections, or to check any of my subjective views (Flick, Kardoff, & Steinke, 2004). During the mid-point and end of my data collection, I achieved this by having the data that had been collected and analyzed be peer reviewed by another graduate student with a research interest in professional development and who was also familiar with qualitative research procedures. This was completed four times, once in December, April, May, and June. The peer reviewer reviewed the data to examine it for any inconsistencies in the data collection. She also reviewed the analyzed data to confirm that it was supported by the original data.

I also had planned on using the process of member checking. Transcripts and field notes were planned to be taken back to the team members for periodic reviews in order for member checking to occur. This would have allowed the team members to look for errors in the researcher’s observations or to complete any unfinished thoughts (Frankel & Wallen, 2003). However, like my plan to use journals to gather data, I had to abandon this intended practice when the teachers indicated that they were not able to
devote the needed time to review the data. Instead, I had to rely on the repetition of observations, the length of time I observed, and follow-up interviews to serve as a form of triangulation with the data. Lastly, the extended length of time I studied the team members helps contribute to the validity of the study as consistency over a period of time is a strong indicator of reliability (Frankel & Wallen, 2003).

Limitations of the Study

However, using a case study has several limitations. First of all the generalizability of my study is limited. The situation that was studied has unique circumstances and characteristics that will not necessarily be found in all settings. Because of this, my findings will not be able to be generalized to all middle school teams and their professional growth. Instead, it will be more likely that any generalizing will be done by individuals who are in similar situations as that which I studied (Frankel & Wallen, 2003). Secondly, I had limited observations within my study. Since I did not observe the entire school day everyday, I may not have been aware of other variables that affect what occurs during what I saw during common planning time or the PLCs.

Another limitation is that the issue of observer effect can become a factor in my data. Since I was observing a small number of teachers, I had a greater chance of influencing their behaviors by my presence than if I were to observe a larger number of teachers (Bogdan & Biklen, 1998). In addition to observer influence is the risk of observer bias and prejudice. Since my results can not be supported by statistics, but rather are subjective, there is a risk of observer bias. “All researchers are affected by observers’ bias” (Bogdan & Biklin, 1998, p. 34). Despite the fact that this is inevitable,
by being aware of this, it can be monitored and through the use of a peer reviewer, it has been checked for throughout the data analysis process.

Lastly, the fact that all teachers at the school were not able to be studied is a limitation of the study. The size of the participant pool is small. This limited the amount of data I collected and did not provide the opportunity to see a wide range of perspectives of the professional development program. However, the depth of the study will benefit.

Despite these limitations, my study was completed thoroughly and provides a deep and holistic description of the professional development of teachers on this team so that it led to insights about the factors that lead to their professional growth.
CHAPTER IV
RESULTS
Throughout the course of this study, discoveries about how teachers learn and grow as professionals were made. The use of professional learning communities within Topper Middle School as a professional development technique took the teachers and administrators on a journey during which they discovered how they can use this tool to not only better themselves, but ultimately to enhance their students’ learning. More specifically, this embedded job model for professional development, the role of content in PLCs, collaboration, and the influence of the administrator on professional learning will be addressed in this chapter. In addition, the original research questions will be answered. They are:

1. What does an embedded professional development model look like at a middle school for both content and interdisciplinary teams using professional learning communities?

2. What events take place during common planning time that foster professional growth?

3. What role does collaboration have during common planning time to cultivate professional growth?

4. How are content teams’ common planning time like or different from interdisciplinary teams’ common planning time?

Review of the Study

Through the use of a case study, one interdisciplinary team was studied primarily through their use of common planning time (CPT) as a professional development tool.
For this study, professional development is being defined as any activity, formal or informal, which leads to the improvement of teacher knowledge, skills, or attitudes with the intention of enhancing student performance. The five members of the interdisciplinary team were then followed to their respective content area professional learning community (PLC) meetings in which they met with the other eighth grade teachers from their respective subjects for the purpose of aligning instruction and assessment, sharing resources, and discussing how to best meet the needs of their students.

Observations were made three times a week (Table 3) over the course of five months, from November through April. Once a week, the interdisciplinary team’s CPT was observed. Two content teams’ PLCs were observed once a week on a rotating basis. For example, during one week, language arts and social studies were observed, while the next week, math and science were observed. This resulted in twice as many CPT observations as PLC. In addition to observation, interviews were conducted and audio-taped with the curriculum director, principal, and teachers. The curriculum director and teachers were interviewed twice during the year, while the principal was interviewed once. Another team of teachers also volunteered to be interviewed and they were interviewed once.

In addition to the CPT and PLCs, observations of the middle school building’s PLC committee, which implemented the PLC within the building, were made as well. Also, an observation was made of an all-day teacher in-service in which the faculty was trained on the definition and benefits of PLCs. Artifacts from that in-service were
collected, including the agenda and handouts. Other artifacts collected during the year included a grant requesting monies for the implementation of PLCs in the middle school, a copy of the goals written by PLC committee, and questionnaires filled out by members of the interdisciplinary team that contained demographic information and views on the professional development.

Table 3

*Timeline of Data Collection*

<table>
<thead>
<tr>
<th>Date</th>
<th>CPT Observation</th>
<th>PLC Observation</th>
<th>Interview</th>
</tr>
</thead>
<tbody>
<tr>
<td>11/12</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11/13</td>
<td></td>
<td>Math/Science</td>
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</tr>
<tr>
<td>11/21</td>
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<tr>
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<tr>
<td>11/27</td>
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<td>Curriculum Director</td>
</tr>
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<td>Interdisciplinary team</td>
</tr>
<tr>
<td>12/3</td>
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<td>X</td>
<td></td>
</tr>
<tr>
<td>12/4</td>
<td></td>
<td>Math/Science</td>
<td>Principal</td>
</tr>
<tr>
<td>12/11</td>
<td></td>
<td>LA/Social Studies</td>
<td></td>
</tr>
<tr>
<td>12/12</td>
<td></td>
<td></td>
<td>Additional teachers</td>
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</tr>
<tr>
<td>12/18</td>
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</tr>
<tr>
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Table 3 continued

Timeline of Data Collection

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<th>Date</th>
<th>CPT Observation</th>
<th>PLC Observation</th>
<th>Interview</th>
</tr>
</thead>
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<td></td>
<td>LA/Social Studies/</td>
<td>PLC committee meeting</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>in-service day</td>
</tr>
<tr>
<td>2/25</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td></td>
<td></td>
</tr>
<tr>
<td>3/4</td>
<td></td>
<td>Science</td>
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<td>Math/Science</td>
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<td>4/3</td>
<td>X</td>
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</tr>
<tr>
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<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4/8</td>
<td></td>
<td>LA/Social Studies</td>
<td></td>
</tr>
<tr>
<td>4/14</td>
<td></td>
<td></td>
<td>PLC committee</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Interdisciplinary team</td>
</tr>
<tr>
<td>4/21</td>
<td></td>
<td></td>
<td>Curriculum Director</td>
</tr>
</tbody>
</table>

Analysis of the data was on-going. Throughout the year, data from the study were analyzed to begin to identify any themes or patterns that emerged. Transcriptions from early interviews and information from the questionnaires, along with initial interactions and observations with teachers, were used to provide initial insights and inform the researcher with future direction of the study.

Each PLC and the CPT were examined in two different ways. First, they were considered as separate entities and how they functioned individually, and then how they overlapped each other. Themes that connected them were sought. Categories and themes of what happened during each meeting were developed and charted. These categories
were then used to help determine the overall effectiveness of the meetings and their contributions to each teacher’s professional development.

**Program Conception**

Topper School District began the implementation of Professional Learning Communities during the 2007-2008 school year. The following account describes what this professional development model looked like and corresponds with research question number one, “What does an embedded professional development model look like in a middle school for both content and interdisciplinary teams using professional learning communities?”

According to their curriculum director, Mrs. Heighton, during the 2004-2005 school year, the current superintendent of the school district, Mrs. Heighton, and other administrators went on a school visit to a district in Michigan to observe various aspects of their schools. It was at this time that they first observed the concept of Professional Learning Communities and saw what they looked like within a district. Later, they also became more familiar with Professional Learning Communities at a conference when they heard another district present on their schools’ use of PLCs and the benefits that that these communities had on the district.

After hearing about how this form of professional development was being used in other districts, the curriculum director realized that the notion of job-embedded professional development was in alignment with her constructivist notion of education; she felt that this was something that Topper School District should pursue. After discussions with the superintendent, they agreed that they wanted to implement PLCs
within their own district and decided on a plan to work on its execution during the 2007-2008 school year.

During January, 2007, the administration approached teachers from each building to serve on a vertical team to begin the planning of the PLCs within each building in the district. Mrs. Kennedy was specifically asked by the principal, Mr. Miller, to attend the first workshop with them. She was also urged by a teacher on another eighth grade team, Ms. Collins, to serve on the committee.

As described by Mrs. Kennedy, Mrs. Kennedy and Mrs. Collins joined the superintendent, Mrs. Heighton, and the director of special education for training on PLCs led by Rick and Becky DuFour held in Brecksville, Ohio in January of 2007; it was sponsored by the Cuyahoga County Education Services Center. They learned about PLCs and their benefits, as well as how to create and run them within a school. After this initial training, the committee decided that they wanted to start using PLCs in all of their buildings within their district. They decided to seek out others to form a PLC committee in each building. According to Mrs. Kennedy and Mrs. Basking, originally, the decision in the middle school was that the department heads of each content area would form the initial committee for their building. This plan was abandoned as some of the department heads did not agree to serve on the committee. Volunteers to sit on the committee were then sought. From the middle school, only five teachers volunteered to serve on the school-wide committee. Four of the teachers were from the eighth grade, and one of them was from sixth grade. No representative volunteered from the seventh grade. Of the eighth grade team that is the focus of this study, two of the teachers agreed to be on the
committee. It was at this time that Mrs. Basking joined the committee. However, according to Mrs. Basking, the social studies teacher, her decision was not necessarily voluntary but rather by default. When the head of her department was not able to attend the initial meetings and trainings, Mrs. Basking was brought onto the committee to represent her department. The final middle school PLC consisted of Mrs. Basking, Mrs. Kennedy, Mrs. Collins, Mrs. Waters, and Ms. Grayling, a sixth grade teacher (K. Kennedy, personal communication, May 5, 2008).

In the summer of 2007, the committee met together again and traveled to Columbus, Ohio, for a training session held by Solution Tree, a national company that provides books, media, and professional development workshops for teachers (www.solution-tree.com). During this session, according to the curriculum director, the teams from each building were further trained on the concepts and structures of a PLC and began to discuss how they were going to initiate them within their individual buildings. One speaker that they heard at this training was Anthony Muhammad, a colleague of Rick DuFour. Each building was given time to discuss what its building’s unique goals were, what steps they needed to take to achieve those goals, who would be involved in the process, and what materials/resources they would need to accomplish those goals.

Planning for PLCs in the Middle School

Based on a review of the notes and minutes that were taken during this session, the middle school team looked closely at its building and worked through these planning steps. The first task they accomplished was to identify aspects of their building that
would serve to facilitate the PLCs, the positives that would help to expedite their implementation. They identified the following as positive elements already in place: team time, academic advising time that was already built into their day, three tutors in their building, a strong awareness of and use of formative and summative assessments, some use of common assessments, and a strong leadership team—their PLC committee. Once these advantages were noted, they then determined areas that they needed to work on within the middle school. These included a fear of converting from interdisciplinary teams to content teams, a lack of involvement from the exploratory team and counselors, a lack of support for the mission/vision statement, and a need for a “strong, correctly informed/trained administrator who will willingly empower the leadership team” (PLC committee planning sheet, July, 2007).

Next, steps were designed to help with the process of starting PLCs in the middle school. These steps included revising their mission and vision statements, training their principal, as well as a member from the exploratory team and counselors, conducting building consensus, collecting data and informing the staff of this data and research, identifying SMART goals (goals which are Strategic and specific, Measurable, Attainable, Results-oriented, and Time bound (O’Neill & Conzemius, 2006) ) and finally establishing team norms. They also decided that their staff development day on February 25, 2008, would be dedicated to staff training on PLCs.

Upon further review of that day’s minutes, it was revealed that the committee was then informed that on October 11, 2007, the district had applied for a waiver day for professional development so that buildings could support their PLCs sooner than early
2008. At this time, the middle school committee decided that their focus on that day would be to work on SMART goals, common assessments, and the establishment of team norms. They also agreed that their committee would be the ones to plan that day. Additionally, they expressed an interest in having Anthony Muhammed, who the district wide PLC committee had heard in Columbus, come to their district to speak to the staff as a whole to help further inform and motivate them about this process.

During the process, in the summer of 2007, a grant was written, submitted, and accepted by the GAR Foundation. It was written by Mrs. Collins, with the aid of the curriculum director, and through it, the middle school received $15,000 for the implementation and continuation of their PLCs. The grant proposal specifically spelled out the middle school’s original plan to implement PLCs within their building. It stated that their overall goal was that “teams of teachers should meet regularly to set grade level/course goals and to create and analyze the results of common, formative assessment” (Collins, 2007). They then noted that they would use the analysis of these common assessments and the resulting data to raise the achievement level of all of their students, and in time, ensure that all standards are being met. More specifically, they outlined two goals: (1) to train teachers to work together on collaborative teams in order to achieve their main goals, and (2) to decrease the number of students within their building who score in the basic and limited range of the Ohio State Achievement Tests in reading and math by 2%.

Within the grant application, a timetable was created for the implementation of PLCs in the middle school. In the summer of 2007, the middle school planning team
members were to attend a workshop on PLC training and make decisions on the study book, to purchase a data collection device (i.e. Scantron machine), and to train themselves on this device. During the fall of 2007, they planned to train all of the teachers on PLCs, continue to develop their professional development library that was started during previous years, form their PLCs, begin a book study with the faculty, and design a pyramid of intervention for struggling students, including determining areas of weakness on the Ohio Achievement Test and creating ways to incorporate techniques into the content areas to improve on these weaknesses, as well as have language arts and math PLCs create common assessments.

The team planned, during the winter of 2007-2008, to administer common assessments in math and language arts which used a Scantron device to determine areas of weakness. After identifying struggling students, teachers would create innovative lessons to better meet the needs of their students. The timetable also included having PLCs use resources from the professional development library, design an in-service for February to meet the existing needs of the PLCs, and continually meet to discuss the progress of the program.

In the spring of 2008, the plan included having language arts and math PLCs create common assessments based on winter tests, reflect on the progression of the program to this point, evaluate and adjust the pyramid of intervention (which is defined as a structure that outlines the day-to-day interventions available for students utilizing all support areas available), having the staff complete a survey about the PLCs so far, and then analyzing the surveys to discuss plans for the 2008-2009 school year.
According to the grant, they anticipated the following outcomes:

1. Teachers are trained in PLCs and participate in book study groups.
2. PLCs are established and working effectively.
3. Common assessments are created and used to measure students’ progress.
4. Fewer students are falling through the cracks, due to successful intervention implemented by the PLCs.
5. The percentage of students scoring in the limited to basic range decreases by 2%.

In order to evaluate the success of the PLCs, according to the grant application, they intended to use the results of the 2008 OAT test to determine if student scores increased by 2%. To determine if the rest of their goals were met, they planned on surveying the faculty about their perceptions/feelings about the PLCs, whether or not they changed the way they taught and what impact they feel they felt had on their students’ learning. Based on the results of this survey, the core PLC committee would take the collected data and create a report for all of the building members and other buildings within the district. These results were also to be shared with the Board of Education and the community, including possibly presenting at a state or local conference. Based on this report, the middle school and school district as a whole would determine the focus and goals of the PLCs for the next school year. The proposed budget for the implementation of PLCs in the middle school totaled $15,000 (Table 4). Actual spending figures for the 2007-2008 school year were not available at the end of the study.
Table 4

*Middle School PLC Proposed Budget*

<table>
<thead>
<tr>
<th>Proposed Expense</th>
<th>Proposed Amount</th>
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</thead>
<tbody>
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<td>Book study group literature</td>
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</tr>
<tr>
<td>Data collection device (Scantron)</td>
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</tr>
<tr>
<td>Education software for Scantron device</td>
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</tr>
<tr>
<td>Professional development resource library materials</td>
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<tr>
<td>Substitute teachers for meeting days for PLCs</td>
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<tr>
<td>Training in PLCs by DuFours</td>
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<tr>
<td>Additional training for core PLC committee</td>
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<tr>
<td>Training in data collection/software</td>
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</tr>
<tr>
<td><strong>Total budget</strong></td>
<td><strong>$15000.00</strong></td>
</tr>
</tbody>
</table>

*Note.* Figures gathered from Collins, A. (2007). *Teaching Teachers to Learn from Each Other through Professional Learning Communities* grant

**Implementation of PLCs**

With the training of the PLC committee completed during the summer of 2007, the grant written and submitted, and the goals of the PLCs outlined and a plan of action in place, the middle school PLC committee then focused on the next stage of their plan, to bring the concept of PLCs to their building and share it with the rest of the faculty and staff. They decided to begin educating and training the staff on the concept of PLCs before the school year even started. They purchased and distributed a copy of *Whatever*
It Takes (2004) by DuFour to the entire staff and faculty and requested that they read it
during the summer. However, this reading was not mandatory, and as a result, according
to Mrs. Kennedy, it is believed that very few teachers actually read the book.

The school year began with the challenge of how to continue to train the other
faculty in the middle school on the concept and how to implement it. However, this task
faced a significant obstacle: the teacher association’s contract with the district had
expired on August 15, 2007. This meant that the teachers were beginning the school year
without a contract. After numerous attempts, contract negotiations failed, despite
meeting since April to agree on a new contract. The most significant issue of negotiation
was the teacher’s health care package (L. Heighton, personal communication, June 5,
2008). The teacher’s association threatened to strike unless a contract was agreed upon.

Until an agreement was made, teachers resorted to several actions, including resigning
from all committee work. This included the PLC committee. With these resignations, the
initial teacher training that was to be held on October 11, 2007, was cancelled because
the committee was not intact to plan it (K. Kennedy, personal communication, May 5,
2008). Students were notified that they were to attend school, a normal school day. As a
result of the contract dispute, the faculty and staff were not formally trained in the
concept of PLCs at the beginning of the school year. On October 3, 2008, after a
negotiation session that lasted until 3:30 a.m., contract terms were agreed upon. The new
contract was ratified by the Teacher’s Association on November 5, 2008, and voted on by
the Board of Education on November 21, 2008 (L. Heighton, personal communication,
June 5, 2008).
During this time though, teachers were still meeting within their PLCs. However, it was not until after the contract was agreed upon that the building’s PLC committee was reorganized with its original members. At this time, they refocused on how they could continue to implement the PLCs and educate the teachers about them. With the cancellation of the October in-service, they decided to wait until the next scheduled teacher in-service day, which would be in February, to hold a formal training on PLCs. Until then, the PLCs continued to meet and decided on their own how to structure their meetings.

This caused a great deal of stress for the teachers. In December, in an interview with Mrs. Halloway, who teaches eighth grade language arts and social studies, described her initial reaction to PLCs. She commented,

I wasn’t really sure how it was going to work and I know there’s a lot of people who have negative ideas about it, especially in eighth grade, and so I was worried, thinking, Oh, it’s going to cause so much more stress and pressure just getting people on board or dealing with people being, trying to be negative about it or not, like doing what we’re suppose to be doing (December 13, 2007).

In a final interview with Mrs. Masters on April 4, 2008, she commented that one of the biggest disadvantages of the PLCs was that, “I don’t think we’ve been trained well. We’ve just been told, ‘Here it is and do it.’ So slowly we’re learning through it.” The reality that the initial training of the staff was absent seemed to influence teachers’ perceptions on the model and their overall attitudes on how well they were going to receive it within their building.
The other factor that was influenced by the possible district-wide strike was that data collection for this study was halted until a contract was agreed upon. Teachers and administration were hesitant to work with a researcher or allow a researcher to work with them, until they had a contract. This delayed data collection until October, despite an earlier planned date to begin collection.

**Barriers to Implementation**

In addition to the possible district-wide strike that occurred at the beginning of the school year, other events happened throughout the year that affected the implementation of the PLCs within Topper Middle School. First of all, the district was building a new high school. With its completion in the summer of 2008, the middle school would be taking occupancy of the old high school in fall of 2008. This change was continually brought up by the teachers throughout the year, especially toward the end. A transition committee was formed early in the year whose purpose was to design a plan for a smooth transition to the new building. As early as January, the committee was visiting the high school and planning out the layout of the middle school classrooms. However, frustrations with the move were many—and voiced. In a math PLC meeting on January 15, the conversation turned to the move, and teachers discussed how the high school was not designed for teaming and is not conducive for the middle school concept. They then discussed their dissatisfaction that due to a lack of rooms, and due to the fact that some high school areas such as the shop room and athletic locker rooms would still be occupied by the high school, some middle school teachers would have to be on traveling carts and not have their own rooms. Later in the year, on April 3, 2008, tensions
continued to rise and time within the interdisciplinary CPT was taken up by discussing the moving process. Teachers were concerned about how the contents of their rooms were going to be relocated to the new building and frequently discussed their progress in packing; some felt that they would not be ready to move into the new building by the fall. The closer the end of the school year came, the more this topic entered into PLC and CPT conversations instead of staying on task.

On March 4, 2008, the school district asked its community to approve a levy of 8.9 million over 5 years to cover operating expenses. The voters did not pass the levy (www.summitcountyboe.com). With this defeat, the conversations among the teachers, especially during CPT on April 3, 2008, turned to how this was going to affect them in the upcoming year. In their April 3 CPT meeting, the teachers discussed possible changes that they overheard may happen. These included an increase in the number of periods they would have to teach, longer periods, loss of team time, loss of tutors and permanent building substitutes, and adding more students per team. They discussed that this would ultimately lead to the elimination of the middle school concept, forcing them to revert back to a departmentalized junior high because it is “more financially sound.” At a staff meeting in April, the teachers were assured that the middle school concept would not be abandoned and that their schedule would not be changed for the following year. However, these concerns consumed a great deal of teacher time and through their conversations, their level of concern about them caused the teacher’s energy and focus to stray from the original intent of the PLCs.
Data Sources
Throughout the course of the study, data were collected using four main sources. These sources include observations, interviews, questionnaires, and artifacts. It is believed that through the gathering of multiple data sources, a well-rounded understanding of the environment in which the PLCs were implemented would be developed. These data sources would help describe the environment, including the members involved, the surrounding physical environment, and any external factors that influenced the actions during the course of the year.

Interdisciplinary Common Planning Time
Five teachers met twice a week for the purpose of discussing students and developing ways to better help a common set of students. These teachers, from different content areas, taught the same core group of students all year. When situations arose, the purpose of common planning time was to develop plans to best meet the needs of all their students. They also used this time to collaborate with each other and create a smaller community within a larger school structure. This smaller community’s intent is to help their students have a sense of belonging in what can sometimes feel to them like a faceless world. These events also foster teachers’ professional growth and help to answer research question number two, “What events take place during common planning time that foster professional growth?”

Members
The interdisciplinary team members were a cross section of subject disciplines with each teacher representing a different subject. There were five teachers on the interdisciplinary team. Mrs. Basking taught social studies, Ms. Bellum taught science,
Mr. Dorian taught math, Mrs. Kennedy taught language arts, and Mrs. Kennedy was the intervention specialist, but also taught her own language arts class to students who were serviced through Individualized Education Programs (IEPs). The team had been together for a total of three years. Each teacher then met with their respective subject matter PLC on the days that they were not meeting as an interdisciplinary team during their common planning time.

Content of discussions

The interdisciplinary team met twice a week on Mondays at 7:45 and on Thursdays at 7:30. However, if school was not in session for any reason on Monday, i.e. snow day or holiday, CPT was pushed to Tuesday and Tuesday’s regularly scheduled meetings were cancelled. Interdisciplinary CPT was observed for a total of 16 times for a total of 7 hours and 24 minutes. The average meeting lasted for 28 minutes.

The focus of the interdisciplinary team’s CPT was not academic but rather the social and behavioral issues that concern the students (Table 5). Their time was spent addressing issues with students that they had noticed across the team. This was a time that they could discuss individual students and discover if other teachers were experiencing the same issue, whether it be academic, social, or behavioral, as other teachers. During the coding process of the field notes that were taken from the observations, tabulations and counts of the discussion topics were made. Categories were then created from these calculations and confirmed by a peer reviewer. This process was used to answer the question, “What does an embedded professional development model look like at in a middle school for both content and interdisciplinary teams using
Table 5

Discussion Topics during Common Planning Time

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<td></td>
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<td></td>
<td>11/16</td>
</tr>
</tbody>
</table>
professional learning communities?” Several discussion topics took place in interdisciplinary common planning time during the course of the year. These included: students’ academic issues, assessments, behavioral issues, non-academic talk, parental issues, school events, team events, working lunches, and other concerns. These nine categories of conversations were the main focus of the interdisciplinary common planning time.

Behavioral issues were discussed on 11 out of the 16 observed sessions and academic concerns were discussed on five of those days. If a pattern existed for a particular student, they used the time to develop a plan to address these issues. A major concern that was constantly raised, other than specific students with behavioral or academic concerns, was a general concern with the lack of work that was turned in by students. This topic was discussed two ways. The first of these was through their use of a program called Working Lunch which was discussed on 11 out of the 16 observed days. It was through this program that students who were missing work were required to eat lunch with different teachers from the team on a rotating basis in order to complete their work. It was during CPT that the teachers coordinated this program and the student’s work. They also spent the year revising this program to better meet the needs of the students.

The other way that the issue of missing work was addressed during CPT was that at the beginning of every CPT, each teacher shared with each other a list of missing assignments from their class. This list was then used by each teacher to help students during a period called Academic Assist, which in many ways, is like a study hall. During
this time, the teacher assists students with their work and encourages its completion. By sharing these missing assignment lists with each other, the teachers become aware of the students in their Academic Assist period who have missing work and can focus their attention on those students. It was because of this sharing of missing work lists that Monday’s CPT started later than Thursday’s meeting. It gave teachers time to print out their lists.

Another student concern that was frequently discussed, other than specific academic and behavioral issues, was students who were frequently absent from school. These discussions were categorized as behavioral issues. The team was dealing with several truancy issues and discussed how they could best meet the needs of those students when they didn’t show up for school. This included bringing in the principal, Mr. Miller, and the two guidance counselors to discuss some of these issues.

Also, to help with students’ academic or behavioral issues, the team discussed parental issues. In October, the team coordinated their parent/teacher conferences and worked together to create student evaluation sheets in which they gave their feedback on students before conferences so that they all had input on all conferences. They also met jointly during parent conferences when it was deemed necessary.

During this time, teachers also spent time completing student recognition programs, such as Student of the Week. These types of conversations were categorized as “Other concerns.” The teachers would discuss which students should be selected for that week’s recognition and why they qualified. They also had to choose students for
various other awards, such as for citizenship awards and students who were eligible for the Thanksgiving free food drive.

The team’s schedule was frequently discussed. These discussions were included in the category “Other concerns.” Whenever an event, such as having an assembly, like one on a blood drive, having a special speaker come in from the high school, or coordinating state testing, the teachers were forced to reorganize their schedules to accommodate the change. Other factors that affected the team as a whole were also discussed here, such as team field trips, a Christmas party, and an end of the year party.

Non-academic talk was frequent during these meetings, occurring during 9 out of the 16 meetings. This talk usually consisted of what each teacher did over the weekend since the meetings occurred on Monday morning. This talk also consisted of topics that were related to the moving to a different school building, teacher evaluations, the failed school levy, and other occurrences within the district. Although this was not directly related to students, it was pertinent to the teachers and was discussed at length during several meetings.

Occurring infrequently was coordination of assessments and was categorized as “assessments.” These discussions were only observed three times. Rarely, teachers discussed the events that were occurring in their individual classrooms. If it ever was discussed, it was either an attempt to coordinate an assignment with Mrs. Kennedy so that she could modify it or a teacher quickly telling the others when they were having an assessment. Not only did the teachers not discuss what units or lessons were being done
in their classrooms, but also they did not discuss what was occurring in their respective PLCs.

All of these events helped answer research question number two, “What events take place during common planning time that foster professional growth?” The combination of these categories helped paint a picture of the daily life of the teachers. They worked together to gain new insights into situations and develop solutions to problems that arose. These discussions in a team setting provided new information to better serve the needs of their students.

*Professional Learning Community Observations*

Each content area within each grade level had a professional learning community (PLC) established. Within the eighth grade, there were four PLCs: math, language arts, science, and social studies. The purpose of each PLC was to align its curriculum to best meet the needs of the students within the content area and to design strategies to strengthen students’ content knowledge. During the coding process of the field notes that were taken during the observations, tabulations and counts were taken of the various types of discussions that occurred. Categories were then created from these calculations. These were confirmed by a peer reviewer. This process was used to answer the question, “What does an embedded professional development model look like at in a middle school for both content and interdisciplinary teams using professional learning communities?”

Over the course of the year, seven categories of discussion occurred most frequently during PLC discussions regardless of which content team. These included unit planning, resources sharing, creating common assessments, discussions about students,
school related issues, testing and standards, and non-academic talk. These seven categories of discussion were consistent throughout the four PLCs, with few exceptions.

Math PLC

Members. The math PLC consisted of three eighth grade teachers; Mr. Dorian, Mrs. Collins, and Mrs. Waters. Mr. Dorian was a member of the interdisciplinary team at the center of the study, while Mrs. Waters and Mrs. Collins were members of the middle school’s PLC committee. Mrs. Collins also served on the science PLC because she was on a two person interdisciplinary team resulting in her teaching both subjects. Mrs. Waters, a veteran teacher, worked alongside Mr. Dorian and Mrs. Collins, who were both newer to the profession by more than 20 years.

Content of discussions. The teachers had been meeting unofficially as a team for the last several years for the purpose of creating common assessments for the math department. They did this, according to Mrs. Waters, to better prepare their students for the high school curriculum. Entering into the year, they already had common assessments created for their units and were planning to focus on unit planning and resource sharing with the intent of improving their instruction. They also planned to begin analyzing the data from their assessments and then refine their future instruction.

The math PLC was observed for a total of six sessions (Table 6) for a total of three hours and nine minutes. This was one session less than the other PLCs due to the fact that on one of the scheduled days of observation, their PLC was cancelled due to Mrs. Waters having to cover another teacher’s class. The math PLC was scheduled to meet on Tuesdays and Fridays from 7:30 – 8:10 a.m. However, each session lasted for an
average for 30 minutes and usually had to end early due to the fact that Mrs. Collins had to attend her science PLC which was held after the math PLC.

Table 6

*Discussion Topics during Math PLC*

<table>
<thead>
<tr>
<th>Date of Observation</th>
<th>Topic</th>
<th>11/13</th>
<th>12/4</th>
<th>12/18</th>
<th>1/15</th>
<th>2/5</th>
<th>4/1</th>
<th>Total</th>
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</thead>
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<td>x</td>
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<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>4/6</td>
</tr>
<tr>
<td>Creating Assessments</td>
<td></td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>4/6</td>
</tr>
<tr>
<td>Student Discussions</td>
<td></td>
<td>x</td>
<td>x</td>
<td></td>
<td>x</td>
<td>x</td>
<td></td>
<td>4/6</td>
</tr>
<tr>
<td>School Related Issues</td>
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<td>x</td>
<td></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>2/6</td>
</tr>
<tr>
<td>Testing/ Standards</td>
<td></td>
<td></td>
<td>x</td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td>3/6</td>
</tr>
<tr>
<td>Non-Academic Talk</td>
<td></td>
<td>x</td>
<td></td>
<td>x</td>
<td>x</td>
<td></td>
<td></td>
<td>3/6</td>
</tr>
</tbody>
</table>

During every session, at least some portion of the time was spent discussing unit planning, which included previous or future lesson and unit plans. This included aligning lessons, creating projects, and determining the homework that would be assigned for the week. These discussions also typically led to student discussions including examining student work and interpreting how students were performing during lessons or on assessments. These discussions included resource sharing about alternative ways to teach certain skills, brainstorming possible student misconceptions about a topic, and resource sharing to help the other teachers teach particular skills, such as worksheets, project
specifications, and number line activities. Even though they had already created common assessments in previous years, they did spend time revising them and realigning them to the state testing and standards. They also revised each question’s point value and based on last year’s students’ performances, they changed some of the questions on the assessments. They frequently revisited the state standards to ensure that what they were teaching was aligned with what was required by the standards. This resulted in a shift in what they had taught in previous years.

Twice the conversation turned to school related issues, including a change in the schedule due to an all-school assembly and the plan to move the middle school to the old high school building the following school year. Only on three occasions did the conversation include non-academic talk in which they discussed their families, their personal health and what they did on their personal time.

Language Arts PLC

Members. The language arts PLC was the largest PLC. It consisted of five members, while the rest had only three. This difference was because two intervention specialists served on this PLC as well. The members included Mrs. Kennedy, Mrs. Masters, Mrs. Cash, Mrs. Halloway, and Mr. Overton. Mrs. Masters and Mrs. Kennedy were members of the interdisciplinary team being studied, with Mrs. Kennedy who also served on the middle school’s PLC committee. Mrs. Kennedy was also an intervention specialist, along with Mr. Overton. Mrs. Halloway served on not only the language arts PLC, but on the social studies PLC as well because she was on a two-person team resulting in her teaching both subjects. The team was scheduled to meet on Tuesdays and
Wednesdays from 7:30-8:10 a.m., and was observed seven times for a total of three hours and seven minutes. However, their meetings never began before 7:40 a.m. and always ended by 8:10 a.m. or earlier due to Mrs. Halloway having to go to her social studies PLC meeting.

**Content of discussions.** The language arts PLC’s meeting time was filled with a myriad of activity (Table 7). The most common event that occurred in this PLC was resource sharing, which occurred on six out of seven days. The teachers shared a great deal of resources, including various worksheets, videos, and teaching activities. They usually shared these resources within the context of unit planning, which was observed on five out of the seven days. The major units planned included ones on persuasive writing, *Flowers for Algernon*, and writing biographies. However, occurring just as frequently as discussion about unit planning were conversations concerning non-academic talk, which were observed on five out of the seven sessions. This included discussions that was not related to the school or students and usually revolved around a teacher’s personal life.
At the end of each unit, the teachers planned a unit assessment and they designed a quarterly assessment at the end of each quarter. These assessments were discussed during four out of the seven sessions. These discussions included what to include on the assessments, how students performed on previous assessments, and how each teacher was grading them.

Occurring on a less frequent basis were discussions about school related issues which were discussed on two of the seven observed days. These discussions included teacher observations and a teacher’s visit to another school district to observe PLCs. Occurring on even a less frequent basis were conversation regarding testing and standards. This conversation was observed on only one of the seven days.
Science PLC

Members. The members of the science PLC consisted of three teachers: Ms. Bellum, Mrs. Collins, and Mrs. Martinos. Ms. Bellum was on the interdisciplinary team at the center of the study. Mrs. Collins was on the middle school’s PLC committee and also served on the math PLC as she teaches both subjects. Mrs. Collins and Mrs. Martinos had been meeting during previous years to plan their units together on an unofficial basis. This is the first year that they met in an official capacity and included Ms. Bellum. All three teachers were of the same relative age and experience.

Content of discussions. The science PLC met twice a week on Tuesdays and Wednesdays. They met on Tuesdays from 8:05-8:35 a.m. and Wednesdays from 7:30-8:10 a.m. They were observed a total of seven times for a total of 3 hours and 47 minutes. The length of meetings ranged from 20 to 47 minutes, depending on the topic being discussed that day. Out of the seven observations, Mrs. Bellum was absent for three due to various reasons—working on conference reports, a parent/teacher conference, and an absence from school.

The event that occurred the most during the science PLC was categorized as non-academic talk (Table 8). The science PLC experienced a situation in which a professionalism issue came into call when it was suggested that one of their members, Ms. Bellum, was not participating and contributing to the PLC. This issue was discussed on the days that she was not present. On December 4, 2007, the principal, Mr. Miller, joined the science PLC to address this issue. This form of discussing, along with other
forms of non-academic talk, including discussions about the teacher’s lives outside of school, occurred on five out of the seven observed days. The content of the meetings focused on creating assessments and sharing resources (Table 8).

Table 8

*Discussion Topics during Science PLC*

<table>
<thead>
<tr>
<th>Topic</th>
<th>11/13</th>
<th>12/4</th>
<th>12/18</th>
<th>1/15</th>
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<td>x</td>
<td>5/7</td>
</tr>
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<td>Creating Assessments</td>
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<td>x</td>
<td>x</td>
<td></td>
<td></td>
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<td>4/7</td>
</tr>
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<td></td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td>2/7</td>
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<td>x</td>
<td>x</td>
<td></td>
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<td></td>
<td>3/7</td>
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<tr>
<td>Testing/ Standards</td>
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<td>x</td>
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<td>2/7</td>
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<td>x</td>
<td>x</td>
<td>x</td>
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<td>5/7</td>
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When non-academic talk was not occurring, they were sharing resources which was observed on five out of seven days. This included discussing videos that they were using in their classrooms, sharing a check sheet that Mrs. Collins made to ensure that her students were meeting all of the standards, and allocating materials for science experiments, such as buckets and balls.
The teachers created or discussed some form of assessment for their students on four of the observed days. This usually looked like each teacher having a different section of the assessment for which they were responsible for finding or creating questions that were aligned with that section. They then came together, discussed them as a whole group and formed a complete assessment.

Of all of the activities, those that were observed the least were discussions that involved unit planning and school related issues which were only observed on three of the days. Discussions about specific students and testing and standards were only observed on two of the days.

**Social Studies PLC**

*Members.* The social studies PLC was composed of three members: Mrs. Basking, Mrs. Halloway and Mrs. Sanders, with Mrs. Basking also a member of the interdisciplinary team. Mrs. Halloway also served on the language arts PLC since she taught both subjects. Mrs. Sanders was a more experienced teacher when compared to the other two teachers, with at least 20 more years as a licensed teacher. Also in the room during the social studies PLCs was a student from a local university who was completing his student teaching with Mrs. Sanders. However, his participation was quite limited. He attended, but usually sat silently during the meetings and did not appear to be seen as a critical member of the PLC due to this limited participation.

*Content of discussions.* The social studies PLC meet on Tuesdays from 8:10-8:40 and on Fridays from 7:40-8:10. However, on Tuesdays, because Mrs. Halloway was coming from her language arts PLC meeting which ended at 8:10, the social studies PLC
did not typically begin until 8:15. Each session lasted for an average of 25 minutes. This PLC was observed a total of seven times for a total of 2 hours and 15 minutes.

During the sessions, the social studies PLC focused their meetings on unit planning and resource sharing (Table 9). The three teachers worked together to align their teaching with each other to ensure that their units were in sync. On seven of the seven observed days, they worked on creating unit plans and sharing resources for those plans. They aligned not only the standard they were teaching but also aligned their activities and daily schedules. They created a curriculum map at the beginning of the year and worked from it throughout the year. In order to stay aligned with each other, they shared resources in order to teach those plans. This included the sharing of worksheets, activities, videos, and even making copies for each other for various activities. Each teacher shared with the others any ideas that they had on how to teach that topic and what they had done in the past to teach that standard. This sharing even included creating an all eighth grade Civil War day at the end of the year which included every eighth grade student participating in various activities relating to the Civil War era.
Table 9
*Discussion Topic during Social Studies PLC*

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<td></td>
<td></td>
<td>2/7</td>
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</tr>
<tr>
<td>Testing/ Standards</td>
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<td>x</td>
<td>x</td>
<td>x</td>
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<td>x</td>
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<tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>0/7</td>
</tr>
</tbody>
</table>

In addition to the great deal of unit planning and resource sharing, the teachers also were very diligent on making sure their units were aligned with the state of Ohio social studies standards and that they were adequately preparing their students for the upcoming Ohio Achievement Test. On six out of the seven observed days, they either spent time aligning their curriculum to a state standard or discussed strategies to prepare their students for the test, including talking to the sixth and seventh grade teachers for review material.
No talk occurred that was considered to be non-academic and they never discussed particular students. They always remained focused on the task at hand--creating their curriculum and assessments, with little diversion from it. Even though their meetings met for less time than other PLCs, they had a high level of accomplishment during the time that they were meeting due to the lack of non-academic talk.

Comparison of Content PLCs

Through observing all four of the content PLCs, a comparison of them was able to be made. Their members, their discussions, and their accomplishments were examined to see any similarities and differences between the different PLCs. Each PLC made progress throughout the year, but their journeys looked different from each other and their final products also varied from each other. However, there are some common themes that emerged from their discussions. Overall, they understood that they were there for the benefit of their students and they all wanted to work to make their teaching the best it could be to impact student learning.

Members. Each of the PLCs looked very different from each other just in their physical make up alone. The most noticeable difference in the member composition in the PLCs is the number of members that each PLC had. Three of the four PLCs had three members each: math, science and social studies. However, the language arts PLC had five members. The two extra members of this PLC were intervention specialists who taught their own language arts class to students who required their services. The two additional members of this PLC created more opportunities for resources to be shared and the ability to collaborate with more teachers.
Within each PLC, two of them had what would be considered to be a “veteran” teacher. In the math PLC, Mrs. Waters, and in the social studies PLC, Mrs. Sanders, were veteran teachers who were more experienced than the other members of their respective PLC. This experience led them to take unofficial roles of leadership within their PLC. It appeared as if they led the other teachers in making decisions regarding the events that occurred during the meetings. They also kept the meetings on track and rarely, if ever, allowed them to veer off of the day’s agenda, which typically led to very productive meetings. However, the other two PLCs, language arts and science, did not have a distinct veteran teacher who took on this role. These teachers, who were either all younger or of the same experience, lacked the strength of a strong leader and without the presence of such leader often veered off course with their meetings.

On all of the PLCs was a member of the building’s PLC committee. On the science PLC, Mrs. Collins served. The math PLC had two members of the PLC committee, Mrs. Collins and Mrs. Waters. The language arts PLC had Mrs. Kennedy, and social studies had Mrs. Basking. These members had all received specific training in the concept of PLCs and how they were to function. These committee members helped run the meetings and set up how the discussions should run so that they would be the most productive but this role did not seem, in itself, to engender leadership. While Mrs. Waters was both on the committee and a veteran teacher, the other school-wide PLC committee members did not take on leadership roles in their content PLCs.

**Content of discussions.** In completing a comparison of the discussions that occurred during each of the PLCs, several patterns emerged (Table 10). Overall, some of
the PLCs were more focused on the task at hand while others got off track and engaged in activities such as talking about school-related issues and non-academic talk. The PLC that stands out the most in regards to staying focused is the social studies PLC. They engaged in the most unit planning and resource sharing discussions and had the fewest student discussions and non-academic talk. On the other hand, language arts engaged in the most non-academic talk and least amount of unit planning. However, they spent more time creating assessments than the social studies PLC did.

Table 10
"Comparison of Number of Occurrences of Discussion Topics during Observed PLCs"

<table>
<thead>
<tr>
<th>Topic</th>
<th>Math</th>
<th>LA</th>
<th>Sci.</th>
<th>S S</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resource Sharing</td>
<td>4/6</td>
<td>5/7</td>
<td>6/7</td>
<td>7/7</td>
<td>22/27</td>
</tr>
<tr>
<td>Unit Planning</td>
<td>6/6</td>
<td>3/7</td>
<td>5/7</td>
<td>7/7</td>
<td>21/27</td>
</tr>
<tr>
<td>Creating Assessments</td>
<td>4/6</td>
<td>4/7</td>
<td>4/7</td>
<td>2/7</td>
<td>14/27</td>
</tr>
<tr>
<td>Non-Academic Talk</td>
<td>3/6</td>
<td>5/7</td>
<td>5/7</td>
<td>0/7</td>
<td>13/27</td>
</tr>
<tr>
<td>Testing/Standards</td>
<td>3/6</td>
<td>5/7</td>
<td>5/7</td>
<td>0/7</td>
<td>12/27</td>
</tr>
<tr>
<td>Student Discussions</td>
<td>4/6</td>
<td>2/7</td>
<td>4/7</td>
<td>0/7</td>
<td>10/27</td>
</tr>
<tr>
<td>School Related Issues</td>
<td>2/6</td>
<td>3/7</td>
<td>2/7</td>
<td>2/7</td>
<td>9/27</td>
</tr>
</tbody>
</table>

Note. The first number in each set signifies the number of occurrences of each event while the second designates the number of observations.

The event that was observed the most was resources sharing, which was observed a total of 22 out of 27 observations. The social studies PLC consistently shared resources. In order for them all to teach the same lessons, they needed to share the
materials needed for those lessons. This led to the sharing of resources at every observed meeting. The science PLC also shared many resources, a total of six out of seven times. However, their motivation may have been different as they needed to share and coordinate materials for laboratory experiments as they had a limited supply of equipment and needed to organize its use. The other two PLCs, math and language arts, did have high levels of resource sharing though. The math PLC shared resources on four out of six meetings and language arts shared on five out of seven meetings. Sometimes this was as simple as someone mentioning that they saw a video that they planned on using or more elaborate as offering to share a worksheet with the rest of the PLC.

In regards to unit planning, the social studies and math PLCs spent every day discussing at least a portion of their meeting time creating unit plans. They both created lesson plans that all members of the PLC followed. They were in sync with their teaching and even went to great lengths to make sure that they were on the same page with each other in regards to pacing, including creating a curriculum map at the beginning of the year. This differed from the language arts PLC who, though they taught the same standard at the same time, were varied in their lessons. They were not symbiotic in their lessons and some even chose to vary their lessons greatly from the rest of the members. This was very different from how the other PLCs were organized and led to fewer discussions about unit planning since they tended to teach their own lesson plans. The science PLC was somewhat in between these two extremes, as they all taught the same lesson at the same time and taught some of the same lessons and experiments, but varied somewhat in their design and delivery.
The creation of common assessments was equally observed between the PLCs. Each PLC was observed creating these assessments a total of four times, with the exception of the social studies PLC. They were only observed a total of two out of seven times. They did create common assessments; however, they created them on their own time and spent little time coordinating them. Rather, they spent their time planning units instead of discussing individual test questions.

The fourth most observed event was that of non-academic talk. The language arts and science PLCs engaged in non-academic talk with the same frequency, five out of seven times. This talk consumed a great deal of their meeting time and usually took them off task. The math PLC engaged in this type of discussion during half of their meeting times. However, their conversations tended to be brief. The social studies PLC did not engage in non-academic talk. During all of their observed time, they were completing some sort of academic-related activity. This sort of focus and attention to their purpose allowed them to stay on task and complete the task at hand, often resulting in shorter PLC meeting times as well. However, even without any non-academic talk being observed within the social studies PLC, it was still the fourth most observed category of discussions.

Discussions of testing and standards were observed a total of 12 times. For example, the focus of the social studies PLC was evident in how much they centered their meetings on the state of Ohio standards and the Ohio Achievement Test. They either discussed the test, strategies for the test, or aligned their plans with standards on a total of six out of seven observed meetings. This was the most out of any of the PLCs by far.
The other PLCs had fewer occurrences, with math only addressing this topic half as many times. Language arts and science completed this event even fewer times, only referring to their standards when aligning assessments.

At times, the discussions within the meetings led to discussions about students, either in general about how their classes were doing or more specifically, talking about an individual student. This occurred at the same frequency rate during the math and science PLCs; it occurred four times for each observation. In these PLCs, discussions were typically very specific about how students did not understand a specific concept of topic. The members would then generate ideas of how to help those students come to an understanding. In the language arts PLC, their conversation led to student discussions two out of seven observations. The difference was that their discussion was more centered on a specific student and how they were dealing with that particular student. One incident involved a student who was having difficulty responding a story. The math and science PLCs focused their student discussions differently. They discussed students from a need to vent rather than generate an academic solution. In extreme contrast, the discussion of the social studies PLC never turned to student discussion. They never discussed individual students or their specific classes. They always remained focused on unit planning and resource sharing.

Overall, the social studies PLC was the exception to the other three PLCs. Their goals of completing tasks allowed them to stay focused and refrain from other activities that would keep them from completing what they planned to do. The language arts and
science PLCs allowed other types of discussions, such as student discussions that were not relevant and non-academic talk to divert them from the task at hand.

PLC In-Service

On February 25, the building-wide PLC committee held a day-long in-service to formally train the faculty in the concept of PLCs and discuss its role within their school. Since the October in-service was cancelled due to contract negotiations, this was the first time that the faculty and staff had any formal training on this concept. The committee planned the day to include a variety of activities that they felt would be relevant to the faculty, as well as introduce new concepts they learned from their own trainings in PLCs.

The day began with a short video by Rick DuFour titled, *Through New Eyes: Examining the Culture of Your School* (2003), which discussed how the addition of PLCs is not just an addition to a school’s structure, but rather a change in its culture. This was followed with the teachers leading a discussion on how PLCs were aligned with the school’s mission and vision statements, especially the statement that their students should be, “actively engaged in learning.” They then had a principal from a neighboring district who shared his school’s experience with PLCs. Although this speaker was from a high school, not a middle school, he shared his school’s structure and how they integrated PLCs within their school.

After the guest speaker, the team that visited the neighboring middle school presented their findings to the faculty. They discussed how they observed the PLCs in action and how they were very impressed by what they saw. They spoke for a long time about how the school used a Scantron device to track student assessment scores for data
analysis purposes. The teachers described to the staff how the other school used this tool to collect data on each student and each item on an assessment to determine which students were struggling with which standard. They were impressed by the level of “engaging” conversation they witnessed and the level of trust the teachers at the school had with each other when sharing their students’ data with other teachers.

The feedback that the teachers had on the visitation included remarks about the district’s affluent socioeconomic status and that some of the interventions they had in place were not feasible in Topper because of a lack of funding. This included not being able to afford a Scantron machine, laptops for all teachers, or additional tutors. However, most of the feedback was positive. One teacher in the audience was overheard commenting, “Good ideas. I wonder how we can do some of them, especially interventions.”

In the afternoon, the teachers watched another video and discussed the interventions that they had in place in their school. They then met as interdisciplinary teams to discuss what their team’s biggest issues were and how they could start to address them. They afterwards were divided into cross-grade teams and shared these problems and what other teams were doing. Subsequently, they rejoined their interdisciplinary team and shared what they discussed in their break-out groups. Finally, as a whole faculty, they discussed the afternoon. They discovered that all teams had the same issue: lack of work turned in and low quality of work that was turned in. After this discovery, the principal made closing remarks and dismissed them for the day because their time was up.
Overall, this in-service was teacher led with little intervention from the administration. Each member of the committee had a different portion of the day to lead. The faculty appeared to be attentive to the teachers leading the activities. However, there were a few teachers who did not pay attention and were filling out paperwork and reading the newspaper throughout the day. Those who were inattentive were mainly the special teachers (physical education, art, music, and technology). Comments from one of these teachers in particular included that this was a “total waste of time,” and that it “doesn’t apply to us.” When asked, the technology and physical education teachers shared that PLCs didn’t apply to them because they didn’t do common assessments and that is what PLCs are mainly focused on. They shared that during their PLC time, they typically just talked about students. Except for those few teachers, the rest appeared to be attentive and participated in the day’s activities.

Observations for this in-service addressed research question one, “What does a job-embedded professional development model look like in a middle school for both content and interdisciplinary teams using professional learning communities?” It added information about how teachers supported their professional learning communities and what vision they had for the future.

*Interviews*

A total of six formal interviews were completed during the course of the study. Three were conducted at the beginning of the year, one each with principal Mr. Miller, the curriculum director Mrs. Heighton, and the entire interdisciplinary team with questions focusing on the conception of the PLCs within their building, their reactions to
PLCs so far, and their goals for the model (Appendix C). Mrs. Heighton was able to explain how the concept of PLCs was brought to the district and what the overall goals were for the district. She also was able to elaborate the district’s vision on professional development and what their goals were for the teachers within the district (November 27, 2007). Mr. Miller contributed to the discussion by describing how the PLCs were brought to the district but narrowed the discussion to the middle school building. He discussed how the teachers were reacting to the change, what his role was within the building, and why this model was well-suited for a middle school building. He also discussed his philosophy on the teacher’s role within the model (December 4, 2007). The interview with the teachers further developed this discussion by expanding on what they saw their role was within this model. However, during the initial interview, the teachers were not very open to talking. They refrained from sharing much so the interview was shallow and lacked elaborate answers (December 2, 2007).

In December, two teachers from another eighth grade team, Mrs. Collins and Mrs. Halloway, approached me about having a discussion about PLCs. They had very strong opinions about PLCs and were quite vocal about them. When approached about doing a formal interview, they eagerly agreed. They were interviewed using the same questions as the interdisciplinary team and were quite willing—since they had volunteered—to share their views about how the PLCs were functioning, their roles within the PLCs, and the role of the administrator (December 12, 2007).

At the end of the year, a final interview was conducted with the interdisciplinary team and Mrs. Heighton. A final interview was requested with Mr. Miller, but after
several attempts, no success was made in setting one up. The interview with Mrs. Heighton discussed her perceptions of the progress the PLCs had made over the course of the year. She discussed how she participated within the PLCs and how she envisioned the direction of the PLCs during the next school year (April 21, 2008). This type of discussion was similar to that which occurred with the interdisciplinary team. This interview, in comparison to the initial interview, was much more open and expansive; the teachers elaborated on their views of the PLCs, the progress they felt they made over the course of the year, and the goals that they set for the next year (April 14, 2008).

**Questionnaires**

Questionnaires were given to each of the members of the interdisciplinary team at the beginning of the study (Appendix B). Initially, Mrs. Masters informed me that she would not be completing it as she did not have time to complete it. The other four teachers took the questionnaire. They were informed that they could take as much time as needed to complete the forms. Within several weeks of receiving the original form, Mrs. Basking returned her form to me. It was not until the end of the study, in April, 2008, that I asked the remaining teachers if they could return their forms to me. At that time, Mr. Dorian returned his form to me with the demographic information and five out of the eleven questions answered. I then gave Mrs. Kennedy, Ms. Bellum, and Mrs. Masters each another copy of the questionnaire and they completed some of it. Mrs. Kennedy completed the demographic information and the first two questions, while Ms. Bellum and Mrs. Masters only completed the demographic information. Due to the limited response that was received from the questionnaires, a final questionnaire that was
originally planned was not given. Also, the data that were collected from the questionnaires was primarily demographic information about the teachers.

**Artifacts**

During several times throughout the year, artifacts were collected in order to obtain a better understanding of the context of the PLCs and the environment in which they were being implemented. These included a copy of the building’s PLC committee’s SMART goals that were created when the school’s PLC committee attended a training session in Columbus with Rick DuFour. These goals outlined the strengths that the committee members felt they already had in their building, what they felt they needed to improve on in order to implement PLCs in the middle school, and what steps needed to be taken in order to be successful in that implementation.

Another artifact that was collected was a copy of a grant application that was written by Mrs. Collins and submitted to the GAR foundation for $15,000 to assist in the implementation and continuation of PLCs within the middle school. The grant application outlined the purpose of the PLCs, the goals that they had established for the middle school, the timetable for its implementation, how they planned on assessing the progress of the PLCs, and how the money was going to be allocated.

Other artifacts collected were primarily gathered during the day-long in-service that was held in February. These included the day’s agenda, handouts from the committee that correlated with the mission and vision statements, possible intervention strategies, and a packet from the guest speaker outlining how his school used PLCs. These artifacts were used to help collect data on how the staff were trained in the concepts of PLCs and how they could use them within their school to benefit the
students. However, the sheet of SMART goals and grant application were the primary artifacts that were used throughout the data analysis process.

Findings
Through many sources of data, several key findings were able to be drawn. These findings paralleled the literature review in terms of what constitutes a successful professional development model. From these various data sources, including the observations, interviews, questionnaires, and artifacts, themes emerged in regards to the (1) type of activity which PLCs generated, (2) the role of content within the PLC and its success, and (3) the collaboration that occurred within the model. These three areas produced findings that helped contextualize the success of the PLCs within Topper Middle School.

Type of Activity
In the past, the teachers of Topper Middle School, and throughout the Topper School district, typically took part in professional development that was isolated from the school day. This included having teachers attend workshops on specified in-service days that lasted for one day. The subject was chosen by the administration and often included having an outside resource person come in and “teach” the faculty and staff about a new technique or strategy. However, since all teachers participated, it was often not applicable to all teachers. Once it was decided to adopt the PLC model within the district, the shift was made from the previous “one-shot” method of professional development to a job-embedded model. Within this model, teachers’ learning is designed to be throughout the course of the school year and not within a defined day or time. This has allowed their learning to be on-going.
Since the teachers met twice a week in their content PLCs and twice a week with their interdisciplinary CPT team, it allowed them to continually learn from each other. As new situations arise, they could pose new problems to each other and work out solutions collaboratively. For example, they could align longer units and assessments with each other, such as in the language arts PLC. They worked together on a unit that focused on writing biographies. Together, the language arts teachers spent several weeks during the months of January and February planning how they were going to teach this unit. However, each teacher did not teach it exactly the same way. Mrs. Masters focused her unit solely on African Americans to tie in with African American month. Mrs. Halloway did not limit her students’ choice of Americans to just African Americans. Despite this difference, they worked together through a period of several weeks to plan the unit and then discussed it while teaching it. This was most helpful when an issue was raised by Mrs. Masters on January 29, 2008. She and Mrs. Cash, another member of the language arts PLC discussed how they were both struggling in getting their students to decipher the credibility of websites and certain books. This discussion led to ideas about how to teach this concept and ways to get students to see the importance of this. Mrs. Halloway even shared that after they were finished, she had her students complete a “wax museum” activity to display their character to the rest of the class. These types of discussions and teacher learning would not be possible if the teachers were not meeting on a regular basis to discuss not only the initial planning of the unit, but also the implementation of it and an analysis of it once it was finished.
This job-embedded model of professional development does not mean that teachers are completely separate from the rest of the world. It does not mean that they are all-knowing and are expected to have all of the answers. When situations occur when they feel that they need outside help or resources, they were encouraged to look outside of their building for it. According to the Mrs. Heighton, in an interview on November 27, 2008, if a certain grade level or building felt that as a whole, they were lacking in a certain area or needed specific resources, then they could ask that additional support for them be brought in with district support.

However, if an individual group of teachers, whether it be a team during CPT or a PLC sees a need, they could seek outside help. This was evident during a science PLC. The science teachers were struggling in teaching about the moon phases and seasons. In a PLC meeting on December 4, 2007, in which the principal, Mr. Miller, happened to be present, they had a conversation about their frustration about continually teaching and re-teaching this concept. They shared with him their latest assessments, and they discussed what they believed the students’ misconceptions were about the topic and how they were unable to relate what they knew to the diagram on the assessment. The teachers also shared their fears that this would carry over to the Ohio Achievement Test. They explained how they were teaching in order to break those misconceptions, including having the students physically rotate around the room to visualize the seasons and using tennis balls as another form of manipulative. Together they brainstormed other ideas to teach the concept. Finally, it was suggested by Mr. Miller that they bring in another teacher from a neighboring district to talk to them about how they teach that particular
standard. One of the teachers agreed to e-mail the teacher from the other district about their concerns and share his answers with the rest of the PLC and Mr. Miller. This suggestion from administration encouraged teachers to use outside resources despite the model being an inclusive, job-embedded one. It was not clear if they ever contacted the outside resource person for assistance with that specific topic.

Another way in which teachers seek outside professional development beyond this job-embedded model was to pursue workshops and graduate courses in order to fulfill continuing education units that the state of Ohio requires teachers to acquire in order to renew their teaching license. These are either workshops or graduate courses that the teachers attend on their own time and are not sponsored by the school district. Several teachers, including Mrs. Masters, Mr. Dorian, and Ms. Bellum, were taking, during the time frame of the study, either online graduate courses or courses at a local university to fulfill these requirements. However, each teacher was required to have an Individual Professional Development Plan (IPDP) plan on file with the school district outlining how they will be working toward meeting their mandated hours. Between the teachers using the professional development they were receiving in their job-embedded PLCs and the outside work mandated by their IPDP plans, they were using many of the resources that were available to them and had many opportunities for professional learning.

Role of Content in PLCs

The content of a professional development activity can greatly impact its success on teacher learning. Several aspects of the content of the PLCs contributed to its overall
ability to lead to teacher learning. These include the fact that their implementation was selected by the teachers, they were grade specific, they were teacher led, and they were subject specific.

**Teacher Selected Implementation**

From the beginning of the implementation of the PLCs, the teachers were included in the process. In January of 2007, when Mrs. Kennedy and Mrs. Collins were asked to accompany a group, including administrators, to attend a session on PLCs, teachers’ input was sought on their formation within the district. After attending the first session, the teachers were included in the discussion concerning whether or not they thought this would work within their district and once they decided as a group that this was something they wanted to begin, their involvement in the process continued and even grew.

From the original teacher input by Mrs. Kennedy and Mrs. Collins, the middle school PLC committee was formed and more teacher input was gathered with the summer conference they attended. They continued with the writing of their SMART goals and designing a plan for their building. Mrs. Collins became further involved when she, together with the curriculum director, wrote the grant that was submitted to the GAR Foundation. These types of teacher-led activities continued throughout the year.

Mid-year the committee discussed the possibility of sending a team of teachers to observe another school district that has had PLCs in place within their middle school for a number of years. They decided that this would be an opportunity to send teachers who have been hesitant to participate within the PLCs to see the benefits of them within the
contexts of another school and hopefully change their attitudes about how they perform within their own PLCs. The PLC committee selectively chose a team of teachers to visit a neighboring school district that has had PLCs in place for eleven years. Those teachers were granted substitute teachers and release time for them to do their site visit. They were then to report back to the faculty at the in-service in February.

Teacher Led Professional Development

The February in-service was teacher-designed and led. The building-wide PLC committee designed and conducted the day-long in-service for the teachers with minimal input or assistance from the principal. They constructed the day’s content based on the needs of the teachers as they saw fit. As a result, the teachers who were participating in the in-service appeared to be mostly interested and attentive which could be attributed to the fact that they were being led by their peers and not by an administrator or an outsider.

In addition to the PLC committee leading the school-wide initiative of implementing PLCs, the teachers themselves have the autonomy within their PLC to make decisions that are relevant to their individual group or grade level. For example, the eighth grade level decided that they were going to have common planning time twice a week and PLCs meeting on a combination of two out of three possible available days, with each PLC only meeting twice a week and one day without any meetings due to scheduling conflicts. Therefore, each eighth grade teacher has team meetings on four days a week. However, the seventh grade level decided that that was too much time devoted to curricular content and not enough time was spent on student issues. They then switched their schedule to include two days of common planning time, two days of
content PLCs and one day of a whole grade level team meeting so that the teachers met on all five of the days. The teachers have that flexibility to change their schedules accordingly to best meet the needs of their teams and their students.

Also, within each team meeting, there is no formal agenda. It is up to the individual teachers within the team, whether interdisciplinary or content, to determine what they are going to work on that day. With no set agenda being mandated by the administration, they are given the opportunity to assess what areas their team needs to reflect on and address during that meeting. This gives them the autonomy, drive, and motivation to work to improve their teaching and their students’ learning.

*Subject Specific*

In addition to the fact that the PLCs within Topper Middle School were teacher-led, the fact that they were content and grade level specific also contributed to context of the program. In the past, the teachers had only met as interdisciplinary teams during their common planning time. This was the first time that they were meeting as subject specific groups. However, some groups, such as the eighth grade math teachers, had been meeting during previous years to align their curriculum for purposes such as preparing their students for the high school curriculum.

According to Mr. Dorian, when asked about his previous professional development experiences, he remarked,

I always loved [sarcastically] professional development because it never applied to the math teacher, but now with PLCs we’re more focused on what we need to do in our classroom to improve the students’ understanding of material. So, in
that way, my development as a teacher’s better than just going to a regular meeting. I can actually bounce ideas off of someone else who is going through the same thing that I am going through in my classroom and get their perspectives and their ideas and share materials, so I think it is better than just a system wide, one development program fits all (December 2, 2007).

This sentiment about having the ability to interact with content groups was shared by other teachers as well. Mrs. Collins, in an interview on December 12, 2007, shared that she sees one of the benefits as being that,

> You come up with this great assessment or whole big unit depending on what you want. So, I think it can be really positive even for the teachers so, if they don’t have a lot of ideas or...have a lot of resources for that topic, [or] just sharing of resources, and making sure, [others are]...aware of the standards.

This was evident in the observations of the teams while they met in their PLCs. The main focus of each PLC, throughout the year, seemed to be to create common assessments and to align the units that they were working on. Each PLC had its own procedure for creating these common assessments. For example, the math team, since they already had common assessments from previous years, took those tests and reevaluated them question by question to assure that they were aligned with what they were teaching that year and frequently reviewed the math standards to ensure that they were aligned with them. This procedure, including assigning point values for each test question, often took up almost the entire meeting time.
This procedure varied for the social studies and science PLCs. These two teams divided up the task of creating common assessments. Each team member took a section of the assessment and created questions. For example, on an assessment for science, each of the three teachers chose a section of the test, created their allotted number of questions and then during the PLC, they discussed the questions, revised them and agreed on the final assessment questions. Sometimes, if another teacher felt they had a better alternative, they would suggest it. This occurred with a question regarding the wording of a question on velocity. They could not agree on how to word it on the assessment. Ms. Bellum described for the other team members how she was teaching it to her students and how they struggled with the concept. Mrs. Collins read a situation concerning velocity from a text book to them and suggested making the question similar to that situation. They debated over how to word that question and finally agree on a final phrasing. It was through this kind of process that many of the questions were written on the assessments for science.

Outside of creating common assessments, other activities that occurred during PLCs that were subject specific included unit planning and resource sharing. Over the course of the year, many examples of this occurred; however, one of the strongest examples of this would be during the social studies PLC. From the beginning of the year, the social studies team had created curriculum maps for their units. This allowed them to consistently work on aligning themselves with that map. Their time was spent on discussing their units with each other, what resources they planned on using, the time frame they were going to complete it in, and their expected outcomes. This was all done
on top of completing their common assessments and staying focused on the state standards that they were addressing. At the beginning of every unit, they completed the benchmarks that they would be covering and made sure that they would be accomplishing all of their goals. Another content-specific strategy they employed was that they were very conscious of the other grade level’s social studies standards. When discussing a timeline project they would be doing, they brought up the fifth grade time line standard and how it affected their project. Toward, the end of the year, when discussing test preparation for the Ohio Achievement Test, they discussed having the sixth and seventh grade social studies teachers give them questions to review with their students.

The social studies team also frequently shared resources. This included not only intellectual ideas but also physical materials as well. When discussing a learning center activity that they would be doing, one of the teachers gave each of the other teachers a story board template for them to use. Together, they divided the task of making enough copies of all of the materials so that each of the teachers did not have to make her own copies. They shared a WebQuest site with everyone, along with the name of a United Streaming video that they had access to, and many other resources. Toward the end of the year, the team began to plan a day-long Civil War event for the entire eighth grade which included stations involving a re-enactment, making ink out of raspberries, as well as making hard tack, a mock medical tent, displaying their multi-genre projects, and other stations. This type of activity’s extensive size would probably not have occurred had it not been for the three teachers collaborating together to make it happen.
Another way in which teachers meeting in content-specific teams benefited the teachers and students was that it allowed them to discuss issues and struggles that were specific to their content area. This was most evident in the math PLC. Many times throughout the year, the teachers would discuss how their students failed to understand a specific concept. For example, on December 4, Mrs. Collins raised the issue in the math PLC that her students were not doing well on the concept of square roots. She stated that her students were unable to see the relationship between square roots and the sides of shapes. She asked another teacher on the team, Mrs. Waters, how she taught the concept. Mrs. Waters replied that she taught it the same way that Mrs. Collins did. However, the third team member, Mr. Dorian described his method of teaching it, which involved using a number line to show it. Mrs. Collins wrote this idea down on a piece of paper so that she could take it back to her classroom to implement.

The conversation continued when Mrs. Waters brought up alternative naming and how they struggle with that as well. They discussed this, and then Mrs. Collins brought up how her students were still struggling with reciprocals. Mrs. Waters shared that her students have the same struggle, but that she suggested that this is something that they will “grow into.” They shared stories of students who were making mistakes with this and their stories sounded very similar to each others.

Mrs. Collins shared a technique she used that involves having the students put boxes around certain numbers so that they can see the relationships between numbers. She also shared how she related this to a science activity she does. This sharing of student struggles would not have been as productive if it occurred within the context of
an interdisciplinary common planning time. Teachers of other subject areas could have not offered the same type of suggestions to these teachers of how to help their students on the specific issues they were facing in their classrooms. This allowed the teachers to gain subject specific professional knowledge that they would have not have otherwise gained had they not been in their content area PLCs.

These events—creating common assessments, sharing resources, aligning of units, and discussing student understanding—would not be possible if teams did not meet in content specific teams. In order for them to occur, teachers must meet with other teachers who are experiencing similar situations. Once this happens, solutions can be created and those specific scenarios can be addressed.

There was a distinct difference between what occurred during the interdisciplinary team’s common planning time and a content team’s PLC. Even though, on average, each type of meeting lasted for the same number of minutes, the types of activities that occurred during each time frame varied greatly. When asked about these differences, Mr. Dorian described them as, “Content [PLCs] is being academic and this [CPT] is more social, behavior aspects of what is going on in the classroom, not just the content.”

Some of the events that took place during CPT included items such as picking students of the week on a weekly basis, relating to each other when assessments would take place, schedule challenges, and student behavioral issues. During this time topics such as assemblies, food drives, and dances also occupied the discussion. However, the greatest amount of time was spent discussing student issues. Two of the greatest concerns that were continually raised were student behavior and student work. Student
behavior was continually brought up. Almost on a daily basis, a certain teacher would bring up a student’s name and describe his behavior in the classroom during the previous days. The rest of the teachers also described any behaviors they saw with that student. These types of discussions were common and generally did not lead to any specific plans of actions to deal with the behavior. Rarely did it lead to suggestions such as “checking the absence file” or “calling the truancy officer” in relation to a student who was continually absent. It was unclear whether or not these suggestions were ever followed up on.

One student in particular was discussed at length during the course of the year during CPT. The first time he was brought up during observations was on November 12. His personal hygiene, specifically his lack of personal care and resulting body odor, were noted. This student was discussed by the team numerous times throughout the year during CPT. In January, the principal was asked to join their CPT to discuss this issue. It was decided that the school would purchase him sets of clothes and when the student came in, they would wash the alternate set of clothing for him using the laundry in the cafeteria. However, the discussion concerning this student did not end at this meeting.

Apparently, as the year went on, the situation continued because the plan of action was never implemented. On April 3, the team was joined by the guidance counselors. They discussed the situation with them to see if a solution could be worked out. They were told that the status of the situation with the clothes washing would be checked on for them, although no solution was ever created for this situation despite its being addressed over the course of the school year. This type of situation is one example of a
typical scenario that was dealt with by the interdisciplinary team. It was not content specific as all of the teachers on the team were dealing with the same issue within their classroom, despite teaching different subjects.

Another issue that the interdisciplinary team addressed over the course of the year was the lack of work that was turned into them. To deal with this issue, one of the interventions they already had in place was a working lunch during which students who had missing work ate their lunch in the classroom with a teacher while they completed their missing assignments. The teachers on the team rotated this responsibility on a weekly basis. As the year progressed, the teachers came to several conclusions about this intervention. First of all, by the time the students went to the cafeteria and returned with their lunches, the lunch period was almost over. Second, the quality of work they were receiving was very low. Third, it was typically the same students every week who participated in this “working” lunch. The teachers discussed this continually during CPT and offered suggestions on how to change it. By the end of the year, they made some changes to their system. According to Mrs. Master’s final interview on April 14, 2008, they changed the day of the week it took place on, the consequences that would occur if the work wasn’t complete during that time, and the date that the work had to be completed by. Ultimately, she stated that, “we are all consistent now.”

The issue with one student’s hygiene and reorganizing how working lunches operated are two examples of what occurred during this team’s CPT, but overall, their time was spent with “housekeeping” type of activities. These types of events are those that did not directly deal with the curriculum or assessment of students. They were
ancillary, yet important. It may be due to this disconnect to curriculum that these meetings were less formal and often did not follow any sort of agenda. Many days the teachers came in with little or nothing to talk about and led to a great deal of non-academic talk. Although these types of conversations have merit in team building and forming collaborative relationships amongst team members, they do not produce concrete links to teacher or student learning.

*CPT as a PLC*

The original focus of this study was the interdisciplinary team and their professional growth. The intent was to focus the study on that team during their common planning time (CPT) and secondarily, also observe teachers during their professional learning communities (PLCs). Shortly into the study, the anticipated professional learning during CPT was not as clear as the strong professional growth that was observed in the PLCs. This finding included the fact that the bulk of the teachers’ professional development that occurred was during their PLCs and very little happened during their CPT. This was an unexpected finding.

This finding became apparent after a pattern of events was observed during CPT. During CPT, discussions were centered on “housekeeping” activities, such as scheduling and completing paperwork. It became clear that CPT revolved around students and their actions, not the actions of the teachers, the focus of the study. The interdisciplinary team discussions tended to be reactive in nature; these discussions focused on students’ negative social behaviors and academic issues, such as late work. Although these topics were relevant to their students’ learning, they were often general in nature, were reactive
instead of being proactive to a situation, and lacked the addition of new knowledge to the team.

During CPT, the interdisciplinary team did not collaborate to create interdisciplinary units or share any specifics about what was occurring in their classrooms academically, such as discussing lessons they were teaching. Also, the conversations between the interdisciplinary team during CPT often turned to non-academic talk, occurring during nine of the sixteen observations. These types of discussions realigned the focus to the study to examine the two types of meetings differently. It was at this point that the professional growth that was occurring during each one was different from each other.

It became clear that PLCs had a direct link to student learning. It was evident that it was in this venue where teachers gained new knowledge about their teaching from others. It was in their PLCs that teachers worked together to improve their teaching. Overall, the conversations were centered on what the teachers were doing, not necessarily always waiting for a student to act negatively and reacting to it, as is what typically occurred during CPT. In the PLCs, the teachers created lessons and common assessments, shared resources, and discussed teaching strategies. These discussions were proactive in a way that allowed them to focus on their teaching and how to improve it before they taught. During these meetings, teachers collaborated with each other about their specific subjects and teaching methods. They referenced their teaching specifically, as opposed to CPT which rarely spoke of the teachers’ behavior, but focused more on the students.
However, through continued examinations of both CPT and PLC, a finding emerged that at Topper Middle School, CPT is actually a kind of PLC. Despite their having different names, their overall purpose within the school appeared to be the same. CPT, as defined by Flowers, Mertens, & Mulhall (2003) is “a group of teachers from different subject areas who plan and work together and who share the same students for a significant portion of the school day” (p. 58). The purpose of a PLC is that the community of learners works together and helps the organization grow (Zepeda, 1999) and this purpose is manifested in a structure that enables professional collaboration which results in the improvement of student learning (Thompson, Gregg & Niska, 2004). These similarities and differences answer the research question, “How are content teams’ common planning time like or different from interdisciplinary teams’ common planning time?”

The events that took place during CPT served the purpose of meeting their students’ needs. Even though the structure of a CPT met the definition of PLC, in that it was a group of teachers from different subject areas who shared a group of similar students and planned together, they were still working together through professional collaboration with the intent of improving student learning. For example, during CPT, when they through worked together to find a solution to a student’s hygiene issue that was distracting him and the students around him from learning, they were promoting student learning. Also, through activities such as organizing working lunches, planning team field trips, choosing Student of the Week, and aligning test schedules, teachers were also working to improve student learning.
However, when teachers were interviewed on April 14, 2008, they were asked whether or not they see their CPT as a form of a PLC, they stated that they did not. They described the two as having two different and distinct differences. When Mrs. Collins and Mrs. Halloway were asked how the two were alike and different, they stated that PLCs were content based and CPT were not. In a similar question during an interview on April 14, 2008, Mrs. Basking replied that:

I [think] that…because this [CPT] was something that was already in place and because in the past we met with this team [interdisciplinary]…and just because we said, ‘this year we are going to be doing more with PLCs’, people just interpreted the content areas as a PLC because we are spending more time there, but technically, the whole building and like the professionals in it make up a PLC.

Mrs. Kennedy agreed by saying:

…we help each other in our content PLCs by giving strategies that are used in our classroom as to help our kids get along academically that are falling behind, but [in our CPT] we talk about kids that are socially falling behind...

The overlap of the two concepts, that of CPT and a PLC, do not seem to be occurring in the minds of the teachers. They still seem to view the two approaches as separate entities within their school. This may be due to the lack of training that the teachers were given on what the definition and purpose of a PLC is. This may also be due to the logistical name by which each is called. If the faculty began to call their CPT a PLC, such as Team PLC, they may begin to see how it meets the criteria of the definition. They might come
to realize that in each, they are indeed working together through the use of professional collaboration with the intention of increasing student achievement.

**Collaboration**

How teachers collaborate with each other and with their administration became a critical factor in the success of the CPT and PLCs at Topper Middle School. The findings related to collaboration also contributed to research question number three, “What role does collaboration have during common planning time to cultivate professional growth?” The essence of a PLC relies on the fact that the teachers work together and create a team. It is from this team that the learning occurs. However, a team does not just occur because a group of people are placed in a room and told to work together. However, that was the case at Topper Middle School. Due to the lack of initial training on the concept of a PLC and how it functions, some PLCs were formed with teachers who had little motivation to work together. They were simply told that this was something they were expected to participate in during the year. They were sometimes placed with teachers with whom they had little previous connection. In some cases, the random mix of teachers worked really well with each other; in other cases it did not.

**Positive Collaboration**

It appeared that in each PLC, the dynamics of the teachers had a major role in the productivity of the team. For example, in math and social studies, each of these teams had three members per team. They each had one veteran teacher and two more novice teachers. In each PLC, the veteran teacher tended to “lead” the PLC. From the time their meetings began to the time they ended, they were productive and meaningful.
Time was spent sharing ideas, planning lessons, analyzing data, and sharing professional knowledge, such as discussing ideas that they had read in the latest professional journal, which was done in one math PLC meeting.

Each PLC, despite not always having a clear leader, enjoyed open collaboration between its members. Each teacher brought to the table professional knowledge that was shared with the others. Each of the teachers was respectful of each other and were open to each other’s suggestions, even with smaller issues. For example, in math, the continual debate was how many points each test should be worth. Mrs. Waters, the veteran math teacher, stated that she preferred that tests be worth an even number of points, such as 50. However, the two other PLC members, Mr. Dorian and Mrs. Collins, did not mind it being an odd number, such as 47. For each test, they would have this discussion and it eventually became a joke between the PLC members. This discussion was observed three times. Even though Mrs. Waters had an issue with the final number of points, she conceded her battle and allowed each test to be an odd number of points for the sake of the team. This might appear to be a trivial matter from a curriculum point of view, but it is just one example of how the PLC worked together on all matters for the betterment of their team. Through this collaboration, it was evident that they knew that working together would be in the best interest of their students, even though it meant giving in some of their own personal interests.

On larger issues, the math PLC also worked together in their weekly planning. Each week, they would collaborate on what lessons they would be completing, which problems they would be assigning, and which quiz they would be giving. Once they
were all in agreement, they would take turns typing up the quizzes, the homework, and any other assignments for that week. They also shared copying those assignments for the entire PLC. This PLC’s collaboration was fluid and flexible. It was open and lead to a great deal of work to be completed within the time allotted.

The situation with the math PLC was similar to the social studies PLC in terms of their dynamics. They, too, had a veteran teacher who emerged as their “leader.” She, like Mrs. Waters on the math PLC, made sure the social studies PLC stayed on task and remained very productive. There was little downtime in their meetings. It was filled with dialogue about lesson planning and resource sharing. Ideas were never belittled or ignored. Each person’s ideas were recognized and often adopted. They had strong collaboration which led to productive meetings.

Resistance to Collaborate

However, not all of the PLCs had open collaboration. These “resistors” were members of various PLCs and their reasons for resisting were often unknown. However, their negativity affected their PLC and as well as others.

From the beginning of the year, it was evident that some teachers had not bought into the concept of PLCs. This was most clear in the language arts and science PLCs. Early on, I was informed by Mrs. Masters that she was not doing the same units that the rest of the language arts PLC were completing. She did not explain her logic to me. The rest of the PLC was working on a persuasive unit, while Mrs. Masters’ students completed family albums. Therefore, during the PLC, when the team discussed their persuasive units, Mrs. Masters could not/did not contribute to the conversation and
remained silent during that team’s PLC meeting. This point was discussed at the end of the year when they were working on their curriculum map for the next year. Mrs. Masters told the rest of the PLC that during the month of December, when she was doing her family photo album project, she felt left out because she wasn’t included in the planning. Mrs. Cash responded to her by stating that as long as she was using the same standards as the rest of them at that time, she was doing fine. The other three teachers in the PLC did not acknowledge this statement.

This lack of acknowledgement by the rest of the team members was a regular occurrence during the language arts PLC meetings and led to a general lack of collaboration. For example, during one meeting, the PLC was trying to decide on a particular topic for a possible persuasive writing prompt for a writing assessment. Different teachers suggested different topics, such as the use of cell phones in schools and chewing gum. However, after each topic was raised, no teacher had a reaction. There was no acknowledgement of any topic and no one made an attempt to agree on any particular topic. It was finally suggested that they link the topic to one of the articles in a literary magazine that they use in their classrooms. However, they do not all use the same magazine. The teachers used two different literary magazines in their classrooms with their students, further showing the disconnect between the team members. The discussion then shifted to driving laws aimed at adolescents and the conversation shifted to a non-academic topic, with a writing prompt never clearly chosen. When asked about this at the end of the year during an interview on April 14, 2008, Mrs. Kennedy, the intervention specialist, stated that, “I think in language arts, it’s been a whole big trust
issue.” This lack of trust exhibited by teachers, although not more fully examined in this study, could explain why teachers are reluctant to speak up with their ideas or acknowledge each other’s contributions for fear of ridicule or non-acceptance.

Several clear differences were evident between the language arts PLC and the math and social studies PLCs. First of all, there was no clear “leader” in the language arts PLC. Despite the language arts PLC having five members as opposed to having three in the other two PLCs, no single teacher stepped up to be the leader. Along with this, there was no person to keep the meetings on track and not veer off into personal conversations. That person was also not there to assist the teachers make decisions, such as choosing a writing prompt. The other difference was the presence of two teachers within the language arts PLC who appeared to be resistors, although they resisted in two different ways. Mrs. Masters originally seemed resistant to aligning her planning with the rest of the team. Her units were not the same as the team’s, although she was addressing the standards at the same time.

Mr. Overton, an intervention specialist who also was on the language arts PLC, was more of a silent resistor. He rarely spoke during the PLC meetings. He often appeared bored and spent most of his time either doodling on his paper or staring off into space. Rarely did he contribute to the conversation and collaborate with the PLC about anything academic in nature. While these behaviors were not blatant forms of resistance, it did make him appear as if he did not want to collaborate with the rest of his team members. His lack of collaboration, which is an essential element of a PLC, hindered him from sharing his knowledge with the rest of team and from making himself open to
the professional knowledge of others. Although they accomplished some of the tasks they set out to do, such as plan lessons and create assessments, these differences affected the productivity of the language arts PLC.

These issues also came into play with the science PLC. The collaboration among the members of this PLC was also shaky to start with and their personal dynamic was different from that of the math or social studies PLC. This team consisted of three members, two of whom have worked together, on their own for many years in the past. The addition of a third person, who was forced to work with this already established “unofficial” team, proved to be a struggle. From the first observation, in which Mrs. Bellum was not present because she was working on conference reports, it was apparent that there was already tension among between the PLC members. Mrs. Collins and Mrs. Martinos expressed frustration with the situation at that point, but despite Ms. Bellum’s absence, they continued to meet to discuss a science test they would be giving. Their conversation was filled with laughter and “inside” jokes that only they knew. During the next science PLC meeting that was observed, they were joined by the principal, Mr. Miller. He was asked to join the meeting by Mrs. Collins and Mrs. Martinos to discuss Ms. Bellum’s lack of collaboration within the PLC. However Ms. Bellum was not present at that meeting due to her attendance at a parent-teacher conference. During this time, the team addressed their concerns with Mr. Miller about Ms. Bellum’s absences and Mr. Miller commented that the purpose of CPT is parent-teacher conferences, not PLC time, showing his frustration with the fact that she was in a conference during a PLC
meeting. At the end of the meeting, the team was assured by Mr. Miller that he would address the situation.

The third observation of the science PLC was the first time all three team members were actually observed together. The first thing that was noticed was that Mrs. Collins and Mrs. Martinos sat on one side of the table with Ms. Bellum on the other side. This sort of physical division further added to the struggle to collaborate. Ms. Bellum could only stay a short time at this meeting because she had to meet with her interdisciplinary team to discuss their Christmas party. Mrs. Martinos went over some questions that she sent to Mrs. Collins the night before, but forgot to send to Ms. Bellum. They went over the procedures for an experiment they would be doing in class. Throughout the explanation, Mrs. Collins stated, “This is what WE talked about.” “WE talked about doing a timeline.” “It’s what WE’RE thinking.” Through her use of the word “we,” she highlighted the division between herself and Mrs. Martinos with Ms. Bellum.

The fourth time the science PLC was observed, Ms. Bellum was again absent from the meeting. She was not in school. Mrs. Collins and Mrs. Martinos were quite upset and made comments that she probably did this on purpose to avoid the science PLC meeting. They still met, but they shared their frustration because they did not know how to divide the work for the upcoming assessment. They stated that they didn’t want to exclude her, but that at the same time, they didn’t think that it was fair that she didn’t participate. Mrs. Collins and Mrs. Martinos also shared that since they asked Mr. Miller to intervene, nothing had changed; however, they had noticed that she was teaching new
things that she wasn’t teaching in the past. Mrs. Martinos said that she could tell this just by looking at what was hanging up in Ms. Bellum’s classroom. They again stated that they were frustrated and didn’t know what to do about the situation.

From that meeting in January, to the next meeting in February, according to Ms. Bellum, she was approached by Mr. Miller about her participation in the science PLCs. Later, a discussion between Ms. Bellum, Mrs. Collins, and Mrs. Martinos occurred about the situation. They all agreed that they were making progress with their PLC and that where they currently were was the best they had ever been. Mrs. Collins even stated that they had come “leaps and bounds” from where they were last year. She shared that it was hard at the beginning of the year because she and Mrs. Martinos had planned together for years on their own without the PLC structure. From that time, Ms. Bellum was present at all of the science PLC meetings.

These examples of resistance were wide spread throughout the building. The reason why people resisted was not clear, but when asked on December 13, 2007, about why people resist, Mrs. Halloway responded,

It’s something different and it’s a lot, it’s more work. Whenever you change to do something, it takes work because you can’t just pull out from last year what you’ve done and you can pull a lot of ideas, but you’re going to have to focus them in or change the order you do things... they want to come in and leave and not have to work and it’s a lot more work.

From an administrator’s standpoint, Mr. Miller addressed the issue of resistors in an interview on December 4, 2007, by acknowledging that they had resistors within the
framework of their building. He described these individuals as teachers who have taught in their own niches for a long time and as a result,

We have to begin to break down those self-induced barriers that they’ve put up, and not that they’re not good teachers in their own right; they are, they just have a tendency to be independent contractors and that is not what this is about. This is about collaborative instruction.

From the beginning, the school-wide PLC committee envisioned resisters to this concept. Especially since they were not able to explain and thoroughly train the staff at the beginning of the year, they were prepared for teachers to resist. They discussed who those resisters might be and what they might do to address this concern.

One of their tactics was to send a team of teachers that they felt were “resisters” to a neighboring school district to spend a day observing how their PLCs functioned and to see the benefits they had on their students. They secured release time and substitute teachers for various teachers from all grade levels and subject areas, including Mrs. Masters, from the language arts PLC, to spend a day in February at the other district. This group of teachers was then to report back to the faculty during their PLC in-service.

On April 14, 2008, Mrs. Basking, a PLC committee member stated that, “I think that really helped because it got more people involved and it showed them that we weren’t asking them to do something else on top of what they’re already doing, something that’s going to help them do what they’re doing.”

During that same interview on April 14, 2008, Mrs. Kellogg agreed with her by describing sending the group of teachers to the neighboring district as, “one of our best
moves and what we want to do next year… I think it made a huge impact on the people who went. I think it was our best move ever.”

Throughout the course of the year, some of the resistors changed their view of the PLCs and began to work more closely within their PLCs. This is even true with Mrs. Masters and Ms. Bellum in the language arts and science PLCs respectively. After Mrs. Masters’ visit to the other school district, her perceptions about PLCs seemed to change. She returned with many stories about how an “ideal” PLC functioned and what she would like to see Topper Middle School begin to do within their PLCs. She enthusiastically shared about how they use various intervention strategies, their grading scale, flexible scheduling, and their use of differentiated instruction. It appeared that after that visit, she had a much more positive outlook. She began to participate more within her PLC, share more ideas, and collaborate more in general. Mrs. Masters commented in her final interview that she would like to take a look at other schools that are implementing PLCs to see how they are working. Her commitment to the idea and dedication to it for the following year was a change from where she began. When asked about her final perceptions about PLCs on April 14, 2008, Mrs. Masters stated that she commented to another teacher at the end of the year that PLCs were, “Pretty cool because I’ve really received a lot of different things that I’ve never done and I think I have, and hopefully shared, with everyone.”

Mrs. Bellum also began to change the way she worked within her PLC. The most noticeable change was that her attendance became more regular. She even made arrangements to “make up” meetings that she would be missing due to attending
workshops on days that they would be having science PLC meetings. She also began to work with the other members of her PLC to create common assessments, began to align her lesson plans more closely with theirs, and worked to analyze the assessments that were given to determine student success.

**Teacher/Administration Collaboration**

The collaboration between teachers and administration is a critical factor in the success of a professional development model. The administration’s role within professional development serves many functions. These include offering guidance and support to the faculty, providing resources and time to implement the model, and assessing the model and the staff’s participation during and after the process. These roles all require open collaboration with their faculties.

**Central Office.** At Topper Middle School, two levels of administration emerged. The first of these was from the district’s central office. This included the office of the Superintendent and curriculum director, Mrs. Heighton. This is the point of origin for the conception of PLCs in Topper School district. It was from this office that the original two teachers, Mrs. Kennedy (the intervention specialist) and Mrs. Collins (who is from another eighth grade team), were asked to attend a session about PLCs to decide if they would like to implement them within Topper Middle School. Once the vertical team of teachers from all the buildings in the district decided to adopt this concept in the district, and it became a teacher led movement to put them into practice in the middle school, this office’s role changed.
The curriculum director, Mrs. Heighton, in an interview on November 27, 2007, was asked to identify what her role was with the PLCs as they were continuing. She stated that her role wasn’t clearly defined. She shared a story that she went to a training session held by Solution Tree about the role of the central office and she asked them a similar question. She stated that she got the impression that they really haven’t defined a role for the central office either. She later stated that she felt that she could be of assistance to the PLCs in creating common assessments. Mrs. Heighton stated, “That is a concern of mine [assessments] because they [teachers] could think that they’ve got a good assessment and maybe in my estimation it’s, it’s a poor assessment….because simply they don’t know.” When the teachers were asked what they perceived the central office’s role as being, Mrs. Kennedy replied that, “They made sure that we go to the training, received the training, he [the superintendent] was with us when we went first [to the first training] and then, put that out there for us who wanted to go to Columbus.”

As the year progressed, Mrs. Heighton did have a role in the PLCs in various ways though her role in assisting with assessments was never observed. One way she aided the middle school was assisting with writing the grant to the GAR foundation which resulted in the start-up monies needed for the program implementation. She also had meetings with the lead teachers from all of the buildings in the district to obtain feedback on the model and to further inform them of the function and benefits of PLCs. She had yet another district from the area who had established PLCs fourteen years ago speak at the meeting about their experience with them. Although her role seemed to be hands off, she was well aware of each building’s progress in using PLCs and she had
clear goals for the next year. According to Mrs. Heighton, this hands-off approach had been a conscious decision as she stated, “We wanted it to come from the peers and grow from the ground up rather than say, ‘Boom, this is how you got to do it.’” This approach was identified by the teachers as well. When asked about the central office’s role over the course of the year, during an interview on April 14, 2008, Mrs. Basking, the social studies teacher, replied,

They see it as more of a building-led thing. They want to make sure that we are doing it, but it’s like our administration in the building feels that it is teacher led. I think that the district feels that it should be building led because each building has a different set up and different needs.

Building Principal. The next level of administration in the functioning of PLCs was the building principal. At Topper Middle School, the teachers looked to their building principal, Mr. Miller, for guidance and support of the PLCs. When asked about his role in this process on December 4, 2007, Mr. Miller replied,

I want this to be a teacher-driven enterprise…, We know by the history of teachers and administration that often times top-down implementation is not very successful or at least not very long-term…. So, to make this a teacher-driven enterprise is what we are striving for…. I think that that’s my main emphasis right now is to try and ease those people who are not exactly on board right now into the workability, the flexibility.

The teachers agreed with Mr. Miller during a final interview on April 14, 2008.
When asked how they perceived his role, Mrs. Kennedy replied, “He considers it to be teacher led. We go to him as a PLC cohort and ask him for things that we need, but other than that, he lets it be teacher directed.” Mrs. Kennedy, the intervention specialist, was later asked in an interview of just PLC committee members, of Mr. Miller’s role in guiding the PLC committee and she again supported her original statement by saying,

He’s been very helpful when we ask him for things that we need in order to run a staff meeting or something like that. He’s always there to provide that for us.

He’s definitely behind the concept; however, he believes that it should be teacher-led, so he sits back and lets it be teacher-led.

However, the notion of having an administrator who was allowing this model to be teacher-led caused mixed emotions. While teachers delighted in having the power to make changes within their own PLCs, they often longed for stronger guidance and support from their administrator. During the course of observations, Mr. Miller attended only two PLC meetings. The first of these occurred during the social studies PLC on November 27, 2007. Mr. Miller entered the room, surprising the teachers, and informed them that the state of Ohio was offering school districts the option of spreading the Ohio Achievement Tests over a two-week period instead of a one-week period, which was how it was done in the past. He informed the teachers that the district had decided to take the two-week option and was seeking their feedback on how they would like the tests to be scheduled: with one or 2 days in between them. He stated that he was specifically coming to them since they were eighth grade, they dealt with the most tests, and since the
social studies test was administered last, he wanted their input on how it would best work for them.

A discussion between the three PLC members and Mr. Miller began. The teachers informed him that they felt the benefit of having it over one week would be that the students’ stress would be limited to one week. Further, they stated that they already had their curriculum map completed for the year and this change would entail them cutting it a week short to accommodate for the loss of a week of instruction; they felt that they would be wasting two weeks of instruction instead of just one. They considered that the extra time could be used for review, but since “cramming” doesn’t help anyone, it might not be worth having that extra time. Ultimately, they informed him that they needed time to make a decision. Mr. Miller told them that he needed to know as soon as possible so that he could inform the other teachers and seemed to have left with a sense of frustration that no consensus was reached.

Once Mr. Miller left the room, the teachers continued to discuss the pros and cons of spreading out the state test over a two-week period. There was an overall feeling of tension and stress among the teachers. Mrs. Sanders, the veteran social studies teacher on the team, expressed a frustration with him needing to know an answer so quickly and couldn’t see why he was in such a rush. Mrs. Halloway, another eighth grade social studies teacher, stated, “Don’t come to us next time, just tell us.” Mrs. Basking agreed by responding, “Don’t ask us, just tell us.” After the conversation continued about how their test preparation would look if they had two weeks instead of one, it ended when Mrs. Halloway stated, “We’ll see what happens, but it sounds like he knows already.”
The tense feeling in the room remained as they began to discuss the other topics of the day that related to social studies.

The second time that Mr. Miller was observed during a PLC was on December 4, 2007, when he was asked by Mrs. Collins and Mrs. Martinos of the science PLC to attend their meeting to address the issue of Ms. Bellum, whom they perceived as not participating within the PLC, a resistor. Although Mrs. Bellum did not attend the meeting, Mr. Miller met with the other two teachers and discussed other issues, such as students not understanding a certain concept about moon phases, the science curriculum, last year’s OAT test scores, the use of a reading and writing strategy in their assessments, and a discussion about previous year’s teacher appreciation gifts. The issue of Ms. Bellum’s participation was never addressed during that session.

For reasons unknown, the situation with Ms. Bellum was not addressed by Mr. Miller until February 5, 2008, two months later. According to Ms. Bellum, it was at this time that she was approached by Mr. Miller and he shared with her the concerns of the rest of the science PLC. However, in the meantime, Mrs. Collins’ and Mrs. Martino’s frustrations with the situation had continued to escalate. When asked about the administrator’s role in PLCs during an interview on December 13, 2007, Mrs. Collins replied, “It’s frustrating because you know there are people that are like, outwardly resisting against this [PLCs], and … I don’t feel like we’re getting a whole lot of support from administration.” She related this lack of support to the fact that Mr. Miller never attended a formal training on PLCs by Rick DuFour and believed that if he could see DuFour’s passion about them, he would be a greater advocate.
The issue of administration dealing with the issue of resistors was continually raised. During the same interview with Mrs. Collins on December 13, 2007, Mrs. Halloway shared her view on the situation by stating,

They’re [administration] not supporting us, who are teachers who are trying to do this….You know, that’s your [the administrator’s] job is to make sure we’re doing what we’re suppose to be doing no matter how you handle it, you can handle it with a lot of tact, but nothing’s been done, so it’s like … we don’t even need to do PLC because no one is following through with us. You know, I mean, we see results from our students, but this is a district-driven thing and no one’s really coming down on those who aren’t doing it. They need a little bit more guidance or explanation that this is something we’re all doing and you need to do it with us.

Mrs. Heighton, the curriculum director, addressed this issue as well during a final interview on April 21, 2008, by discussing the administrator’s role in dealing with resistors. She explained,

I don’t know that you could ever get 100% buy in. …. So, how do you deal with them? I don’t know. I don’t think you could ever convert them. I think that … it’s the leadership. DuFours talk a lot about that. Sometimes to the point of actually confronting the individual and saying, ‘Look, unless you come up with a better rationale or way, this is how the group has agreed and this is how we want to proceed. So, you got to buy in or you got to look for some place else to go.’ … So, I think it’s once you build that mass or that majority and say, ‘This is what we want to do.’ But I think a lot of that comes from building level in terms of getting
that mass and consensus and building it that way so that those individuals, singletons, or individuals then have nowhere else to go, they have to buy in.

It appeared as if no definitive plan on how to deal with the resistors was in place, yet many people agreed that it was the job of the administrator to step in and take care of these situations. However, the teachers did not see that happening and this led to an overall sense of frustration and desire to have more guidance and support from their administration.

In addition to addressing the issue of resistors, the role of the administrator extended to providing support and resources during the building’s in-service day in February. On February 20, 2008, five days before the scheduled in-service day, the PLC held a meeting to decide on the final details for that day’s events. Mr. Miller attended and offered his feedback when appropriate. During the meeting, he asked the committee what he could do to help them and they asked him to arrange for the food for the day. He agreed. They then asked him if he had any folders they could use to create teacher packets for that day. He left the meeting and returned with a handful of pocket folders and offered to get more if that wasn’t enough. Other than that, his participation in the meeting was limited, but this seemed to be expected and accepted by the committee.

During the day of the in-service, his role was also limited. At the beginning of the day, Mr. Miller was present and talked casually with the teachers. When the in-service began, he gave an introduction, thanked the committee, and thanked the maintenance man for turning on the heat in the cafeteria for them. After this, he left the cafeteria and was not seen for the next hour until he returned to introduce and welcome the guest
speaker, a high school principal from a neighboring school district. He remained in the cafeteria for this presentation and at its conclusion, Mr. Miller spoke briefly about how they could adopt the speaker’s presentation to a middle school format. Once the session was turned back to the teachers, he again left the cafeteria until the food arrived for lunch. Once the food arrived, he remained in the back of the cafeteria, helping set up the food. During the afternoon session, his attendance was sporadic, entering and leaving the room at various points. At one point, during small group discussions, he walked around, discussing with various groups the issues each team was having. He then summarized the discussions, reminded the staff to complete their evaluations, and dismissed the teachers.

These behaviors, on the part of the administration, were aligned with the philosophy that the district seemed to have in that the teachers were to be leading their own professional development. However, the fine line between telling teachers what to do and allowing them to be totally independent was blurred. The teachers expressed a desire to have more guidance and support from their administration and became frustrated when they did not receive what they needed. On the day of the February in-service, Mr. Miller’s role was limited. He provided the basics for the day, including ordering the food and providing folders. He also attended the planning meeting and offered his help to the building’s PLC committee. However, it was not the logistical support that the teachers were looking for. It was the emotional and professional guidance from an administrator. Without this support system, the teachers appeared to feel lost and unsure of what steps to take when situations arose, such as having a team
member who was unwilling to participate in meetings. The teachers at Topper Middle School expressed that they felt that they were thrown into this new situation, of having a new form of professional development, without any initial training and any on-going support. Without the support of the administration, their frustration caused an ever-present tension with the administration. This was especially evident in the final interview with the interdisciplinary team on April 14, 2008. When they were asked, “What has been your administrator’s role in the PLCs?” they all looked at each other for a period of silence and refused to answer the question until Mrs. Kennedy, the intervention specialist answered the question by saying, “He considers it to be teacher led. We go to him a PLC cohort and ask him for things that we need, but other than that he lets it be teacher directed.” This unwillingness to even formally speak about the administration shows their dissatisfaction about the situation.

**Leadership**

The range of teaching experience of the interdisciplinary team that was the center of this study extended from Mrs. Basking, the social studies teacher, who had three years experience to Mrs. Kennedy, the intervention specialist, who had fourteen years experience. Of all the teachers studied within the PLCs, which included a total of twelve teachers, only two of them have been licensed for more than fifteen years. According to the Ohio Department of Education (https://safe.ode.state.oh.us), Mrs. Waters received her first teaching license in 1969 and Mrs. Sanders received hers in 1978. The remaining ten teachers all had less than fifteen years experience as licensed teachers, with six of them receiving their initial licenses less than six years ago.
The numbers of years each teacher has been licensed leads to a finding regarding the role of leaders within each PLC. The more years experience a teacher had, the more of a leadership role they took on in their PLC. Mrs. Waters and Mrs. Sanders both have been licensed teachers for more than 30 years. They were also the strongest members of their PLCs. They became the unofficial “leaders” and took it upon themselves to make sure that their PLC stayed on topic and ran efficiently. These two PLCs, which had the most experienced teachers, were the two that had the least amount of non-academic talk and appeared to be the most focused on their tasks during their meetings. This relationship, between having an experienced teacher on a team and the amount of productivity, is a finding within the study.

The social studies PLC, in which Mrs. Basking served, met for the least amount of time compared to the other PLCs. This was often due to the fact that they had to wait for Mrs. Halloway to arrive from another PLC meeting. However, despite the fact that they met for a shorter duration, the amount of work they accomplished during that time was comparable, if not exceeded, that of other PLCs who met for longer periods of time. This seems to be due to the fact that Mrs. Sanders kept the teachers on task and did not allow them to deviate from the academic tasks that needed to be completed. In other PLCs, such as science and language arts, where there was not an experienced teacher, there was a larger amount of non-academic talk present. Consequently, more time was needed to complete the same amount of work.

Even though the math PLC did engage in some non-academic talk, they set up expectations for their meetings early in the year and Mrs. Waters clearly made sure they
met those expectations. She often refocused the teachers when the topic of conversation was shifting and brought them back to what needed to be accomplished. Also, their expectations that they would divide up the work each week, in regards to making copies and typing up homework and quizzes, allowed them to efficiently complete their work. However, it seemed as if it was due to Mrs. Waters that those routines and expectations were in place and enforced.

As these two teachers emerged as the unofficial leaders of their teams, their years of experience as teachers helped them fill these roles. They lead the other teachers to complete tasks in an orderly and efficient manner. This set the tone for the rest of the members. Without experienced teachers, the teachers were less engaged in their tasks, resulting in a lower level of professional learning from each other. Therefore, this having an experienced teacher on a team seems important since it helps result in more professional tasks, leading to higher levels of professional learning.

Assessment of PLCs

In addition to intervening with resistors and providing resources, the issues of having an assessment was continually discussed but never put into action by the administration. In order to determine if a professional development model is being successful, some form of evaluation would allow teachers or administration to see strengths and weaknesses of the model. Based on that information, they could make adjustments and set new goals for the model. However, no formal assessment was planned by the administration for the PLCs. On November 27, 2007, when originally asked how the district planned on assessing the PLCs effectiveness, Mrs. Heighton
commented, “We haven’t talked about that.” She shared that originally they had discussed having the teachers complete an on-line pre- and post- test. However, due to the threat of a strike, they did not create the pre- test in the fall. Instead, she stated that she was going to informally assess the model through her discussions with the lead teachers and principals with the hopes of one day using a formal audit created by the DuFours to assess the district’s use of PLCs and then determine “how we can be further supportive of them.”

Within Topper Middle School itself, according to Mrs. Kennedy, the PLC committee had no formal plans for assessing the model within their school, but “Yeah, I would like to see where the whole staff thinks we are as a community.” Mrs. Basking added to that by sharing that one of the weaknesses in completing an assessment by the PLC committee is that the committee is made up of sixth and eighth grade teachers. There are no teachers from the seventh grade on the committee. She added, “We know a lot of what is going on in eighth grade and some of what is going on in sixth grade, but that is where our committee is, but seventh grade we have no representation, we don’t really know where they’re at.” This adds to the greater need for a formal assessment.

Mrs. Waters, another member of the PLC committee, shared that the idea of a formal assessment sounded like a good idea, but that she didn’t want to be responsible for it. When Mr. Miller was asked on December 4, 2007, about his intentions to assess the model, his response was that “It’s going to be developed as we go.” At the end of the observations, no formal evaluation was planned, by either the district or building level.
In the final interview of the interdisciplinary team on April 14, 2008, the teachers were asked what they thought each of their respective PLC’s greatest achievements were during the previous year in an attempt to informally assess the success of the model. Ms. Bellum stated that the science PLC focused a lot on creating common assessments and that they were currently looking at test scores to compare them to last year’s to see if there was a difference. However, she stated that there may only be a percentage point or two. However, she also pointed out that they changed one of their units from process skills to astronomy which was more specific, so it wasn’t a true comparison. Overall though she thought, “I don’t think necessarily I see an improvement.”

During that same interview on April 14, 2008, Mrs. Basking stated that the social studies’ PLC’s major accomplishment was, “Creating the common assessments and learning to … trust and being more able to talk to each other about what weaknesses we have … And also with analyzing the standards and focusing on those.” She cited an example of how they looked at the timeline of history together and really narrowed down what the students needed to know and focused on just that.

As far as the language arts PLC, Mrs. Kennedy expressed during that same interview that the major accomplishment of the language arts PLC was learning to trust each other and function so well together. She stated,

Every time somebody talks, somebody says, ‘Oh, I have something for that’ or if someone does it before they’ll say, ‘Make sure you do this because my kids had a hard time with this part.’ And so we’ve learned to really communicate well with one another.
Mrs. Masters agreed with her about the language arts PLC during the same interview and supported this by sharing that she had received a lot of different materials from other members of the PLC. She also shared that her general understanding of assessments changed. She stated,

At the beginning of the year, we were pretty much overkill. We really didn’t understand how to do common assessments and we planned to do assessments that take what we thought would be like 15-20 minutes and it actually took like two days. So, we’ve been able to adjust and I guess not ask as much from the kids. And testing was an issue, common assessments was an issue because we considered them all to be tests where now we realize that it doesn’t have to be a test per se. It could be a simple check on the homework or simple in-class project.

Mr. Dorian discussed the progress that the math PLC had made that year. Since his PLC had been working together for the past three years on creating assessments, he felt that that was not their focus. Instead, he stated,

We pretty much look at what to do with those kids and try to figure out time to get with those kids to help with the struggling students out. It’s the constant battle that we’re going to have, but we’re trying to make small improvements. With regards to these assessments though, he did note that before PLCs, they did not allow students to retake retests. Now, they give students an opportunity to look at their misunderstandings, go back, and fix them. He shared that he felt that in the long run this has improved their understanding of the material.
When asked about the team’s CPT and what they saw as their biggest accomplishment, the teachers brought up their working lunch program that they had established and had worked on revising throughout the year. Mrs. Masters shared again the problems that they faced with working lunch, including the fact that they had the same students on a regular basis and that students were not accomplishing anything during that time. She then shared the changes that they made to the program, including the day of the week it is held on, the consequences for not completing work, and having a consistent format for conducting the working lunches. However, Mr. Dorian added that they still don’t feel that the 20 minutes during lunch is enough time to complete assignments, so they are still working on revising the program for next year.

*Future Goals of PLCs*

After completion of the first year of its implementation, the faculty and administration of Topper Middle School are already looking forward to the future. Since no formal assessments were administered, future goals and plans were being made based on informal assessments by the members of the interdisciplinary team, members of each PLC, the PLC committee, and Mrs. Heighton. Mrs. Heighton had outlined plans for next year based on conversations she had with teachers from the different buildings in the district. In an interview on April 21, 2008, she outlined these goals. They include having each PLC build SMART goals that they will work on over the course of the year, just as the building’s PLC did this year. However, now, each individual PLC will write their goals, instead of them being building-wide. Then, based on these SMART goals, the district’s central office could use them to help build any other professional development
opportunities around those goals when they see patterns emerging. For example, if they see that many teams have goals revolving around one particular topic, then the central office will know that further professional development will need to be provided.

During an interview on April 14, 2008, Mrs. Kennedy addressed Topper Middle School specifically and stated that the building’s PLC committee’s goal for next year is,

More exposure to PLCs in progress because … not everyone has the education or the development behind what it is, so we want to work on getting some people out there and seeing it in progress. We as a committee haven’t even seen it in progress. None of us [the PLC committee] have seen it in progress. We’ve just been to the training. So, I mean that’s even something I’d like to see how the day functions in a PLC.

During that same interview, Mrs. Kennedy and Mrs. Basking shared the possibility of sending more teachers to other schools that already have PLCs in place to expand on what they started this year.

Within the PLC, several goals were mentioned by the teachers in regards to what they would like to work on in their CPT next year. The first of these was brought up by Ms. Bellum on April 14, 2008. When discussing their working lunch and how they need to continually revise it, she also brought up that she would like to see them work on their late assignment policy to make it consistent throughout the team. She shared that each teacher has a different policy as to what late work they will accept and what grade they give on it. She stated that students get confused on what teacher will accept late work and who gives out what grades and that she felt that overall it was inconsistent and
it would be better to be on the same page with each other. Ms. Bellum would like to see the interdisciplinary team work on this situation next year during CPT to best meet the needs of their students.

One of the goals of the year that was not reached was the establishment of a pyramid of intervention within the school. The purpose of this pyramid was to specifically identify which interventions to apply to certain situations in order to avoid students getting tested for special education services before all intervention strategies were exhausted. It would outline all services available within the building and how they could be coordinated. However, this was never accomplished by the staff and was identified by Mr. Dorian on April 14, 2008, as being a goal for next year. In continuing the conversation about revising the team’s working lunch program, he brought up that he would like to see the pyramid of intervention become established. This was supported by Mrs. Basking who stated that they already have many intervention strategies in place in their building, but that they need to sequence them to make sure that all students who need them are receiving them and that all resources are being utilized.

Within that discussion, the issue of the new building was brought up by Mr. Dorian along with the reduction in faculty due to the failed levy. He shared that the new configuration of the building may change how interventions are held and that they are going to need to work those out in accordance with the new structure. Ms. Bellum also reminded the interdisciplinary teachers that they will possibly have 20 fewer faculty to help implement those interventions and that that factor will impact the pyramid of intervention as well. These factors will need to be considered next year as they create
More specifically, within each PLC, two of the four content areas were able to identify specific goals that they would like to focus on for next year. On April 14, 2008, Mrs. Basking identified that her goal for the social studies PLC is to move past creating common assessments, since that is what they worked on this year. She stated that their goal is to,

Actually look at the data from them and analyze it and use it because without that piece of it, common assessments are pretty useless. So, I mean, just figuring out how we are going to compile the data and compare it and analyze it and improve the teaching and learning in the classroom.

To this, Mr. Dorian added, “Figure out what to do with the kids who don’t get it.” Mrs. Bellum then added that that goal is similar to what they would like to start doing in the science PLC. She explained that even though they have already begun to look at the data in regards to “who does what” by looking at individual students, now they need to look at what to do with that information, deciding whether to re-teach and when to move on to the next topic. She gave an example of, “The student doesn’t get it, but we’ve pulled out all our tricks and we don’t really have anything else to draw from, so creating those types of reinforcing types of activities, I think is where we will be in science.”

For next year, the district, the building, the interdisciplinary team, and the individual PLCs have all established goals as they recognize that moving to a job-embedded professional development model is a process and it will take time to be where
they need to be. The teachers agreed that PLCs were their primary professional development tool this year and could see them being the anchor for all of their future professional development. Mr. Dorian added that as different situations arise, the PLCs may need to be “branched off” to meet those needs. However, Mrs. Kennedy summed it up by stating, “I think it [PLCs] is definitely a work in progress, but … we’ve made a lot of progress. We’ve come far and I think it’s a pretty fair consensus that we all like it.”

These data and findings describe a process. This is the process of teacher learning through common planning time and professional learning communities. The teacher learning that was observed and the findings that were discovered will hopefully continue to lay the foundation for professional growth for these teachers. The process is never ending, but through examining the steps that have already been taken, future paths can more clearly be decided.
CHAPTER V
DISCUSSION

This chapter provides an overview of the study. Based on the data collected and
its analysis, connections in regards to professional development, specifically common
planning time and professional learning communities, are discussed, and ideas about
future directions of research are generated.

Overview of Study

This school-year case study occurred in a suburban school district during the
2007-2008 school year. It focused on an eighth grade interdisciplinary team and explored
their common planning time (CPT) for professional learning and growth. This
interdisciplinary team had five teachers who taught different subjects—math, language
arts, science, and social studies, as well as an intervention specialist. They were also
followed and observed during their respective content professional learning communities
(PLCs) that were established for the purpose of professional development to observe if
this model was effective in allowing the teachers to grow professionally. Teachers were
observed, interviewed, and given questionnaires to gather data on what activities that
occurred over the course of the school year and what professional growth they perceived
occurring during that time. In addition to those data gathering techniques, the curriculum
director and principal were also interviewed to gather their perspectives and gain insight
into the process that was occurring within the middle school and district. A day long in-
service was also observed in which the whole middle school faculty received training on
the basics of PLCs.
Several barriers to the study were faced. At the beginning of the school year, the teachers threatened to go on strike due to an elapsed contract. After long negotiations, a contract was signed, but it strained the formation of the PLCs and the beginning of this study. Throughout the year, the teachers were concerned about a move they were making at the end of the year from their current location to the old high school building. The logistics of this move and the disruption in routine was a topic of several conversations. The last barrier pertained to the defeat of a school levy in the spring. This affected the teachers as they were concerned about how it was going to affect their jobs and the students. These barriers routinely became a part of the teachers’ discussions during CPT and the PLCs, and conversations steered away from the original goals of the PLCs. Despite these barriers, the teachers remained focused on how to improve their students’ learning.

From the data sources that were gathered, several key findings emerged. They include:

- The primary professional learning related to students’ academic growth occurred in content PLCs, not in CPT.
- A pattern of discussion topics emerged from CPT and the PLCs which were used to identify areas of professional learning.
- The role of collaboration was critical in establishing professional relationships among teachers and forming leadership roles.
- The PLC model, which was job-embedded, teacher-led, and subject specific, had a positive impact on teachers’ professional growth.
These findings were related to the literature review which revealed the discussions that occurred during the interdisciplinary team’s common planning time and the content teams’ PLCs were very different. The CPT was focused on student behavior and school events, while the PLCs were based on academics and tended to be more productive since they remained more on task and focused on student learning.

The collaboration between teachers and administration was critical in the model and whether or not the outcome, professional development, would be met. This collaboration was both positive and negative. When the collaboration was positive, it yielded strong outcomes including sharing of resources, creation of assessments, and unit planning. However, when the collaboration was negative or absent, it distracted from these positive outcomes and did not allow for the faculty to reap the benefits of the PLCs as intended.

A pattern of discussion topics emerged from both the CPT and PLCs. These topics ranged from discussions directly linked to student learning to non-academic talk. The patterns helped determine what types of conversations were being held in each type of meeting and what type of professional learning was occurring. The discussions that occurred in CPT were centered on school events and students’ behavior issues. In the PLCs, the discussions were more focused on academic issues.

Lastly, the fact that the PLC model was teacher-led positively influenced the effectiveness of the model in that it gave teachers the power to lead their own professional development, yet at the same time, they yearned for more guidance and support from their administration. This appeared to be true in both the PLCs and CPT.
The content of the professional development model, which included subject-specific topics, was a major factor in its effectiveness. It allowed them to receive support from others who taught their same subject and relate their professional learning directly to their classrooms. As a result, based on observations and interviews, it was perceived that they became more interested in their professional learning and showed more enthusiasm and passion for what they were doing.

Implications

During the course of the study, several implications surfaced. These included the role of adult learning theory, how professional learning communities function within a middle school, and the new demands on professional development. Other implications include the critical elements of professional learning communities and professional development.

Adult Learning Theory

Several implications surfaced during the course of the study. The first of these is how the PLC model aligns to the various adult learning theories and how they are relevant within the model. Age Theory (Oja, 1991), Stage Theory (Oja, 1991), and Fundamental Theory (Gibb, 1960) are all perspectives that help explain how adults learn. The exploration of how these theories are relevant within the context of PLCs can help explain certain developments, such as the emergence of certain leaders, such as Mrs. Waters and Mrs. Sanders, in the math and social studies PLCs respectively. According to Age Theory, as one gets older, he/she becomes reflective and learns more from this practice (Oja, 1991). Fundamental theory explains that life experience is more important
in learning that knowledge learned from formal education (Gibb, 1960). Both of these theories can be applied to this situation. Mrs. Waters and Mrs. Sanders are both veteran teachers, when compared to the rest of the teachers in their PLC, and have had the opportunity to reflect on their experiences and learn from them. They also have had more years teaching than the other teachers and used that experience to “lead” others in their professional development based on what they have already learned.

The relationship between a PLC and andragogy is also existent. Knowles (1984) and Brookfield (1985) explored adult learning in the context of adults choosing their path of learning. This is the foundation of a PLC. Within the context of the PLC, the adults chose which topics they felt were most relevant to their PLC and how they wanted to pursue that topic. They then created their own plan of action and implemented it within their own PLC.

The administrator’s role within andragogy is one of a facilitator. This is also the core, intended function of the administrator within a PLC. As far as assessments are concerned, within the concept of andragogy, it is the role of the student to create a fair and reasonable assessment. Within the PLC, the building’s PLC could have created and administered an assessment to the PLCs to determine their effectiveness. The parallels between the two adult learning models are close. Ideally, they are both led by the learner, facilitated by another person (in this case the principal), and assessed by the learner. However, the later two were not witnessed in this study.
PLCs within a Middle School

The next implication is how this model fits within the context of a middle school and the overlap of a PLC and CPT. While research has occurred concerning professional development in middle schools (Flowers & Mertens, 2003), the specific context of creating PLCs in middle schools has not. The idea of having a community within a middle school is one that has been advocated for quite some time through the creation of smaller teams and teachers having common planning time to discuss meeting the needs of the students on their team (Jackson & Davis, 2000). However, the overlap between PLCs and CPT has not been explored.

What seems to be an obvious overlap between CPT and PLCs did not appear to be so obvious to the teachers within Topper Middle School. They seemed to struggle with understanding them both as serving the same function, maybe due to the simple fact that they had different logistical names. The PLC model’s design is similar to the foundational beliefs that are supported by those of the National Middle School Association (NMSA). The NMSA believes that “professional development should be integrated into the daily life of the school and directly linked to the school’s goals for the student and teacher success and growth” (NMSA, 2003). Since the foundation of a PLC is the same as the belief of the NMSA in that it is job-embedded and that the structure of it is similar to common planning time, a PLC’s placement within a middle school structure seems to be aligned with those that support the middle school concepts and the philosophies that support it. Thus, PLCs are a logical candidate for professional development.
The National Middle School Association’s Research Agenda (NMSA, 1997) included four questions related to professional development and creating communities in middle schools. This study attempted to answer some of those questions. The first of these questions is, “What types of professional development enable teachers to be self-directed learners who take responsibility for their learning and the learning of their students?” In relation to this question, data from this study showed that PLCs, together with CPT, are a form of professional development that allows professional development to occur because it was a teacher-led model in which teachers were able to decide the best plans of actions for the students and their personal professional learning.

It also addressed the second question, “What types of professional development programs impact teaching-learning and in what ways?” Although data were not specifically collected during this study to assess teacher learning, through the data that were gathered some conclusions regarding the impact on teacher learning can be drawn. These include the fact that PLCs do impact teacher learning through the advocacy of collaboration, teacher leadership, and its job-embedded nature. These factors appeared to impact if, and how, teachers learn.

The next NMSA research question was, “What is the impact of professional development on teaching?” Although observations of teaching were not made, some of the impacts that this professional development had on their teaching were clear through their discussions in their meetings. The teachers changed their teaching by coordinating their lessons with others. They accomplished this through the creation of new assessments and lessons. They also used new resources and teaching strategies that were
shared with them by other team members.

The last question that this study contributed to was, “What strategies do principals use to promote learning communities for adults?” However, through this study, the source of this answer did not come from observing the principal’s actions; rather it came from the teachers. Through the course of the study, the teachers expressed their frustrations with the administration and that they would like him to support them more. It was through this lack of action on the part of Mr. Miller that a kind of answer to this question emerged. While the study did not document strategies the principal actually used, it did document teachers’ desire to have an actively supportive principal.

Demands of Professional Development

The demands being placed on teachers to remain “highly qualified” are a reality. Teachers are required by the state of Ohio to have an Individual Professional Development Plan (IPDP) on file with their school district that outlines their professional development goals. Throughout the year, teachers are to be working towards those goals in order to fulfill the requirements they need to renew their state teacher license. The PLC model does not take into consideration the teacher’s IPDP and does not grant them any credit for the work they do within their PLCs. This means that teachers are still in need of finding other ways of fulfilling those requirements, such as taking graduate courses or workshops outside of the district. With the increasing demands on teachers, an exploration how to combine these two professional development entities and make them work for the benefit of each other seems a worthwhile project. If the district can apply
credit for the work that teachers do within their PLCs to their IPDPs, then their production level and willingness to collaborate might change.

*Elements of PLCs and Professional Development*

According to Hord (1997), there are six universal attributes within a professional learning community. These include: (1) a supportive and shared leadership capacity, (2) a shared mission, focus, and goals, (3) collective learning and application of learning, (4) continuous inquiry and practice, (5) a focus on improvement, and (6) supportive conditions and environments. These attributes are seen as the keys to a successful professional learning community within a school.

Within Topper Middle School, two of these elements were clearly present. It was never unclear what the district, school, or teacher’s mission and vision was for their students. In fact, during the February in-service, the teachers discussed their mission and vision statements to be clear on how PLCs aligned with them. All of the teachers and administration stated that their goal was to improve student learning and saw this form of professional development as one of the means to achieve that goal. With this vision came a focus on improvement. It seemed as if the majority of the staff believed that the implementation of this professional development model was a way to improve their teachers and ultimately their school as a whole. This commonality laid a foundation for the work that was completed during the year.

Two additional attributes were present, but not in a strong capacity. A collective learning and application of learning, along with continuous practice and inquiry, were sometimes visible within the PLCs and CPT. However, the teachers’ inquiry and
learning were sometimes sidetracked by other external factors that they faced, including a possible strike and a failed levy. At times, these matters took precedent over their learning. Therefore, these attributes were visible but could be strengthened through encouraging teachers to remain focused on their learning for the sake of their students and not allow themselves to become distracted by other issues.

Two of these attributes appeared to be absent in the implementation of this professional development model at Topper Middle School. These included supportive and shared leadership and supportive conditions and environments. These essential missing elements contributed to the struggles they faced. Although there were some strong leaders who emerged within the PLCs and on the building’s PLC committee, lack of a strong, supportive leader available to all of the teachers was not present. This missing link caused many frustrations with the teachers and sometimes created an environment that was less than friendly. The administrator was responsive to the teachers, needs when approached, such as helping them prepare for the in-service. However, the rest of his approach was hands-off and served in a reactionary role rather than a proactive one. Due to this philosophy, when tensions rose, the administrator was not always available to address the situation to the satisfaction of the teachers, creating an environment that was filled with stress and tension that was not conducive for learning.

These six attributes are not unique to PLCs. In many ways, they can be the essential elements of any professional development model. For any teacher learning to occur, these elements should be in place within a school. Future professional development models that are implemented, whether they are professional learning
communities or another form, need to include these essential elements to ensure that teachers will have the optimal opportunity for learning. As present in this study, when one of these elements is absent, it places a strain on learning and impedes the process. New professional development models will surely continue to be created and implemented. To ensure their success, their implementers should examine the models and decide if these elements are in place before and during the process.

Future Implications

When studying professional development, the question remains, “What is the relationship to student achievement?” This study did not directly address this issue. It focused on the aspect of teacher’s professional growth and learning, but not how that learning was then transferred to their students’ learning. In order for the teacher’s learning to be purposeful, it would have to have been related to their students’ learning as well. Further study would have to be completed to show this relationship. This could include examining student Ohio Achievement Test scores or other forms of student assessments. However, in order for that to occur, a longer study would be needed.

The issues that arise with studying the relationship between teacher professional development and student achievement is isolating the professional development factor from others that occurred within this study, such as the role of the administrator, the presence or absence of collaboration, and external factors such as the proposed strike, failed levy and future building move. These other variables could also have an influence on a teacher’s performance and result in changes in student achievement. Therefore,
identifying a method of isolating just the role of the PLCs in student achievement needs to be done.

Overall, the success of the PLC model as a professional development model has yet to be determined. The overall impact on the teachers involved has not been clearly shown because their professional growth this year was not tangibly measured. The success of this model was compared to the standards of a successful professional development model that was pulled from the current literature. In terms of the content and the fact that it is a job-embedded model, it meets the framework suggested by the literature review for a successful model. It does seem to provide the building blocks for powerful collaboration to occur and learning to take place from each other. At first glance, these three essential elements suggest a successful professional development model when solely looking at the definition of what makes a model effective. However, within this model there were many other factors that the literature did not address fully and came into play in this study. One of these major issues was that of resistors. These resistors reduced teacher professional growth by having to address the issue of getting all of the teachers to work together instead of being able to focus on the goals set for the team. Adequate back-up plans were not in place to handle this resistance and therefore, the model was diverted when addressing them. No professional development model is ideal. That is understood. Yet, little has been written to address what should occur when situations arise to counteract negative professional learning. The introduction of strategies and their success on such situations would be helpful, not just in this specific situation, but on most professional development situations.
Topper Middle School embarked on a journey this year. They began something new. Schools do it all the time, and it is not the last time that Topper Middle School will try something new. The path that Topper Middle School has taken over the course of the last year has not always been a smooth one, but their final destination has always been clear: improved student learning. Despite all the challenges, they kept their focus on doing what they could to improve their student’s learning and do their best to make sure their students were receiving the best education they could. Their implementation of PLCs and professional growth is on a trajectory of improvement. With clear goals for the future and vision of where they have come from, they have a passion to continue what they started and improve not only themselves, but ultimately their students.
Consent Form: Using Common Planning Time to Foster Professional Growth

I want to do research on how teachers use their common planning times to develop their professional skills. I want to do this because professional growth is ongoing and essential for teachers. Common planning time provides teachers with an opportunity to collaborate with each other to develop skills necessary to grow professionally. I would like you to take part in this study. If you decide to do this, you will be asked to be observed during the school year during professional activities, be interviewed about your experiences, and submit to me evidence of professional growth including lesson plans and/or activities from your classroom.

If you take part in this project, you will have an opportunity to evaluate the professional development activities that occur during common planning time and see the factors that influence your professional growth. You will be able to identify which of these factors affect how you grow and make changes accordingly. Taking part in this project is entirely up to you, and no one will hold it against you if you decide not to do it. If you decide to take part, you may stop at any time, without penalty.

If you want to know more about this research project, please contact me at rmis@kent.edu. For more information you may contact my advisor, Dr. Alexa Sandmann at asandman@kent.edu. This project has been approved by Kent State University. If you have any questions about Kent State University’s rules for research, please call Dr. Peter C. Tandy, Acting Vice President and Dean, Division of Research and Graduate Studies (Tel. 330.672.2704).

You will get a copy of this consent form.

Sincerely,
Robin Mis

I agree to take part in this project. I know what I will have to do and that I can stop at any time, without penalty.

________________________________________________       ___________________
Signature                                                                                         Date
Audiotape Consent Form

I agree to audiotaping at ____________________________________________________________

on ____________________________________.

________________________________________________     ___________________
Signature                                                                                       Date

I have been told that I have the right to hear the audio tapes before they are used. I have
decided that I:

_____want to hear the tapes                       ____ do not want to hear the tapes

Sign now if you do not want to hear the tapes. If you want to hear the tapes, you will be
asked to sign after hearing them.

Robin Mis and other researchers approved by Kent State University may/may not use the
tapes made of me. The original tapes or copies may be used for:

_____ this research project
    ____ teacher education
    ____ presentation at professional meetings

________________________________________________     ___________________
Signature                                                                                     Date

_____________________________________________________________________
Address
APPENDIX B

Teacher Questionnaires
Initial Teacher Questionnaire
Fall 2007

Name: ________________________________________________________________

Grade/Subject: _______________________________________________________

Team: __________________________________________________________________

What teacher licensure do you hold? _______________________________________

How many years of teaching experience do you have? _______________________

How many years have you worked for your current district?___________________

How many years have you worked on your current team? _____________________

List previous teaching experience:

District:_____________________________ Grade/Subject:_____________ Years:_____  
District:_____________________________ Grade/Subject:_____________ Years:_____  
District:_____________________________ Grade/Subject:_____________ Years:_____  

List your education background:

Degree: ______________________________ College/University:__________________  
Degree: ______________________________ College/University:__________________  
Degree: ______________________________ College/University:__________________  

1. What involvement have you had in the Professional Learning Communities so far?

2. In general, how would you describe the role of professional development in your teaching career?
3. Describe your previous professional development experiences? (What did they look like? What types of experiences have you had?)

4. Describe what factors make an effective professional development experience.

5. Do you feel as if your professional development up to this point has met your professional needs? If yes, please explain how they have me them. If not, what was missing from your experience?

6. Do you feel that professional development experiences affect student achievement in your classroom? Explain how or how not.

7. What role do you feel administration has in professional development? What role do you feel they should have?
8. What factors do you feel have the biggest affect on your professional learning? 
(administration, type of program, content of program, school environment, etc.) For each one, please describe what affect they have had.

9. What are your individual professional goals this school year?

10. What are your interdisciplinary teams’ goals for this school year?

11. What are your content teams’ goals for this school year?
Final Teacher Questionnaire
Spring 2008

Teacher’s Name: ________________________________________________________________

1. Throughout the course of the year, has your attitude towards professional development changed? If so, how?

2. Describe your professional development experiences this year. What did they look like? What types of experiences have you had?

3. Describe what characteristics of these experiences were most helpful to your professional growth.

4. Do you feel as if your professional development this year has met your professional needs? If yes, please explain how they have met them. If not, what was missing from your experience?
5. What changes would you like to see made to professional development for the future?

6. What factors do you feel have the biggest affect on your professional learning? (administration, type of program, content of program, school environment, etc.) For each one, please describe what affect they have had.

7. Describe the individual professional development goals that you have met this school year.

8. Describe the teams’ professional development goals that have been met this year.
APPENDIX C

Interview Questions
Interview questions for teachers
Fall 2007

1. What did professional development look like prior to this year?

2. How did you feel about the previous professional development?

3. What does professional development look like this year?

4. What is your specific role in professional development right now?

5. What are your reactions to the new professional development model?

6. Do you feel that the new professional development model will better help you reach your professional development goal? How?

7. Besides the addition of professional learning communities, what other changes would you like to occur on how professional development is approached in the school?

8. Describe what a typical common planning time for your team looks like when it is working on professional development goals.

9. What else does your team use common planning time for?

10. Tell me about the collaboration that occurs within your team. Do you feel that it is adequate?

11. If not, how would you like it to be changed?

12. How do you see professional development affecting student achievement in your classroom? Can you give me a specific example?

13. What do you think the role of administration should be in professional development?
Interview questions for teachers
Spring 2008

1. In looking back at the past year, how would you describe the success of the new professional development model?

2. What advantages do you see from the old model?

3. What disadvantages do you see from the old model?

4. What has your role been in your professional growth?

5. What has your administration’s role been in your professional growth?

6. What other factors do you feel affected the model this year?

7. What changes do you feel need to be addressed in the model for the future?

8. Which of those changes do you feel will be implemented?

9. How were the specific needs of the middle school addressed this year?

10. What role did your team’s common planning time in professional development?

11. How do you feel your team can better utilize common planning time to meet your professional development goals?

12. What goals were met this year?

13. If goals were not met, why do you feel they were not met?

14. What evidence do you see of this new model affecting student achievement in your classroom?
1. Tell me what professional development looked like in Topper School district prior to this year.

2. Tell me what professional development looks like in Topper School district currently.

3. Why was there a change in professional development models?

4. Are there any unique professional development needs specific to Topper Middle School?

5. How are those unique needs being addressed in Topper Middle School?

6. What are the current goals of the professional development in your district? In the middle school?

7. What role does common planning time have in the professional development at the middle school?

8. In your opinion, how has the staff reacted to the changes in models so far?

9. What is your role within the professional development of the teachers?

10. What expectations do you have of the teachers in meeting the professional development goals?

11. How will the new model be assessed?
Interview questions for principal and curriculum director
Spring 2008

1. In looking back at the past year, how would you describe the success of the new professional development model?

2. What advantages do you see from the old model?

3. What disadvantages do you see from the old model?

4. What has your role been in helping foster professional growth?

5. What role did the teachers play in their professional development?

6. What other factors do you feel affected the model this year?

7. What changes do you feel need to be changed in the model for the future?

8. Which of those changes do you feel will be implemented?

9. How were the specific needs of the middle school addressed this year?

10. What role did you see common planning time having in professional development?

11. What goals were met this year?

12. If goals were not met, why do you feel they were not met?

13. What evidence have you seen of professional development affecting student learning?
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