THE IMPACT OF TEACHER SELF-EFFICACY
AND COLLECTIVE EFFICACY AT THE MIDDLE SCHOOL LEVEL

A Dissertation
Submitted to
the Temple University Graduate Board

In Partial Fulfillment
of the Requirements for the Degree
DOCTOR OF EDUCATION

by
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May 2016

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The primary goal of this mixed method study is to investigate and analyze how the nature and structure of the widely accepted middle school and teaming models impact individual teacher efficacy as well as collective efficacy. I examined the implications of these models on the levels of efficacy for both teamed and non-teamed teachers. Both social cognitive theory and belonging theory informed the research study. The mixed method study was conducted at seven suburban middle schools in four districts outside of a major city in the northeastern section of the country. Each middle school utilizes the teaming model as the focal point of their philosophy. Research data were gathered from volunteer teachers through the administration of an online 37-item survey and voluntary individual follow-up interviews. In addition, principal interviews served to give background and cultural information at the building level. Themes from survey data informed the interview protocol. A review of historical documents provided additional information. The data were analyzed and themes were extracted in order to provide recommendations for these particular middle schools. Based on the collected data, teachers working at the middle school level can experience varying levels of both individual teacher and collective efficacy based on teaching position and experience. Implications for further research in the area of teacher and collective efficacy at the middle school level are noted.
DEDICATION

To my parents and husband,

who continually encouraged me
to complete this labor of love.
ACKNOWLEDGMENTS

Earning a doctorate was a goal of mine for over a decade. Once I got knee deep in the process I realized that it wasn't about the final degree, but rather about the process. It was a lengthy and time-consuming one, but well worth it.

Educationally, I've come a long way from the crying child my Mom had to peel off of her leg in 1985 to attend nursery school. My parents taught me the value of a good education and hard work at an early age, and I am eternally grateful that they instilled this in me. Although I had my favorite teachers along the way, every single one of my teachers made an impact on the student I am today. Each of their teaching styles, personalities, and love for education drove me to strive to do my best in each of their classes.

Dr. Shapiro, thank you for taking me under your wing even as you began to move into your semi-retirement phase of your career. Your technical and thoughtful feedback provided me with direction and your encouragement from one working mom to another provided me with the motivation to move forward. You passion for bettering the world of education was evident from day one.

Dr. DuCette, thank you for the qualitative expertise and feedback. The balance of the numbers and words was a nice fit for this study.

Dr. Gross, thank you for pulling me into the Temple Educational Leadership program through the initial classes I took with you. Your story telling brought the theories to life.

My committee, thank you for agreeing to take the time away from your own research and teaching to serve in this capacity.
Thank you to my colleague Jacqui Hickey, for your perpetual upbeat attitude about our completion of this multi-year endeavor. It was meant to be that we were around the same place at the same time and had the opportunity to push one another, share ideas, and offer suggestions and encouragement when necessary. Our meetings served both as stress relief and goal setting sessions. I am so glad to have gone through this exercise in professional advancement with you.

Last but certainly not least, I must thank to my friends and family who continually asked me how things were going and reminded me that I had it in me to see this to fruition. My Mom and Dad in particular sacrificed for 18 years to send me to the very best schools. They made me revise papers, start projects over, and go back and check my work until they knew I was giving 110%. They always had faith in their stubborn little girl. My Mom, Dad, and siblings have continually pushed me to persist on this path, which seemed daunting at times. Without my husband, I would have never earned this degree. He whole-heartedly pushed me to continue when I was ready to throw in the towel. He made me a cup of coffee or poured me a glass of wine when I needed it, and he took care of our daughters for endless hours when I was at the library or coffee shop. His name should be on this degree too. To my feisty and sweet daughters, Alexandra and Hannah, I hope this teaches you to set big goals and chase them down. You can do it all and do it well. Do not let anyone tell you that you cannot handle working, going to school, and being a mother at the same time.
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CHAPTER 1

INTRODUCTION

The school must itself be a community life. ~Dewey

The transition to middle school typically means changing classes and teachers each period, navigating the building, finagling with lockers, and being the youngest students in the building. These adjustments can seem daunting to a ten or eleven year old. “Constant shifting creates formidable barriers to the formation of stable peer groups and close, supporting relationships with caring adults. The chances that young people will feel lost are enormous” (Carnegie Council on Adolescent Development, 1989, p. 32). The middle school model came about half a century ago and gained ground in the 1990’s after the Turning Points report suggesting that the interdisciplinary teaming model was the best way to serve young adolescents by creating a small community of learning at the middle school level (Carnegie Council on Adolescent Development, 1989). The middle school model provided more developmentally appropriate programming and allowed for gradual transition from elementary to high school. Prior to the Turning Points report, most schools were considered junior high schools, which utilize a traditional departmental structure. The departmental structure divides and groups faculty by academic subject matter such as mathematics, English, science, social studies, and world languages to name a few.

The merit of interdisciplinary teaming has been thoroughly documented within middle school research, and is now considered a must when discussing organizational
expectations and quality middle school programming (Erb & Dickinson, 1997). The interdisciplinary teaming model is better able to meet the academic and psychological needs of middle school students (Dickinson, 2001). Clark and Clark note that the interdisciplinary teaming model allows for teachers to meet in structured focus groups to discuss and address students' needs (1994).

Interdisciplinary teaming, which is a defining organizational feature of middle schools, calls for a set group of teachers from several disciplines to work together to provide integrated instruction for a cohort of students whose classrooms are in close proximity and who teach on the same schedule (George & Alexander, 1993). Interdisciplinary teaming is considered a "signature practice" (George & Alexander, 1993, p. 49) because it establishes an organizational framework through which schools deliver effective instruction for students (Valentine, Clark, Irvin, Keefe, & Melton, 1993). Some primary characteristics of the interdisciplinary teaming model, which directly impact the quality of students' educational experience, include: flexibility with schedules, teacher autonomy and decision making, common planning time, and adjacent classrooms (Steffes & Valentine, 1995). There are typically two to five core area teachers (mathematics, science, social studies, reading, and language arts) working with the same 50 to 150 students. The remaining teachers, who are non-teamed, typically work with students from multiple teams at the same time on noncore subjects such as art, music, physical education, etc. The possible benefits of interdisciplinary teaming have been studied and lauded by many (Ashton & Webb, 1986; Carnegie Council on Adolescent Development, 1989; George, 1982; Little, 1982; Rosenholtz, 1989).
One benefit of the interdisciplinary teaming model is said to be enhancement of teacher self-efficacy, which ultimately can be linked to greater student achievement (Hargreaves & Evans, 1998). This concept of teacher efficacy was first conceived by the RAND organization (Armor et al., 1976). The RAND organization defined teacher efficacy as the belief that teachers could control such things as student behavior as well as motivation. Teacher efficacy research continued on for the next four decades. In that time both teacher efficacy and more recently collective efficacy have been studied. Impact on student achievement has been the biggest focus although more recent studies have looked at leadership as it relates to efficacy. Although many view teaching as an individual effort, in reality it is a collective group effort influenced by many factors. How can these factors be maximized within the middle school construct to promote both teacher efficacy and collective efficacy, which can in turn impact students?

The following mixed method study investigated and analyzed the nature of interdisciplinary teaming at the middle school level as it relates to teacher efficacy and collective efficacy for both teamed and non-teamed teachers as well as core and noncore teachers. More specifically this study looked at how both individual as well as groups of teachers within the organizational structure of a middle school perceive that they belong to the school in which they teach and in turn how this might impact their teaching. This study was accomplished by surveying and interviewing a cross section of teamed, non-teamed, core, and noncore teachers, as well as interviewing building administrators, and reviewing related historical documents in seven suburban middle schools within four districts. The potential implications could have an impact on scheduling, collaboration, team building among faculty, interdisciplinary teaming, professional development, room
assignments, organization of the school, teacher efficacy and collective efficacy, as well as student achievement and motivation.

Statement of the Problem

In the 1960’s early advocates of the middle school model suggested that junior high schools embrace a new philosophy in which teachers of classical subjects (mathematics, English, science, and social studies) were placed on an interdisciplinary team. This team would then assume the responsibility of working with a set group of students for a school year. These smaller learning communities, better known as interdisciplinary teams or simply teams, operating within a larger school, would ideally build collaborative communities of teachers (Supovitz, 2002). The prevalence of interdisciplinary teaming in the United States increased from 5% in 1965 to 33% in 1989 to 42% in 1990 to 57% in 1992 to upwards of 80% by turn of the century (Hackmann et al., 2002; Valentine, 2000; Valentine, Clark, Hackman, & Petzko, 2002). This worked out to be a 1500 percent increase in a decade. Of those schools that implemented the teaming model, 85% believe that teaming contributes to the long-term effectiveness of their overall programming (George & Shewey, 1994). So, if the majority of the schools that implement teaming view it in a positive light, do a comparable percent of teachers working at the middle school level also view teaming with the same regard?

Considering that some teachers work on a team and others do not within the same building, one can imagine that these differences might have an impact on the school environment, the students, and the teachers themselves. With that in mind, I was interested in finding out if teamed and non-teamed as well as core and noncore teachers
within the same building are experiencing different levels of individual teacher efficacy and collective efficacy. Teaming addressed a real concern decades ago, when smaller communities of learning were the answer to growing enrollments, but the Carnegie Council's study failed to take teachers into account. Interdisciplinary teaming helps to connect teachers to a professional learning community, but not all teachers get the opportunity to work on a team when they teach in middle school.

Research Goals

The overall purpose of this study was to add to the current research on the concept of middle school teaming, teacher efficacy, and collective efficacy. This study explored and investigated linkages between and among individual teacher efficacy and collective efficacy within the middle school structure and the interdisciplinary teaming model. More specifically this study investigated the effects of individual and collective efficacy for both teamed and non-teamed teachers as well as core and noncore teachers within the middle school setting.

Research Questions

1) Is there a difference in teacher efficacy between teamed and non-teamed teachers at the middle school level?

2) Is there a difference in collective efficacy between teamed and non-teamed teachers at the middle school level?

3) Is there a relationship between teacher efficacy and collective efficacy at the middle school level?
4) Which variables, singly and in combination, correlate with teacher efficacy and collective efficacy in a middle school setting? The variables used for the analysis are gender, race, highest degree earned, years teaching, years in the district, years in the building, years in current position, grades taught, and subjects taught.

Significance of the Study

This mixed method study examined seven middle schools within four suburban school districts to identify how individual teacher efficacy and collective efficacy are impacted by the middle school structure and interdisciplinary teaming model. These particular school districts and middle schools may be able to use this information to address issues surrounding teaming and efficacy. The goal of this mixed method study was to examine the interdisciplinary teaming structure within a middle school and identify how this structure impacts individual and collective efficacy among all teachers. The scope of this work is limited to the impact of the middle school model on individual teacher efficacy and collective efficacy at each of the seven research sites.

Terms and Definitions

**Collaborative team teaching** consists of two teachers, typically one regular education and one special education, working together to teach the same course and students simultaneously in order to meet the needs of all learners. This typically takes place in order to accommodate special education students in the regular education setting. Collaborative team teaching is not the focus of this research study.
**Collective efficacy** in the school setting is defined as the extent to which perceptions of efficacy are shared within a school building (Tschannen-Moran, Hoy, & Hoy, 1998).

**Interdisciplinary teaming** consists of two or more teachers who teach various core area subjects and instruct the same group of students, plan together, collaborate, share a common schedule and are often situated in the same part of the building (George & Alexander, 1993; Mertens & Flowers, 2004).

**Non-teamed teachers** are those who teach either core or noncore subjects and are not assigned to work with a set group of specific teachers and students. They are sometimes referred to as special areas or related arts teachers. They may include but are not limited to: world language, art, physical education, technology, and music teachers.

**Prep time** (also known as planning time) is contractually guaranteed time provided to teachers.

**Self-efficacy** is defined as an individual’s beliefs about his or her capabilities to produce certain levels of performance that influence other events that impact his life (Bandura, 1997).

**Subteams** typically consist of two teachers who each teach two subjects to approximately 50 total students.

**Teacher efficacy** (also called teacher self-efficacy) is defined as a teacher's attitude regarding their own professional competence (Berman, McLaughlin, Bass, Pauly, & Zellman, 1977).

The literature review also includes a study which defines general teaching efficacy and personal teaching efficacy. Those terms are defined within the context of
that study. In general, efficacy focuses on beliefs or perceptions of an individual or group. These beliefs can be different than actual ability to complete a certain task.

Limitations

This study took place in seven suburban middle schools across four districts outside of a major urban region in the Northeast section of the country. All teachers as well as the principal at each of the seven research site locations were invited to participate in the study. The results are representative of teachers and principals within those particular middle school building. Although this is a relatively small sample and only has relevance for these seven middle schools during the 2013-2014 school year, some of the research design, articulated theories, and findings could potentially be generalized to other studies if the researcher believed that transfer was applicable and the middle school models were similar in that case. The researcher needs to "provide thick description necessary to enable someone interested in making a transfer to reach a conclusion about whether the transfer can be contemplated as a possibility" (Lincoln & Guba, 1985, p. 316).

One important limitation to note, which is a threat to the trustworthiness of the study, is respondents' biases. This was addressed by maintaining anonymity, establishing rapport with each respondent, and completing member checks.

Delimitations

I chose to study the impact of the middle school structure and teaming model on the individual and collective efficacy of teachers because there is limited research on this
topic. In addition, the study directly involved teachers as opposed to students due to the feasibility of IRB approval. The particular districts and middle schools chosen were narrowed down from the four suburban counties containing 58 districts, and 91 middle schools surrounding a large urban public school district in the Northeast section of the country. The selected schools each followed a traditional middle school model with interdisciplinary teaming as the foundation of the master schedule. All teachers as well as the principal within the selected middle schools were invited to take part in the study. The multiple viewpoints helped me to gain various perspectives on the current situation with regard to teaming and efficacy.

Theoretical Base

Social Cognitive Theory

Social cognitive theory purports the idea that individuals are agents, who are proactively engaged in their development and can use their actions to create desired outcomes (Bandura, 1986). Furthermore, individuals possess self-beliefs, which help to control thoughts, feelings, and actions. Bandura notes "what people think, believe, and feel affects how they behave" (1986, p. 25). In addition, because people do not function in isolation, individual agents are also part of collective agency. This idea maintains that people work together on shared beliefs about capabilities and ambitions to better their personal lives or work place (Bandura, 1986).

Bandura believed that self-efficacy stood at the core of social cognitive theory. He noted that self-efficacy beliefs are "people’s judgments of their capabilities to organize and execute courses of action required to attain designated types of performances" (1986,
Self-efficacy gets at the heart of self-regulation, human motivation and accomplishment. Individuals' behavior is predicted by beliefs about capabilities as opposed to actual capabilities.

Because individuals operate both collectively as well as individually, the idea of efficacy can be generalized to a group. In many social and work situations, individuals operate in groups and therefore a sense of collective efficacy will develop. Simply put, collective efficacy is a groups’ shared belief in the groups' capability to accomplish a task or attain a goal (Bandura, 1986).

Since teaming at the middle school level does not include all teachers within a building, the idea of collective efficacy is then greatly diminished and can compromise the mission of the entire building. Although the collective efficacy may be heightened within the interdisciplinary team structure, it is jeopardized among the faculty as a whole.

Belonging Theory

In addition to the idea of social cognitive theory, the concept of belonging is yet another theory which fits well into the concept of teaming. Maslow’s third tier of needs focuses on social needs, which include the need to interact with people, the need to have friends, and the need to belong (1954). Maslow also noted that that the need for belonging, being loved, and respected lies behind emotional breakdowns (1968). A sense of belonging can be associated with behaviors, motivation, and cognitive processes.

During the 1920’s, Elton Mayo became one of the first researchers to conduct research on informal relationships between workers in teams. One of the conclusions drawn from these Hawthorn experiments, conducted by Mayo, was that the workplace is a social system made of many interdependent parts. Therefore if the workplace is treated
like a society then it will be successful (Mayo, 1946). In addition the social factors of work can have more influence on success than actual aptitude.

The need to belong is characterized by the need for regular contact which creates interpersonal relationships that are marked by stability, affective concern, and are ongoing (Baumeister & Leary, 1995). The 'belongingness hypothesis' proposes that "humans have a pervasive drive to form and maintain at least a minimum quantity of lasting, positive, and significant interpersonal relationships" (Baumeister & Leary, 1995, p. 497). Lack of belongingness can lead to isolation, alienation, and loneliness.

In a middle school setting, belonging to a group is automatic when you are one of the teamed teachers. They are referred to with letters, numbers, or even animals. These teachers are called team 7A, the Cardinals, or the Wizards for example. The non-teamed teachers on the other hand, do not have this predetermined group identity. They are simply called the art, gym, or music teachers for example. The middle school faculty can resemble a society. Since the interdisciplinary teaming concept is paramount at most middle schools, those teachers on a team are automatically put at the top of the societal hierarchy. Are the non-teamed teachers ultimately in a different class? Could this perception have an impact on their sense of teacher or collective efficacy, and in turn have an impact on student learning?

Summary

The goal of this chapter was to provide an introduction to the purpose of the mixed method study. The statement of the problem, research goals and questions, significance of the study, terms and definitions, limitations and delimitations, and
theoretical base were all discussed in detail. Chapter Two provides a review of the
current research literature related to this particular mixed method study. Chapter Three
details the research methods and procedures utilized throughout this mixed method study.
Chapter Four explains the research results and findings. Chapter Five summarizes both
recommendations as well as implications for further research.
CHAPTER 2
REVIEW OF LITERATURE

In a recent study, nearly 80% of middle schools surveyed reported the use of teaming (Hackmann et al., 2002). Teaming provides common planning and meeting time among a small group of teachers who work with the same group of students and allows for flexible scheduling. Thousands of school districts across the United States have bought into the interdisciplinary organization of teachers via teaming. Teaming is considered to be the most notable feature of a middle school, and the keystone to its organizational structure. Considering that a majority of middle schools across the country have embraced this organizational concept, it is important to understand how teaming impacts all of the individuals in a school: students and teachers, both teamed and non-teamed as well as core and noncore.

History of the Middle School Movement

In the late 1800's, Harvard University president Charles Eliot lead an effort to move from eight-year elementary schools and four-year high schools to six-year elementary schools, two-year junior high schools, and four-year high schools. This would allow students to be exposed to a variety of courses including: college preparatory courses such as algebra and Latin as well as domestic and vocational curricula. These junior high schools provided a broader range of introductory courses, which helped students to develop interests and abilities. By 1960, four out of five students would attend a junior high school (Valentine, 2000).
The Elementary and Secondary Education Act (ESEA) of 1965 helped to facilitate the middle school movement. In 1965 William Alexander and Emmett Williams suggested that 5th through 8th grade schools should feature small learning communities, interdisciplinary teaming, and teacher advisory programs (Valentine, 2000). Donald Eichorn was the superintendent of Upper St. Claire School District, which is a suburb of Pittsburgh, Pennsylvania. He served as an early advocate of middle schools and teaming and applied Piaget's theories on early adolescents and suggested that the curriculum be divided into analytical and physical cultural curriculum. The analytical subjects would include: English, mathematics, science, and social studies while the physical cultural curriculum would include: fine arts, physical education, and cultural studies (1966). This classic curriculum organization is still followed today in most cases, just as it was suggested back in the 1960's. The teachers who teach the analytical curriculum are typically on a team of teachers whereas the physical cultural curriculum teachers are not teamed.

According to Alexander, although there was a significant increase in the number of middle schools in the 1960s and 1970s, most demonstrated "limited progress toward the objectives of the middle school movement" (1978, p. 19). By the 1980s, proponents of both middle school and junior high began to realize that students’ needs were not being met, regardless of the name on the building. This new found group effort and vision was supported by then recent literature on the characteristics of early adolescents (Lounsbury, 1991). In 1989 the Carnegie Council on Adolescent Development published Turning Points: Preparing American Youth for the 21st Century. This document discussed eight necessary principles for improving the education of young adolescents,
due to the fact that they were in a critical developmental period. A small community of learners was one of the biggest changes advocated by the Carnegie Council. There was a shift in philosophy and program design when districts changed from the junior high to the middle school model and began to incorporate the idea of a small community of learners.

Context

Clark describes teaming as the keystone of middle school education (1997). The basic principle of interdisciplinary teaming allows for teams of professional staff from different subject areas to work together with cohorts of students in cross disciplinary capacities (Hargreaves, Earl, & Ryan, 1996). Teamed teachers typically meet, plan, and coordinate together on a regular basis during predetermined times, share the same schedule, and teach close by one another. Teaming at the middle school level allows for smaller learning communities within a larger building that promote collaboration, reduce isolation for teachers, and positively impact students (Dickinson & Erb, 1997; Flowers, Mertens, & Mulhall, 2000; Felner et al., 1997). The research suggests that these learning communities provide personalization and positive relationships for students as well as teachers (Dickinson & Erb, 1997).

Hargreaves and Evans completed a study that compared middle schools, which utilize teaming, to junior high schools, which use departments. The study looked at differences in teacher efficacy between the two models. The conclusion drawn was that the interdisciplinary team organization, found at the middle schools, enhances teacher efficacy, which is linked to student achievement (1998). A similar study indicated that teachers who worked on an interdisciplinary team are more likely to perceive
empowerment in the areas of: decision making, professional growth, status, self-efficacy, autonomy, and impact compared to teachers who work in the traditional departmental structure (Husband & Short, 1994).

People

Interdisciplinary teaming reduces isolation, creates a positive climate by increasing teacher efficacy, and empowers collaborative work (Clark & Clark, 1992; Fenwick, 1992; Mitman & Lambert, 1992). Teachers on interdisciplinary teams tend to cite their teams as the primary form of identification within the larger school community (Kruse & Louis, 1997). Teaming also cuts down on isolation and has a positive impact on teacher morale (Yisreal, 2008). “Interdisciplinary teaming is perhaps the critical component of a transformational middle-level school” (Raebach, 1992).

There is abundant research on the impact of teaming on students. Gray describes teaming as a highly effective way to prepare middle-level students for high school in addition to improving their attitude for learning (2004). In addition, much of the literature shows that discipline referrals decrease, while attendance and achievement increase when a middle school model is implemented (Spurgeon, 2003). Although there is a significant amount of research focusing on teaming and the impact on students, there is much less research on teacher efficacy and collective efficacy in middle schools as it specifically relates to teaming.
Efficacy

Efficacy is defined in psychology as a cognitive process during which a goal is identified, required effort is assessed, and outcomes are predicted (Stipek & Weisz, 1981). It is an individual's perceived expectation of obtaining a valued outcome or succeeding at a task. Efficacy is a belief or perception which may or may not align with actual capabilities associated with a certain task. Bandura presented the idea of self-efficacy perceptions as “beliefs in one’s capacity to organize and execute the courses of action required to produce given attainments” (1977, p. 3). Bandura went on to reiterate that an individual's efficacy beliefs are future-oriented judgments about the ability to execute actions which result in certain achievements (1997). These efficacy beliefs are grouped into individual capabilities, known as self-efficacy, and group capabilities, known as collective efficacy. Within the educational setting, collective efficacy refers to the faculty's beliefs that they can execute certain actions in order to impact student achievement (Goddard & Skrla, 2006). In the area of education research, links have been found between student achievement and students' self-efficacy judgments (Pajares, 1994), teachers' beliefs in their individual efficacy (Tschannen-Moran, Hoy, & Hoy, 1998) and teachers' beliefs in the collective efficacy as a staff (Goddard, Hoy, & Hoy, 2000, 2004).

Teachers' Self-efficacy

Beginning in the 1970's, efforts were made to research, measure, and understand the concept of teacher self-efficacy. A teacher's self-efficacy beliefs or sense of efficacy was defined as a self-judgment or attitude regarding their professional competences related to bringing about desired outcomes in their classrooms with students' learning (Armor et al., 1976; Bandura, 1977). From 1973 to 1977 the RAND Corporation, a
research group, was contracted by the U.S. Office of Education to study both local innovation as well as initiation and implementation of federally funded programs supporting educational change. These initial studies on efficacy were grounded in Rotter’s (1966) seminal work on locus of control theory. Rotter found that teachers experience self-validation when they experience various levels of confidence within their own teaching abilities. In a later connected study, it was reported that teachers need external influences to provide positive reinforcement for their efforts (Rotter, 1975). One of the early studies by the RAND Corporation (Armor et al., 1976) identified teacher self-efficacy as one of the primary teacher characteristics related to student achievement. Guskey (1981) expanded on the RAND studies and looked further at teacher efficacy by analyzing both student success and failure. He found that teachers with a strong sense of efficacy felt responsible for both the successes as well as the failures of their students.

This concept of high levels of teachers' self-efficacy having significant influence on student outcomes related to achievement continued to be studied in recent decades with similar results (Ashton & Webb, 1986; Ross, 1992; Saklofske, Michayluk, & Randhawa, 1988; Tschannen-Moran, Hoy, & Hoy, 1998). Goddard, Hoy, and Hoy stress that it is important to distinguish between teachers’ perception of their abilities and their actual performance (2004). Additional studies made connections between a strong sense of efficacy with teachers' willingness to try new teaching methods (Ghaith & Yaghi, 1997; Milner, 2002), higher levels of organization and planning (Allinder, 1994; Milner, 2001), exhibiting greater enthusiasm for teaching (Allinder, 1994; Hall, Burley, Villeme, & Brockmeier, 1992), a better chance to stay in the profession (Milner, 2002), and greater commitment to teaching (Coladacci, 1992).
In 1984, Gibson and Dembo developed a 30 item instrument, which later was paired down to 16 items, to assess teachers' beliefs regarding teacher efficacy. The items differentiated between general teaching efficacy and personal teaching efficacy. Using this measure, they predicted that teachers who score high on both general teaching efficacy and personal teaching efficacy are more persistent over a longer amount of time with students and provide greater academic focus. On the flip side, they predicted that teachers who scored low on both general teaching efficacy and personal teaching efficacy would give up more quickly without results. Levels of efficacy will ultimately affect amounts of effort and persistence put forth by the teacher and in turn impact the students they work with.

The construct of teacher efficacy has since evolved from Rotter’s (1966) locus of control theory and Bandura’s (1977, 1997) social cognitive theory. The meaning and measure of teacher efficacy has been the subject of considerable discussion. The idea of teacher efficacy was first discussed in the RAND studies as the extent to which teachers believed that they could control the reinforcement of their actions. The sum of the scores on the two survey items determined teacher efficacy, which was defined at the time as the teacher’s belief that they had control over educational consequences for their students (Tschannen-Moran, Hoy, & Hoy, 1998). On the other hand, Bandura's work (1997) defined teacher efficacy as a type of self-efficacy. Bandura purported that areas such as exerted effort, persistence with difficult situations, resilience in dealing with failures, and coping with demanding situations all played into how teachers construct beliefs about their capacity to perform at a certain level of competence within the classroom (1997).
Both Rotter’s and Bandura's somewhat interlocking works influenced the concept of self-efficacy, teacher efficacy, and eventually collective efficacy. Bandura stressed that there was in fact a distinction between the two models. Rotter's work, called locus of control, focused on beliefs about whether actions affect outcomes while Bandura's work, identified as perceived self-efficacy, focused on beliefs about one's capability to produce certain actions. Individuals can believe that they have internal control (Rotter) over an outcome, but not necessarily have the confidence (Bandura) to make that outcome a reality.

Tschannen-Moran, Hoy, and Hoy (1998) proposed an integrated model of teacher efficacy which accounted for the specific context under which the efficacy was being measured. This would account for content being taught as well as circumstances under which the content was being taught. This consideration would also be paired with the four sources of efficacy information (mastery experience, vicarious experience, social persuasion, and affective states) as defined by Bandura (1997).

**Collective Efficacy**

The concept of self-efficacy is specific to individuals, while the idea of collective efficacy refers all of the individuals or a subgroup of individuals that make up an organization. In addition to self-efficacy, Bandura (1997) also discussed the idea that individual teacher efficacy was associated with the idea of collective efficacy. He explained that they operate "within an interactive social system" (p. 20). Further research went on to investigate the idea of group perceptions, which we now refer to as collective efficacy. Collective efficacy is defined as the extent to which perceptions of efficacy are shared within a school building (Tschannen-Moran, Hoy, & Hoy, 1998). Goddard and
Goddard described collective efficacy as the perception or belief that the faculty in a school can enact on behavior which will positively impact student achievement (2001). Collective efficacy is not simply the sum of individual efficacies, but rather shared beliefs in its joint ability to reach particular goals based on executing certain actions (Goddard, Hoy, & Hoy, 2000). The concept of collective efficacy has been defined as the teachers' beliefs and perceptions regarding the capability of their entire faculty (Bandura, 1997; Goddard, Hoy, & Hoy, 2000; Hoy, Sweetland, & Smith, 2002). Perceived collective efficacy is the belief regarding "the performance capability of a social system as a whole" (Bandura, 1997, p. 469).

Perceived collective efficacy is an important aspect of organizational culture (Bandura, 1997). Teacher efficacy is defined as the perception that teaching is satisfying, leads to student success, and is worth the effort (Newman et al., 1989). Newman went further to measure collective efficacy within a school by using a calculation based off of teachers' efficacy scores. Perceived self-efficacy as well as collective efficacy influence student achievement. Furthermore, teachers’ beliefs about their own efficacy as well as their school's collective efficacy can both equally project school performance (Bandura, 1993, 1997).

Perceived collective efficacy not only has implications for student achievement but also work group effectiveness (Little & Madigan, 1997). In addition, there is a probable link perceived collective efficacy beliefs and group goal attainment (Goddard, Hoy, & Hoy, 2004). Teacher efficacy also has links to organizational climate (Moore & Essleman, 1992). The school's culture of perceived efficacy is said to influence individual teacher's efficacy for instruction. This can also be looked at in the other direction. The
concept of symbiosis comes to mind when discussing the exchange between the group and individuals. Bandura termed it reciprocal causality (1997). When teachers have an opportunity to have input on important decisions made within the school, they are more likely to have stronger beliefs in the collective efficacy and capabilities of their faculty. If teachers individually have a heightened sense of efficacy within their own classroom, then the perceived collective-efficacy might also be heightened. Collective efficacy fosters commitment to school-wide goals. Teachers who believe the faculty is capable will in turn feel an expectation to succeed and put forth the necessary effort to see results. This concept also works in reverse order. If perceived collective efficacy is low, it is less likely that individual teachers will feel pressure to perform. A strong reciprocal relationship therefore results in mutual influence.

Social norms are yet another piece of the puzzle when discussing collective efficacy. Coleman explains that norms develop within a community when individuals want to exercise influence over other members' actions, which can ultimately have an impact on the entire group (1985, 1987, 1990). These collective influences and expectations influence both the culture as well as individual teachers via social persuasion.

**Social Cognitive Theory**

Social cognitive theory has been studied since the 1940’s. Albert Bandura studied social cognitive theory and its connection to self-efficacy. Bandura believed that self-efficacy was “people’s judgments of their capabilities to organize and execute courses of action required to attain designated types of performances” (Pajares, 2000, p. 391).
In 1997, Bandura developed his previous work from 1977 about the ideas of social cognitive theory and self-efficacy. He developed the idea of personal agency and group agency. Individual agency focuses upon how individuals exercise control over their lives and group agency focuses on individuals’ combined beliefs that they can work towards a desired outcome. Individual agency operates within group agency. When schools make a purposeful decision to work towards goals, they are utilizing group agency. Groups that believe they are capable of certain successes tend to demonstrate effort, persistence, and creativity. Subsequently, the potency of collective efficacy beliefs within a group will influence the exercise of agency (Goddard & Skrla, 2006). Bandura suggests that mastery experiences, vicarious experiences, social persuasion, and affective states help to influence and shape group efficacy (1997). Mastery experiences occur when there is a perception among the group that a performance was successful and therefore future performances should also be successful (Goddard, Hoy, & Hoy, 2004). Huber notes that vicarious experiences involve learning from other organizations' successes (1996). Social persuasion can involve professional development opportunities about a teacher's ability to achieve goals (Goddard, Hoy, & Hoy, 2000). The affective state focuses on the milieu of an organization and notes that effective groups can withstand, adapt, and cope with disruptive forces (Goddard, Hoy, & Hoy, 2000). The perceptions of efficacy for both individuals and groups arise from the cognitive processing and interpretation of these four types of influences and experiences mentioned previously. "Changes in perceived efficacy result from cognitive processing of the diagnostic information that performances convey about capability rather than the performance" (Bandura, 1997, p. 81)
Bandura's social cognitive theory (1986, 1997) proposes that an individual's behavior both influences and is influenced by personal factors as well as the environment. In addition, Bandura determined that self-efficacy was a belief regarding various levels of personal competence as it relates to expectations and outcomes for future situations. Bandura defined perceived self-efficacy as the "beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (1997, p. 3). Self-efficacy ultimately influences both thoughts and emotions, which impact behaviors, levels of effort, persistence, resiliency, and control over events that impact an individual's life (Bandura, 1986, 1993, 1997).

Self-efficacy gets at the heart of human motivation and accomplishment. Going a step further, the idea of efficacy can be generalized to a group. In many instances individuals operate in groups and therefore collective efficacy will develop. Simply put, this is a group’s shared belief in its capability to accomplish a task or attain a goal. Within a middle school, teaming does not include all teachers, therefore the idea of collective efficacy is greatly diminished thus potentially compromising the mission of the entire school. Although the collective efficacy may be heightened within the team structure, it can be jeopardized among the faculty as a whole.

School Community

Lee, Dedrick, and Smith used the High School & Beyond data and found that school climate, behavior of the principal, and decision making structures each impacted teachers' sense of efficacy. However, the single greatest predictor of a high level of efficacy was having a sense of community within the school (1991). Communal,
cooperative, and collegial school environments have a strong impact on both teacher commitment as well as student engagement (Supovitz, 2002). A strong sense of community within a school can help to deepen the idea of collective responsibility. Sense of community can be a key factor that contributes to the improvement of schools (Louis, Marks, & Kruse, 1996).

Effective schools operate with a unified set of organizational goals, which in turn creates social consensus about the academic mission of the school (Fuller & Izu, 1986). This begs the question; does the middle school model increase the necessary collegial interaction necessary to make this occur? Lee, Dedrick, and Smith (1991) suggest that "the strongest predictor of teacher efficacy is community" (p. 14). They go on to further explain that teachers with high levels of self-efficacy are likely to be in schools where relationships are supportive. Ultimately the fostering of a cooperative environment can greatly impact teacher efficacy.

Further research claimed that the idea of efficacy was influenced by intrinsic information such as how students are handling new material and extrinsic information from the larger school context such as recognition by peers, evaluation by administrators, and increased authority within the school (Fuller, Wood, Rapoport, & Dombusch, 1982; Maehr, 1987). Both intrinsic and extrinsic sources can influence an individuals' sense of efficacy, yet the school environment can determine access to this information. Organizational features such as culture and climate are important factors of effective schools (Chubb 1988; Grant, 1988; Rutter, Maughan, Mortimore, & Ouston, 1979). Other relevant factors which impact the social organization of a school include leadership style, teachers' control over classroom practices, and perceived sense of community. In
addition, how schools are organized as workplaces, including the nature of communication and consensus of goals, influences teachers' efficacy and satisfaction (Rosenholtz, 1989).

What the Literature Does Not Cover

Much of the research regarding teacher efficacy and collective efficacy focuses on the implications for students. More recent research is further developing collective efficacy as it relates to teacher efficacy. Student achievement and leadership styles as they relate to teacher and collective efficacy are two areas discussed frequently. A lot of the recent literature has looked at how student achievement improves once a middle school model is implemented, student success and satisfaction in small learning communities, and teacher efficacy in relation to interdisciplinary teaming. Research focusing specifically on teamed and non-teamed teachers' levels of individual and collective efficacy within the middle school setting continues to be an area of need.

Humans have the innate drive to establish and maintain interpersonal relationships. In addition, a sense of belonging can be associated with certain behaviors, motivation, and cognitive processes. The teamed teachers’ basic need of belonging and group identity is naturally established in the teamed setting. It is of interest to see what levels of efficacy the teamed teachers report. Are well connected teacher teams, which provide access to information, knowledge, and resources, associated with different levels of individual or collective efficacy?

There is an assumption that teacher interactions, which are embedded in the teaming situation, should ultimately benefit students. Teaming provides the context for teachers to exchange information and collaborate in order to achieve shared goals.
Without teaming this would not take place with individuals. So it is reasonable to look at the potential impact of efficacy and teaming, which is an automatic collegial network.

Summary

Chapter Two provided a review of the current research literature related to this particular mixed method study. Efficacy, teacher self-efficacy, and collective efficacy were all discussed in relation to the middle school setting. The distinction between locus of control and perceived self-efficacy was established. What the literature does not cover was also included. Chapter Three details the research methods and procedures that were utilized throughout this mixed method study. Chapter Four explains the research results and findings. Chapter Five summarizes both recommendations as well as implications for further research.
CHAPTER 3

METHODOLOGY AND PROCEDURES

Assumptions and Rationale for a Mixed Method Design

The mixed method research design calls for collecting, analyzing, and mixing both quantitative and qualitative data at some stage in the research process (Creswell, 2002). Quantitative and qualitative methods can complement each other and allow for more thorough analysis when used in combination (Tashakkori & Teddlie, 1998). A researcher relies on numerical data in quantitative research (Charles & Mertler, 2002) whereas a researcher paints a holistic picture using verbal responses from participants in qualitative research (Creswell, 1998). Both numbers and words help to explain the truth behind the research questions in this particular study.

When utilizing a mixed method design approach, a researcher takes into consideration: priority, implementation, and integration (Creswell, Plano Clark, Guttman, & Hanson, 2003). Priority refers to whether the quantitative or qualitative component will be given more emphasis. Implementation refers to the order in which the collection and analysis of the differing types of data will occur. This can happen sequentially or concurrently. Integration refers to the point in the research study at which the qualitative and quantitative data are mixed.

I utilized the sequential explanatory mixed method design, which consists of two phases (Creswell, 2002). I first collected quantitative data from teachers using a web-survey. After the survey was closed, the quantitative data were reviewed to make sure that the established interview protocols would help to inform the data. In the second phase, I utilized two different interview protocols to structure interviews with
administrators and teachers in order to obtain the qualitative data. I also reviewed historical documents for each of the research site locations, as a second part of phase two. The data from both the quantitative and qualitative phases were combined during the research findings and discussion chapters. By collecting data from multiple sources using various techniques, I was provided with multiple lenses with which to analyze the teaming situation at the middle school level as it relates to both individual teacher and collective efficacy.

Role of the Researcher

My role as the researcher was to gather data via surveys, interviews, and historical documents in order to analyze how teamed and non-teamed teachers perceive they impact and belong to the school in which they teach. My personal teaching experience includes three years at a high school and eight at a middle school in two different districts. Over the past eight years, I have worked in four different teaching assignments, which include team and non-teamed positions, as well as core and noncore subjects, within my current middle school. This has not only helped me to obtain a broad set of experiences with students across multiple grade, subject, and ability levels, but also to get to know various teaching positions and colleagues more intimately. Conducting my research with middle school teachers was ideal, since I was not only able to quickly connect with them on a professional level but also be knowledgeable about some of their routines and responsibilities.

Since I am currently a middle school teacher, recognition of personal bias was important to maintain neutrality throughout the research process. I chose to survey and
interview teachers an average of 33 miles away from my current district in order to increase the chance that I would not know any teachers from my current or previous districts or graduate school work. I removed my various personal lens of middle school experience while interviewing, and analyzing the data. Frequent self-reflection was one way I checked to ensure that personal biases were not entering into the picture. Leading questions during the interview were another area of concern. The interview protocols (Appendix D & Appendix E) helped to address this area of concern. Since many of the interviewees work together, confidentiality among the interviewees was critical especially if they referred to one another anecdotally.

Site & Subject Selection Process

The context and activities of the research set boundaries for site selection by specifying a location in which the phenomenon can be studied (McMillan & Schumacher, 2001). Selection involved finding districts that met the following criteria: 1) contain at least one middle school, 2) house a combination of grades five through eight, and 3) follow a traditional teaming structure for building the master schedule for a minimum of ten years. There is no set grade level combination for middle schools throughout the country. Combinations can include but are not limited to 5th through 8th, 5th through 7th, 6th through 8th, 6th through 9th, 7th through 9th, 7th through 8th, 7th only, and 8th only to name a few. By requiring some combination of 5th through 8th grades, I was able to capture most middle school grade level configurations. The third criteria helped to guarantee that schools were following a traditional middle school teaming model as
opposed to a junior high model. I choose a ten year minimum in order to make certain that there was some history to teaming within each building and district.

An initial letter (Appendix A) explaining the research to be conducted was sent to 23 superintendents in five suburban counties surrounding an urban district in the Northeast section of the United States. Follow-up phone calls were made to each superintendent to answer any questions. Five of the 23 superintendents granted approval for my research in their district. I then contacted the middle school principals in each of those five districts and was given further approval to access their building as a research site location. One of the five districts withdrew consent prior to the survey being administered due to other end-of-school year obligations conflicting with my survey timeline. In the end, the target population consisted of seven middle schools in four districts with approximately 440 teachers in total. Mistakenly settling for research sites with convenient and ready access is not uncommon for researchers (Walford, 2001). My seven sites ranged from 30 minutes to over an hour drive from my current teaching location. This helped to establish that I was not settling for quick and easy access.

Once the research sites were set, the specific subjects were then determined. Random sampling is generally considered desirable because members of the population will have an equal chance of being selected and the results can possibly be generalized to the larger population (McMillan & Schumacher, 1993). However, in educational settings random sampling is often not feasible. This study utilized convenience sampling, which uses a more accessible group and also has more practical benefits in the context of educational research (Gall et al., 2010; McMillan & Schumacker, 1993). One of the problems of convenience sampling is bias. For example, some participants may be more
enthusiastic about the topic of the study than others who chose not to partake in the study. Convenience sampling has limitations in terms of generalization of the results and makes no claim that the sample is necessarily representative of the population (McMillan & Schumacher, 1993). Every teacher in the population had an equal chance to participate in this study. Approximately 440 teachers at the seven middle schools were made aware of the research study via email and subsequently invited to participate in the survey as well as a follow-up interview. These interviews helped me to gain a deeper understanding of the current situations in each building as well as frame the historical context.

Pilot Study

An abbreviated pilot study took place within my current teaching placement with 13 teaching colleagues. I wanted to ensure that the secure survey link worked correctly prior to formal implementation. In addition, I wanted to be able to give potential participants an accurate approximate length of time it would take to complete the survey. An average time was calculated and included in the instructions. The results were not analyzed or used in any form to change any portion of the survey or interview protocols.

Research Study Steps and Timeline

An initial application was filed with the Institutional Review Board (IRB) at Temple University in February, 2014. The participation consent form, teacher survey, and teacher and administrator interview protocols were included in the application for approval. Final approval was granted in early April, 2014. This IRB approval expired in April, 2015, at which time I applied for and was reapproved through April, 2016. While I
was waiting for the initial IRB approval, I sent a mailing to 23 superintendents in four suburban districts in March, 2014. These mailings included 1) an outline of my study, 2) a copy of the teacher survey (Appendix C), 3) a copy of the consent form for teachers and administrators (Appendix F), 4) a consent form for the district to participate (Appendix A) and 5) a self-addressed stamped envelope to return the district approval form. After follow-up phone calls were made to each superintendent, I received five consent forms via mail. In mid-April, I then contacted the principals in the middle schools where permission was granted by the superintendents. I provided each principal IRB stamped copies of the participation consent form and teacher survey.

Negotiating entry into an institution is not only about providing information, but also establishing a relationship (Flick, 1998). Working closely with the principals was critical to gaining their trust and cooperation. Together with each principal, I worked out a timeline to contact the teachers about my study, gain consent, and send out the survey.

In May, 2014, all teachers in each of the buildings were fully informed of the purpose of my research as well as activities required to partake. Each teacher that agreed to participant was then required to sign a consent form (Appendix F). The survey and directions were sent via secure hyperlink in late May to teachers who consented to participation. The survey remained open for a two week period. When surveys were completed, the data were directly transmitted to a secure database. At the end of the survey window, teachers who indicated an interest in a follow-up interview were contacted via email or phone.

Interviews were scheduled with both teachers and administrators at a mutually agreed upon place and time. The interviews took place over eight weeks in July and
August of 2014. Each interviewee was required to sign off on a consent form. The interviews were recorded and transcribed using a smart phone application. The transcribed interview was shared with the interviewee within 48 hours for an accuracy check. Each interview was then coded and themes were extracted. In September, 2014 I reviewed various historical documents that offered additional insight.

Data Collection Techniques

Research questions drive data collection techniques and analysis (Howe & Eisenhart, 1990). Several strategies, including survey, interview, and historical document analysis, were utilized to successfully address the research questions. Data collection took place over a five month span. Multiple data collection samples allowed for depth, breadth, and accuracy throughout the study. The interaction of data collection methods allows strong evidence to be compiled and steadfast analysis to be offered (Rist, 1982). The questionnaire strategy is appropriate when seeking information from large numbers of participants. Conversely, in-depth interviewing of key informants is suitable in learning about what a few people believe (Rist, 1982). This study utilized both since it was interested in both types of information.

Survey

Surveys gather data at a particular time in order to describe the nature of existing conditions and determine relationships that may exist (Cohen & Manion, 1994). The survey served as an initial data collection technique to obtain information specific to individual teacher and collective efficacy beliefs at multiple middle schools. All teachers were invited to participate in the initial survey, which was comprised of ten items
regarding demographic information, as well as 12 items each specific to individual
teacher efficacy and collective efficacy.

The teacher efficacy portion of the survey utilized the Teachers' Sense of Efficacy
Scale (TSES) developed by Tschannen-Moran and Hoy (2001). This scale is also referred
to as the Ohio State Teacher Efficacy Scale (OSTES), although the former name is
preferred by the developers. The teacher efficacy 5-point Likert scale ranged from
nothing (1), very little (2), some influence (3), quite a bit (4), and a great deal (5) and
included 12 questions (Appendix C). The collective efficacy portion of the survey
utilized the Collective Efficacy Scale (CE-Scale) developed by Goddard and Hoy (2003).
The collective efficacy 6-point Likert scale ranged from strongly disagree (1), disagree
(2), somewhat disagree (3), somewhat agree (4), agree (5), and strongly agree (6) and
included 12 statements (Appendix C). Of the 440 invited teachers, I received consent
from 110 teachers in seven buildings from four different districts, which correlates to a
25% participation rate. A secure link was then sent to each of those teachers with
instructions to complete the survey within a specific two week window in late May, early
June. At the end of the survey, teachers were given the opportunity to indicate interest in
participating in a follow-up interview by supplying their email or phone number to be
contacted at a later date.

Interviews

Interviews served as the next portion of data in the collection process.
Interviewing provides the advantage of gaining depth with regard to data (Cohen &
Manion, 1994). Conducting a good interview allows ideas to be exchanged and
information shared through an interesting conversation (Rist, 1982). Interviews served to
provide additional information about historical context, organizational structure, as well as what facilities or impedes efficacy within each research site. Gaining input from multiple subunits within the building helped to provide multiple lenses from which to analyze the situation.

The interview process began a few weeks after the surveys were administered. Four of the six building principals, one from each district, agreed to participate in an interview. Of the 110 teachers who participated in the survey, 35 agreed to a follow-up interview. All 35 teachers were contacted, and ten followed through with participation. Interviews ranged from 32 to 63 minutes in length.

Each interview was completed using the applicable interview protocols (Appendix D & Appendix E). This provided structure with flexibility. All interviewees were asked the same questions, but follow-up questions could change based on an idea that a respondent shared. This protocol also proved to be helpful during the coding and analysis process. My initial goal was to establish a good rapport with each respondent and make them feel comfortable enough to delve into their experiences. Interviews were recorded using a phone application, which provided a transcript within 48 hours. Field notes were also taken. Throughout each interview, I paraphrased responses in order to ensure my understanding. In addition, a copy of the transcript was provided to each individual participating in the interview process in order to give them a chance to review their answers for accuracy and withdraw their interview if they were so inclined. No one withdrew or changed their responses when given the opportunity. Once the interviews were completed, the coding process began. In order to maintain confidentiality, each
district and interviewee was given a pseudonym and each transcript was assigned a letter and number for the coding process.

_Historical Documents Review_

Although the survey and interviews served to act as the primary source of data, I also collected additional documentation to review and analyze. Various sources are complementary and good studies use multiple sources if possible (Yin, 2009). The documents I utilized included the teacher contracts, the district and school websites, the school vision and mission statements as well as the district strategic plan. These supplementary documents provided me with some additional information regarding the impact of the teaming and the middle school structure on teacher efficacy and collective efficacy.

_Data Analysis_

Data analysis is the complex process of making meaning between descriptions and interpretations (Merriam, 1998). It is an interactive process between collection and analysis, where analysis gives direction on what to check, when to confirm, and possibly how to extend data collection (Owens, 1982). "There is a constant dialect between collection and analysis" (Rist, 1982, p. 445). It was through the data collection process that I began to gain a deeper insight into the impact of teaming structure on teacher and collective efficacy in the middle school setting.

I began by taking the raw survey data to construct categories that might begin to capture common patterns. Devising categories is chiefly an intuitive process, yet it is systematic and informed by the study's purpose, as meaning is made explicit by the
participants (Merriam, 1998). The research questions were kept in mind as natural themes began to emerge. All survey data were captured with the online Qualtrics software program. Means, t-tests, and standard deviations were calculated and analyzed across questions specific to both teacher and collective efficacy. Survey results were compared for core, noncore, teamed, and non-teamed teacher subgroups.

After the 14 interviews were completed, transcribed, and checked for accuracy by both me and interviewee, I began the coding process, which allowed the rich interview data to be organized into manageable subtopics. McMillan and Schumacher note that coding is the process of creating a classification system by dividing data into parts (2001). Although described quite simply, this tedious process took a decent amount of time, energy, and revisiting. The constant comparative method for data analysis was utilized. "The purpose of the constant comparative method of joint coding and analysis is to generate theory more systematically than allowed by other approaches by using the explicit coding and analytic procedures" (Glaser, 1965, p. 437). Through this method the researcher is forced to consider diversity in the data, which helps theories pertaining to the data to emerge (Glaser & Strauss, 1967). Each line, sentence, and paragraph should be reviewed to decide what codes were suggested by the data (Strauss & Corbin, 1998). Codes and themes emerged throughout this process and in the end, an ambiguous picture became clearer.

Establishing Validity and Reliability

"All research is concerned with producing valid and reliable knowledge in an ethical manner" (Merriam, 1998, p. 209). The ways in which data are collected, analyzed,
and interpreted and findings presented can help to address validity and reliability concerns (Merriam, 1998). Specific to this research study was the issue of ensuring internal validity, which addresses the concern of "how research findings match reality" (Merriam, 1998, p. 213). Multiple strategies were utilized throughout this study when addressing internal validity. Enhancing credibility can occur via: member checks, development of thick description, engagement in peer consultation, and triangulation (Owens, 1982).

**Member Checks**

Throughout each interview, I paraphrased responses back to the interviewee in order to ensure understanding. In addition, I took field notes during each interview. Utilizing a smart phone application to record and transcribe each interview helped to ensure additional accuracy. A transcript of each interview was provided via email to each interviewee within 48 hours of the interview. This timely process allowed each interview participant to check for accuracy and provide additional explanation if they choose to. All 14 participants confirmed that their transcripts were indeed accurate and they did not need to provide additional clarifying information.

**Development of Thick Description**

The collection of rich data occurred through the interview process. The interview protocol helped to ensure consistency on my part, although each interviewee's answers helped to develop follow-up questions when necessary to clarify a position. External validity is primarily concerned with the extent to which the study can be generalized or applied to other situations (Yin, 2003). The established survey and interview framework used in this study could possibly be utilized in another study.
**Peer Consultation**

In an effort to enhance validity, I contacted faculty committee members, researching peers and professional colleagues throughout the research process when questions would arise.

**Triangulation**

Merriam explains that "using multiple sources of data means comparing and cross-checking data collected through observations at different times or in different places, or interview data collected from different people with different perspectives" (1998, p. 216). Triangulation enhances validity by studying the complexity of human behavior from multiple points of view (Cohen & Manion, 1994). This particular study collected data from three different sources: surveys, interviews, and historical documentation. In addition, the interviews were held with two distinct groups: teachers and administrators. Multiple sources of evidence from multiple constituents strengthened this study.

**Survey**

Reliability refers to the extent to which research findings can be replicated (Merriam, 1998). It is suggested that a researcher can approach the concern about reliability by using well-defined protocol and keeping a trail of evidence (Yin, 2003). Each step throughout the research process was documented in a log. This log includes: emails sent, transcripts received, documents reviewed, and notes made. In the end, each of these tactics helped to address the concerns of reliability and validity. The short form 12-item collective efficacy scale has been found to have high internal consistency and robust internal reliability (.96) (Goddard, 2002). The reliability alpha for the 12-item
short-form teacher self-efficacy scale was found to be 0.90 (Tschannen-Moran & Hoy, 2001).

Ethical Concerns

I have experience working at both the high school and middle school levels. During my time in the middle school setting, I have worked both on and off of an interdisciplinary team as well as taught both core and noncore subjects. Recognition of personal bias is important to maintain neutrality during the research process. Self-reflection is one way to check that personal biases are not entering into the picture. Leading questions are another area of concern. The interview protocol (Appendix D & Appendix E) helped to address this area of concern. Since many of the interviewees will worked together, confidentiality among the interviewees was critical especially if they referred to one another anecdotally.

Summary

The potential impact of this study would apply to the specific school in which the study is completed. Research findings could have an impact on scheduling, collaboration, team building, interdisciplinary team teaching, organization of the school, teacher efficacy, collective efficacy and motivation.

Chapter Three started with the assumptions and rationale for a mixed method design. This was followed by: the role of the researcher, site and subject selection process and timeline, data collection techniques and analysis, establishing validity and reliability, as well as ethical concerns. Chapter Four explains the research results and findings.
Chapter Five summarizes both recommendations as well as implications for further research.
CHAPTER 4
RESEARCH FINDINGS

Introduction

The purpose of this study was to determine if there are relationships between both teacher efficacy and collective efficacy for teamed and non-teamed as well as core and noncore teachers at the middle school level. The research was conducted at seven middle schools in four districts in the northeastern section of the country. The research questions were addressed through the development of a survey (Appendix C), conducting of interviews (Appendix D & Appendix E), and analysis of historical documents.

The research questions explored possible connections between middle school teamed and non-teamed teachers and their beliefs about individual and teacher efficacy. Four focus questions provided the structure for the study. They are as follows:

1) Is there a difference in teacher efficacy between teamed and non-teamed teachers at the middle school level?

2) Is there a difference in collective efficacy between teamed and non-teamed teachers at the middle school level?

3) Is there a relationship between teacher efficacy and collective efficacy at the middle school level?

4) Which variables, singly and in combination, correlate with teacher efficacy and collective efficacy in a middle school setting? The variables used for the analysis are gender, race, highest degree earned, years teaching, years in the district, years in the building, years in current position, grades taught, and subjects taught?
Historical Context for Districts

No two school districts are exactly the same. In addition, schools within the same district also have their differences. The seven schools from four different districts in this study were no exception. Some of the most obvious differences in each school include: number of students and teachers, variety of teacher schedules, various grade-level organizational structures, configuration of teams, and assortment of leadership styles employed. Each of the school districts post some information on the website including but not limited to: a mission statement, strategic plan, district report card, and annual budget. Some of this information is provided in Table 1 for a reference.

<table>
<thead>
<tr>
<th>District</th>
<th>Average Per Pupil Spending</th>
<th>Grade Levels in District</th>
<th># of Students in District</th>
<th>Middle School(s)</th>
<th>Middle School Grade Levels</th>
<th>Middle School Student Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bell School District</td>
<td>$12,200</td>
<td>K - 12</td>
<td>5900</td>
<td>Washington MS</td>
<td>6 – 8</td>
<td>640</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Adams MS</td>
<td>6 – 8</td>
<td>685</td>
</tr>
<tr>
<td>Edison School District</td>
<td>$12,700</td>
<td>7 - 12</td>
<td>2350</td>
<td>Jefferson MS</td>
<td>7 – 8</td>
<td>880</td>
</tr>
<tr>
<td>Franklin School District</td>
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<td>K - 12</td>
<td>5500</td>
<td>Harrison MS</td>
<td>6 – 8</td>
<td>450</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Madison MS</td>
<td>6 – 8</td>
<td>800</td>
</tr>
<tr>
<td>Wright School District</td>
<td>$15,000</td>
<td>K - 12</td>
<td>7900</td>
<td>Tyler MS</td>
<td>5 - 6</td>
<td>1300</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Polk MS</td>
<td>7</td>
<td>650</td>
</tr>
</tbody>
</table>

Bell School District

Bell School District is a suburban school district located in the northeastern section of the United States. The community consists of predominantly middle class
families. It enrolls 5,900 students in three elementary schools (K-5), two middle schools (6-8), and one high school (9-12) in the district. An average of $12,200 is spent per pupil each year. Ninety-four percent of students graduate from high school. The district mission statement was easily accessible on the district website.

Bell School District includes two middle school buildings, each containing sixth through eighth grades. The schools are similar in size and each have a principal as well as an assistant principal. The Bell Middle Schools have followed a traditional teaming model for over 12 years. Teachers at all grade levels are guaranteed at least 47 minutes of individual preparation time as well as an addition 47 minute period daily for common planning or team meetings. Teachers also have the option for common planning time after school for 45 minutes. The individual preparation time is noted in the collective bargaining agreement that expires in June of 2016.

Washington and Adams are the two middle schools in Bell School District. Fifty-one professional teaching staff work with 640 students at Washington and 62 professional teaching staff work with approximately 685 students at Adams in sixth through eighth grades. Each grade consists of two main core teams, which are comprised of approximately six teachers who teach a combination of language arts, math, science, social studies, special education, and reading or world language. In addition there is a related arts team which consists of twelve teachers who teach: art, computer literacy, health, music, physical education, and technology education. The hierarchical breakdown is similar in both schools and depicted in Figure 1.
Edison School District

Edison School District is located in the northeastern section of the United States, which is situated among farmlands as well as more recently developed areas. The community consists of predominantly middle class families. It enrolls 2,350 students in one middle school (7-8), and one high school (9-12) in the district. In large part due to new construction, the district experienced a doubling of student population from 2000-2011. An average of $14,900 is spent per pupil each year. Ninety-seven percent of students graduate from high school. The district mission statement, vision, and strategic plan were readily available on the district website.

Jefferson Middle School is the only middle school in the Edison School District and it pulls its' students from three local townships, which provide the elementary
education from kindergarten through sixth grade. Jefferson Middle School has followed a traditional teaming model for over fifteen years. There is one principal, two assistant principals, and 65 professional staff members working with approximately 880 students in grades seven and eight. Each grade level consists of three main core teams, which are comprised of a combination of English, literature, math, science, and social studies teachers. In addition, there is a seventh team which consists of the related arts teachers which includes: art, technology education, health, music, physical education, special education, and world languages. The hierarchical breakdown is depicted in Figure 2. Teachers are guaranteed 42 minutes of individual preparation time and 42 minutes of common planning time, although only the individual preparation time is noted in the collective bargaining agreement that expired in June, 2015.

Figure 2: Hierarchy at Jefferson. Special Areas teachers (35) teach all students.
Franklin School District

Franklin School District is a rural school district located in the northeastern section of the United States. The district enrolls 5,500 students in six elementary schools (K-5), two middle schools (6-8), and one high school (9-12), including a freshman center, in the district. An average of $12,250 is spent per pupil each year. Ninety-four percent of students graduate from high school. The district mission statement, vision, and comprehensive plan were easily accessible on the district website.

Franklin School District includes two middle school buildings, each containing sixth through eighth grades. Harrison is the smaller of the two schools and has a principal as well as a student discipline manager. Madison which is the larger of the two schools has a principal, an assistant principal, and a student discipline manager. A redistricting committee is currently working on recommendations, which may include various options to balance out the two middle school populations. The Franklin Middle Schools have followed a traditional teaming model for over 25 years. Teachers at all grade levels are guaranteed at least 50 minutes of individual preparation time as well as 50 minutes of team preparation time. Individual prep time is noted in the collective bargaining agreement that expires in June of 2016.

Harrison Middle School is a fairly small school, which consists of 27 professional staff members working with approximately 450 students in grades six, seven, and eight. The sixth and seventh grades each consist of two main core teams, which are comprised of approximately four teachers who teach a combination of language arts/reading, math, science, social studies, and special education. In addition, the seven eighth grade teachers work together on one team which consists of: of language arts/reading, math, science,
social studies, and special education teachers. The six related arts teachers which include: art, computer literacy, health, music, and technology education, rotate between teams throughout the school year. The physical education teachers work together on their own team. The hierarchical breakdown is depicted in Figure 3.

Figure 3: Hierarchy at Harrison. Physical Education teachers (N = 2) teach all students.

Madison Middle School is the other middle school in Franklin School District. Fifty-six professional staff members work with approximately 800 students in grades six, seven, and eight. The sixth and seventh grades each consist of three main core teams, which are comprised of approximately four teachers who teach a combination of language arts/reading, math, science, social studies, and special education. The twelve eighth grade teachers work together on one team which consists of: language arts/reading, math, science, social studies, and special education teachers. In addition
there is a related arts team which consists of 15 teachers who teach: art, computer literacy, health, music, physical education, and technology education. The hierarchical breakdown is depicted in Figure 4.

Figure 4: Hierarchy at Madison. Related Arts teachers (N = 15) teach all students.

Wright School District

Wright School District is a suburban school district located in the northeastern section of the United States. The community consists of predominantly middle class families. It enrolls approximately 7,900 students in seven elementary schools (K-4), three middle schools (5-8), including a 5th and 6th grade combined center, a 7th grade center, and an 8th grade center, and two high schools (9-12), including a 9th grade center and a 10th-12th building in the district. The district experienced a 39% increase in the student population from 2000-2010, due in large part to new construction and companies
establishing new locations within the district. An average of $15,000 is spent per pupil each year. Ninety-five percent of students graduate from high school. The district mission statement, vision, and strategic plan were not readily available on the district website.

Wright School District includes three middle school buildings, two of which were included in this study. There is a combined fifth and sixth grade building, which is attached to the seventh grade building. Although they are physically attached, they follow two different bell schedules. There is also an eighth grade building, which was not included in the study. The Wright Middle Schools have followed a traditional teaming model for over ten years. There is one principal for grades five through seven, as well as a house principal for each grade level. Fifth and sixth grade teachers are guaranteed at least 40 minutes of individual preparation time, whereas seventh grade teachers are guaranteed 84 minutes of individual and team prep time. Preparation time is discussed in the collective bargaining agreement which was signed in September of 2014.

Ninety-seven professional staff members work with approximately 1,300 students in grades five and six. The fifth and sixth grades each consist of three main core teams, which are comprised of approximately 13 teachers who teach a combination of math, language arts, reading, science, social studies, and special education. Within each of the three larger teams, the teachers are paired up into four two-teacher subteams. This allows for students to attend math and science class with one teacher, then switch to the other subteam teacher for language arts and social studies. In addition, there is a seventh team which consists of the specialist teachers and include: art, computer technology, English as a second language, gifted support, health, music, and physical education. The hierarchical breakdown is depicted in Figure 5.
Fifty-three professional staff members work with approximately 650 students in grade seven. The seventh grade consists of five main core teams, which are comprised of a combination of English, math, reading, science, social studies, and special education teachers. In addition, there is a sixth team which consists of the specialist teachers which includes: art, computer technology, English as a second language, family and consumer science, gifted, health, music, physical education, and world languages. The hierarchical breakdown is depicted in Figure 6.
Online Survey Data

The initial phase of the study utilized a medium sample (n = 110) to gain a quantitative understanding of efficacy at the middle school level. A total of 440 teachers from the seven buildings were invited to participate in the online survey, and the data yielded 110 surveys. This resulted in a 25% participation rate. A few of the teachers each left a question blank, which accounts for a few of the columns totaling up to 109 instead of 110.

Survey respondents' demographic information is presented in Table 2. The sample included 26% (29) males and 74% (81) females. The majority identified themselves at Caucasian (98%), while one self-identified White/Hispanic (< 1%) and one noted American/Native American (< 1%). In terms of educational levels, 19% (21) earned a bachelor's degree, while 79% (87) earned a master's degree, and 2% (2) earned a
doctorate degree. With regard to years of teaching experience there was a fairly spread out distribution. Twelve percent (13) had four or less years, 24% (26) had at least five but no more than ten years, 41% (45) had at least 11 but no more than 20 years, 16% (18) had at least 21 but no more than 30 years, and 7% (8) had more than 30 years.

Table 2

**Survey Respondents General Demographic Variables**

<table>
<thead>
<tr>
<th>Demographic</th>
<th>Number of Respondents</th>
<th>Percentage of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>29</td>
<td>26</td>
</tr>
<tr>
<td>Female</td>
<td>81</td>
<td>74</td>
</tr>
<tr>
<td><strong>Years Teaching</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤ 4</td>
<td>13</td>
<td>12</td>
</tr>
<tr>
<td>5 – 10</td>
<td>26</td>
<td>24</td>
</tr>
<tr>
<td>11 – 20</td>
<td>45</td>
<td>41</td>
</tr>
<tr>
<td>21 – 30</td>
<td>18</td>
<td>16</td>
</tr>
<tr>
<td>&gt; 30</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bachelor's</td>
<td>21</td>
<td>19</td>
</tr>
<tr>
<td>Master's</td>
<td>87</td>
<td>79</td>
</tr>
<tr>
<td>Doctorate</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td><strong>Race/Ethnicity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White/Caucasian</td>
<td>108</td>
<td>98</td>
</tr>
<tr>
<td>White/Hispanic</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>American/Native American</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

Table 3 presents information regarding various subgroups of teachers. The sample included 74% (81) teamed teachers and 26% (29) were non-teamed teachers. Teachers identified themselves as serving on a team if they worked with a set group of interdisciplinary teachers and were assigned to teach a select group of students throughout the school year. Another subgroup which was considered throughout the study was teachers of core subjects 77% (85) and teachers of noncore subjects 23% (25). Core subjects include: English, foreign languages, mathematics, reading, science, and social studies. Noncore subjects, which can also be called related arts, electives, or
specials include: art, computer technology, foreign languages, health, physical education, music, and special education. Foreign language can be included in core or noncore depending on the grade level and district.

<table>
<thead>
<tr>
<th>Table 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Comparisons of Core to Noncore and Teamed to Non-teamed</strong></td>
</tr>
<tr>
<td>Teamed/Non-teamed</td>
</tr>
<tr>
<td>Teamed Teachers</td>
</tr>
<tr>
<td>Non-teamed Teachers</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

Table 4 breaks down the survey participants by both subject as well as grade level. Nine percent (10) of the teachers identified themselves as teaching only fifth grade, 17% (19) identified themselves as teaching only sixth grade, 18% (20) identified themselves as teaching only seventh grade, 25% (27) identified themselves as teaching only eighth grade, and 31% (34) identified themselves as teaching a combination of two, three, or four grade levels. Additionally, 4% (4) teach art, 3% (3) teach computer technology, 14% (15) teach English/language arts, 4% (4) teach a foreign language, 5% (6) teach health and physical education, 8% (9) teach mathematics, 3% (3) teach music, 6% (7) teach reading, 8% (9) teach science, 7% (8) teach social studies, 7% (8) teach special education, and 31% (34) teach a combination of subjects.

After the data from the study were collected they were analyzed through the Statistical Package for the Social Sciences (SPSS) for some initial analyses. Cronbach's Alpha, which is an internal consistency measure, was used to help to determine if all of the items from each instrument measured the same thing. The items are said to have greater internal consistency when the alpha is closer to 1.000 (George & Mallory, 2003).
The teacher self-efficacy scale alpha was calculated to be .884 and the collective efficacy scale was calculated to be .815. Both alpha measures are considered acceptable.

<table>
<thead>
<tr>
<th>Grade Level(s)</th>
<th>N</th>
<th>%</th>
<th>Subject(s)</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>5th only</td>
<td>10</td>
<td>9</td>
<td>Art</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>6th only</td>
<td>19</td>
<td>17</td>
<td>Combination of Subjects</td>
<td>34</td>
<td>31</td>
</tr>
<tr>
<td>7th only</td>
<td>20</td>
<td>18</td>
<td>Computer Technology</td>
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<td>3</td>
</tr>
<tr>
<td>8th only</td>
<td>27</td>
<td>25</td>
<td>English/Language Arts</td>
<td>15</td>
<td>14</td>
</tr>
<tr>
<td>5th &amp; 6th</td>
<td>6</td>
<td>5</td>
<td>Foreign Language</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>7th &amp; 8th</td>
<td>12</td>
<td>11</td>
<td>Health &amp; Physical Education</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>6th - 8th</td>
<td>13</td>
<td>12</td>
<td>Mathematics</td>
<td>9</td>
<td>8</td>
</tr>
<tr>
<td>5th - 8th</td>
<td>3</td>
<td>3</td>
<td>Music</td>
<td>3</td>
<td>3</td>
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<tr>
<td></td>
<td></td>
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<td>Reading</td>
<td>7</td>
<td>6</td>
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<td></td>
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<td>Science</td>
<td>9</td>
<td>8</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Social Studies</td>
<td>8</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Special Education</td>
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<td>110</td>
<td>100</td>
<td>Total</td>
<td>110</td>
<td>100</td>
</tr>
</tbody>
</table>

The survey contained 12 teacher self-efficacy questions and 12 collective efficacy statements. The teacher efficacy 5-point Likert scale options included: nothing (1), very little (2), some influence (3), quite a bit (4), and a great deal (5). The collective efficacy 6-point Likert scale options included: strongly disagree (1), disagree (2), somewhat disagree (3), somewhat agree (4), agree (5), and strongly agree (6). On the collective efficacy scale, six of the statements were positively worded and six were negatively worded.

In analyzing the teacher self-efficacy survey data, each statement was valued in ascending order from 1 to 5, with 1 representing “nothing”, 2 representing "very little", 3 representing "some influence", 4 representing "quite a bit", and 5 representing “a great deal”. The mean was calculated for each of the 12 teacher self-efficacy questions by
multiplying the number of responses for an item by the designated scale value. These values were then summed up and divided by the total number of responses for each item. With regard to the mean, one represents a lower level of teacher efficacy while five represents a higher level of teacher efficacy. The means for individual questions ranged from 3.45 to 4.57. The overall teacher self-efficacy beliefs averaged 4.26 out of 5.00 (Table 5). This initially indicates that in general middle school teachers report a reasonably high level of teacher efficacy.

<table>
<thead>
<tr>
<th>Item #</th>
<th>Nothing</th>
<th>Very Little</th>
<th>Some Influence</th>
<th>Quite a Bit</th>
<th>A Great Deal</th>
<th>Total #</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0</td>
<td>0</td>
<td>13</td>
<td>33</td>
<td>64</td>
<td>110</td>
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</tr>
<tr>
<td>2</td>
<td>0</td>
<td>4</td>
<td>22</td>
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<td>35</td>
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<td>0</td>
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<tr>
<td>6</td>
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<td>5</td>
<td>43</td>
<td>61</td>
<td>110</td>
<td>4.49</td>
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<tr>
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<td>17</td>
<td>49</td>
<td>43</td>
<td>110</td>
<td>4.22</td>
</tr>
<tr>
<td>8</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>43</td>
<td>62</td>
<td>110</td>
<td>4.52</td>
</tr>
<tr>
<td>9</td>
<td>0</td>
<td>3</td>
<td>9</td>
<td>51</td>
<td>47</td>
<td>110</td>
<td>4.29</td>
</tr>
<tr>
<td>10</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>45</td>
<td>64</td>
<td>110</td>
<td>4.57</td>
</tr>
<tr>
<td>11</td>
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<td>110</td>
<td>3.45</td>
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<tr>
<td>12</td>
<td>0</td>
<td>1</td>
<td>14</td>
<td>56</td>
<td>39</td>
<td>110</td>
<td>4.21</td>
</tr>
</tbody>
</table>

The collective efficacy portion of the survey was comprised of six positively worded questions and six negatively worded questions. In analyzing this survey data, each negatively worded statement was valued in descending order from 6 to 1, with 6 representing "strongly disagree" and 1 representing "strongly agree". For example, 'If a child doesn't want to learn teachers here give up' is a negatively worded statement. If a teacher strongly disagrees, then that question is assigned 6 points. Each positively worded
statement was valued in ascending order from 1 to 6, with 1 representing "strongly disagree" and 6 representing "strongly agree". For example 'Teachers here are confident they will be able to motivate their students' is a positively worded statement. If a teacher strongly agrees, then that question is assigned 6 points. The mean was calculated for each of the 12 statements by multiplying the number of responses for an item by the designated scale value. These values were then summed up and divided by the total number of responses for each item. With regard to the mean, one represents a lower level of collective efficacy while six represent a higher level of collective efficacy. The means for individual statements ranged from 3.46 to 5.63. The overall collective efficacy beliefs averaged 4.70 out of 6.00 (Table 6). This initially indicates that in general middle school teachers report a reasonably high level of collective efficacy.

<table>
<thead>
<tr>
<th>Item #</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Somewhat Disagree</th>
<th>Somewhat Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
<th>Total #</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (+)</td>
<td>1</td>
<td>6</td>
<td>8</td>
<td>39</td>
<td>48</td>
<td>8</td>
<td>110</td>
<td>4.37</td>
</tr>
<tr>
<td>2 (+)</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>27</td>
<td>63</td>
<td>17</td>
<td>110</td>
<td>4.85</td>
</tr>
<tr>
<td>3 (-)</td>
<td>43</td>
<td>47</td>
<td>10</td>
<td>6</td>
<td>2</td>
<td>2</td>
<td>110</td>
<td>5.06</td>
</tr>
<tr>
<td>4 (-)</td>
<td>72</td>
<td>27</td>
<td>4</td>
<td>5</td>
<td>0</td>
<td>2</td>
<td>110</td>
<td>5.45</td>
</tr>
<tr>
<td>5 (+)</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>11</td>
<td>41</td>
<td>53</td>
<td>110</td>
<td>5.25</td>
</tr>
<tr>
<td>6 (+)</td>
<td>0</td>
<td>5</td>
<td>13</td>
<td>54</td>
<td>34</td>
<td>3</td>
<td>109</td>
<td>4.16</td>
</tr>
<tr>
<td>7 (+)</td>
<td>8</td>
<td>11</td>
<td>32</td>
<td>42</td>
<td>15</td>
<td>2</td>
<td>110</td>
<td>3.46</td>
</tr>
<tr>
<td>8 (-)</td>
<td>13</td>
<td>43</td>
<td>22</td>
<td>25</td>
<td>6</td>
<td>0</td>
<td>109</td>
<td>4.29</td>
</tr>
<tr>
<td>9 (-)</td>
<td>27</td>
<td>54</td>
<td>14</td>
<td>11</td>
<td>1</td>
<td>2</td>
<td>109</td>
<td>4.82</td>
</tr>
<tr>
<td>10 (+)</td>
<td>2</td>
<td>10</td>
<td>15</td>
<td>39</td>
<td>36</td>
<td>8</td>
<td>110</td>
<td>4.10</td>
</tr>
<tr>
<td>11 (-)</td>
<td>80</td>
<td>24</td>
<td>1</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>110</td>
<td>5.63</td>
</tr>
<tr>
<td>12 (-)</td>
<td>36</td>
<td>48</td>
<td>15</td>
<td>8</td>
<td>1</td>
<td>2</td>
<td>110</td>
<td>4.95</td>
</tr>
</tbody>
</table>

AVG 4.70
The first research question asked if there is a difference in teacher efficacy between teemed and non-teamed teachers at the middle school level. Table 7 shows the teacher efficacy scale results separated out by teemed and non-teamed teachers. The survey data indicate that there is no difference in teacher efficacy between these two groups of teachers. These results show that whether or not a teacher works on a formalized team at the middle school level, he or she is likely to report similar levels of teacher efficacy. This points to the idea that regardless of their teaming situation, these middle school teachers believe that they are able to employ their individual professional competencies to bring about preferred results with regard to their students' learning.

Table 7

<table>
<thead>
<tr>
<th>Teacher Self-efficacy Scale Statistical Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>Teamed</td>
</tr>
<tr>
<td>Non-teamed</td>
</tr>
</tbody>
</table>

The second research question looked to see if there is a difference in collective efficacy between teemed and non-teemed teachers at the middle school level. Table 8 divides the collective efficacy results by teemed and non-teemed teachers. The survey data indicate again that there is no difference in collective efficacy between these two groups of teachers. These results reinforce that if you look at the entire faculty within a middle school, they are likely to report similar levels of collective efficacy. This points to the idea that the faculty as a whole believe that the entire faculty is able to utilize their capabilities to bring about desires results with regard to impacting students' learning. These results resonant with Goddard, Hoy and Hoy's idea that collective efficacy is not
simply the sum of individual efficacies, but rather shared beliefs in its joint ability to reach particular goals based on executing certain actions (2000).

Table 8

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>t-test</th>
<th>Significance</th>
<th>Cohen’s d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teamed</td>
<td>79</td>
<td>56.44</td>
<td>6.16</td>
<td>.235</td>
<td>.815</td>
<td>-</td>
</tr>
<tr>
<td>Non-teamed</td>
<td>25</td>
<td>56.08</td>
<td>8.32</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The third research question asked if there is a relationship between teacher efficacy and collective efficacy at the middle school level. The calculated correlation is .336, p < .001, which indicates that there is in fact a relationship between teacher efficacy and collective efficacy. These results suggest that if teachers report high levels of teacher efficacy then they are likely to also report high levels of collective efficacy. This also applies to reporting low levels of both teacher and collective efficacy. This concept can be viewed in a self-fulfilling type of manner. If a teacher expects that he or she will have a positive impact on student achievement, then beliefs and behaviors will match up and have a greater chance of occurring. On top of this a teacher who has a high level of teacher efficacy may, in turn, project that onto the rest of the faculty. If a majority of the staff is individually feeling confident about their abilities then the staff as a whole will most likely feel confident about their collective potential.

The fourth research question looked at variables that might correlate with teacher efficacy and collective efficacy in a middle school setting. Table 9 (p. 62) provides a summary of the variables analyzed for teacher efficacy and collective efficacy. The variables used for the analysis are: gender, highest degree earned, years teaching, years in
the district, years in the building, years in current position, and grades taught. There was no significant relationship with regard to gender, highest degree earned, years in the district, years in the building, or years in current position. There were, however, significant relationships reported for teacher efficacy for those that taught 6th grade as well as both teacher and collective efficacy for those that taught 7th grade. These particular grade-level efficacy reports could be attributed to a number of causes. Within the context of this study, six out of the seven research site locations included seventh grade within their school, so seventh grade was the most represented among the four grade levels included in the study. In addition, the Bell School District was planning to go from two smaller teams to one larger interdisciplinary team for eighth grade for the school year following the research study. The Franklin School District's eighth grade team was already one larger interdisciplinary team instead of multiple smaller teams. This may have left the eighth grade experiencing and therefore reporting their beliefs a little differently than the seventh grade. Furthermore, the Polk Middle School only includes seventh grade, so this particular faculty experiences a unique situation, which could have also impacted the reporting. Seventh grade is considered secondary school by the state, while sixth is considered elementary, regardless of the building level configuration within a district. This ultimately means that teachers might have different certifications. Teachers can work off of an elementary certification up through sixth grade, while starting in seventh grade, teachers need to hold specific content certificates. This difference in content training and philosophies might also impact efficacy reporting.
There was also a significant relationship with regard to number of years teaching for both teacher efficacy as well as collective efficacy. Table 10 breaks down both teacher and collective efficacy as a function of years of teaching experience. Teachers with greater than 30 years of experience reported the highest mean scores for both teacher efficacy as well as collective efficacy. Teachers who have been teaching longer on average report higher levels of teacher efficacy \((r = .216, p < .05)\) and higher levels of collective efficacy \((r = .248, p < .05)\) than teachers with less experience. This could be attributed to the idea that teachers with more years of experience might have greater confidence in their abilities as well as more ideas to pull from when dealing with various situations. Prior research focusing on teaching experience indicates that teachers with more experience felt more confident in their abilities in the classroom (Ross, Cousins, & Gadalla, 1996). Bandura noted that the strongest source of efficacy information was mastery experience (1997). In addition, multiple consecutive years of successful teaching establishes the beliefs in the faculty's capabilities (Goddard, Hoy, & Hoy, 2000).
### Table 10

**Teacher & Collective Efficacy as a Function of Years of Teaching Experience**

<table>
<thead>
<tr>
<th>Years Teaching</th>
<th>N</th>
<th>Teacher Efficacy Mean (out of 5.0)</th>
<th>Collective Efficacy Mean (out of 6.0)</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤4</td>
<td>13</td>
<td>4.15</td>
<td>4.67</td>
</tr>
<tr>
<td>5 – 10</td>
<td>26</td>
<td>4.18</td>
<td>4.67</td>
</tr>
<tr>
<td>11 – 20</td>
<td>45</td>
<td>4.30</td>
<td>4.65</td>
</tr>
<tr>
<td>21 – 30</td>
<td>18</td>
<td>4.27</td>
<td>4.72</td>
</tr>
<tr>
<td>&gt; 30</td>
<td>8</td>
<td>4.46</td>
<td>5.07</td>
</tr>
<tr>
<td>Total</td>
<td>110</td>
<td>4.26</td>
<td>4.70</td>
</tr>
</tbody>
</table>

An additional analysis was run to see if teaching a core subject makes a difference in teacher efficacy or collective efficacy. The results indicated in Table 11 show that teachers who teach core subjects report higher levels of teacher efficacy. The effect size is medium. Core subjects can include: English, foreign languages, mathematics, reading, science, and social studies. These results align nicely with Ms. Hemlock's comments. She is a core and teamed teacher with seven years of experience and sums it up nicely when discussing non-teamed/noncore teachers.

I think it is difficult for teachers that aren't on a team when it comes to the kids, their homework, and discipline. Classroom management is very difficult and I think part of it is because it's hard for the kids to see the value in the noncore classes. If they [the students] don't really want to learn Italian or take art, then they [the students] don't put the same priority on it. It has no reflection on the teacher at all. It’s the kid’s perspective on the course. There is a disconnect between what the kids will do for them [noncore teachers] versus us [core/teamed teachers].

In addition, four (English, mathematics, reading, and science) of the six core areas are typically associated with a standardized state test, whereas none of the noncore areas are. In recent years, additional resources and funding have been funneled towards tested areas. Principal Millet comments on the core tested areas resonant with the findings:

It's hard now, especially with the testing, because if you're not a tested area [English, mathematics, reading, and science], there's a reality. The resources aren't
coming your way[noncore teaching areas]. I'm very up front with them. It's not that I don't appreciate what you do, I certainly respect what you do. However, the reality is that resources are going to go to tested core areas, because that's where we're being judged by the public.

<table>
<thead>
<tr>
<th>Table 11</th>
<th>Teacher Self-efficacy as a Function of Teaching a Core Subject</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
</tr>
<tr>
<td>Core</td>
<td>85</td>
</tr>
<tr>
<td>Noncore</td>
<td>24</td>
</tr>
</tbody>
</table>

In summary, the online survey data indicate that there is no difference in teacher efficacy or collective efficacy between teamed and non-teamed teachers. These results shown in Table 7 (p. 59) & Table 8 (p. 60) indicate that whether or not a teacher works on a formalized team at the middle school level, he or she is likely to report similar levels of teacher and collective efficacy. Secondly, the data indicate that there is in fact a relationship between teacher efficacy and collective efficacy. These results suggest that if teachers report high levels of teacher efficacy then they are likely to also report high levels of collective efficacy. Thirdly, the data indicate that there is a significant relationship with regard to number of years teaching for both teacher efficacy as well as collective efficacy. These results shown in Table 10 (p. 63) indicate that teachers who have been teaching longer on average report higher levels of teacher efficacy and collective efficacy than teachers with less experience. Lastly, the survey data indicate that there is a significant relationship with regard to teaching a core subject for teacher efficacy. These results shown in Table 11 (p. 64) indicate that teachers who teach core subjects report higher levels of teacher efficacy.
Description of Interview Respondents

Interviews were conducted during the second phase of the research. Each district and middle school building was represented through the interview process. A total of 14 (N=14) interviews were completed with ten (N=10) teachers and four (N=4) principals. The teacher interview participants were self-identified at the end of the survey. The teachers represented all grade levels in the study, teamed and non-teamed teachers, core and noncore teachers, male and female, as well as a wide range of years of teaching experience and subjects taught (Table 12). Each of the six building principals was also invited to participate. Four of the six principals welcomed the opportunity to be interviewed. The other two principals who did not participate were moving to new districts between the time that the teacher surveys were completed in June and the interviews started in July. The principals interviewed represented the four districts in the study, as well as male and female, and a range of years of administrative experiences (Table 13, p. 67).
<table>
<thead>
<tr>
<th>District</th>
<th>School</th>
<th>Pseudonym</th>
<th>Gender</th>
<th>Team or Non-team</th>
<th>Core or Noncore</th>
<th>Years of Experience</th>
<th>Subject</th>
<th>Grade(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bell</td>
<td>Washington</td>
<td>Mrs. Elm</td>
<td>Female</td>
<td>Team</td>
<td>Core</td>
<td>26</td>
<td>Social Studies</td>
<td>8th</td>
</tr>
<tr>
<td></td>
<td>Adams</td>
<td>Mrs. Cypress</td>
<td>Female</td>
<td>Non-team</td>
<td>Core</td>
<td>30</td>
<td>Reading</td>
<td>7th</td>
</tr>
<tr>
<td>Edison</td>
<td>Jefferson</td>
<td>Mrs. Fir</td>
<td>Female</td>
<td>Non-team</td>
<td>Noncore</td>
<td>3</td>
<td>Special Education</td>
<td>8th</td>
</tr>
<tr>
<td></td>
<td>Jefferson</td>
<td>Ms. Hemlock</td>
<td>Female</td>
<td>Team</td>
<td>Core</td>
<td>7</td>
<td>Literature</td>
<td>8th</td>
</tr>
<tr>
<td></td>
<td>Jefferson</td>
<td>Mr. Locust</td>
<td>Male</td>
<td>Team</td>
<td>Core</td>
<td>19</td>
<td>Social Studies</td>
<td>7th</td>
</tr>
<tr>
<td>Franklin</td>
<td>Harrison</td>
<td>Mr. Maple</td>
<td>Male</td>
<td>Team</td>
<td>Noncore</td>
<td>18</td>
<td>Applied Technology</td>
<td>6th</td>
</tr>
<tr>
<td></td>
<td>Harrison</td>
<td>Mrs. Oak</td>
<td>Female</td>
<td>Team</td>
<td>Core</td>
<td>35</td>
<td>Reading, Science, Language Arts</td>
<td>6th</td>
</tr>
<tr>
<td></td>
<td>Madison</td>
<td>Mr. Pine</td>
<td>Male</td>
<td>Non-team</td>
<td>Noncore</td>
<td>10</td>
<td>Health, Physical Education</td>
<td>6th-8th</td>
</tr>
<tr>
<td>Wright</td>
<td>Tyler</td>
<td>Mrs. Spruce</td>
<td>Female</td>
<td>Team</td>
<td>Core</td>
<td>15</td>
<td>Mathematics, Science</td>
<td>5th</td>
</tr>
<tr>
<td></td>
<td>Polk</td>
<td>Miss Sycamore</td>
<td>Female</td>
<td>Non-team</td>
<td>Core</td>
<td>16</td>
<td>World Language</td>
<td>7th</td>
</tr>
</tbody>
</table>
Prior to the interview, each interviewee signed off on the consent form (Appendix F). Participants were assured that participation was voluntary, their identity would remain anonymous, and they could opt out at any time. The semi-structured interviews followed protocols for both teachers (Appendix D) and administrators (Appendix E), while allowing for follow-up questions based on respondents' answers. Interviews ranged from 32 to 63 minutes in length and were digitally recorded using a smart phone application, which provided a transcript within 48 hours. In addition, field notes were taken. Each interview was conducted at a mutually agreed upon location.

<p>| Table 13 |
| Principal Interview Characteristics |</p>
<table>
<thead>
<tr>
<th>District</th>
<th>School</th>
<th>Pseudonym</th>
<th>Gender</th>
<th>Years Adm Exp</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bell</td>
<td>Washington</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Adams</td>
<td>Principal Teff</td>
<td>Female</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Edison</td>
<td>Jefferson</td>
<td>Principal Rye</td>
<td>Male</td>
<td>3</td>
</tr>
<tr>
<td>Franklin</td>
<td>Harrison</td>
<td>Principal Millet</td>
<td>Male</td>
<td>15</td>
</tr>
<tr>
<td>Madison</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Wright</td>
<td>Tyler</td>
<td>Principal Barley</td>
<td>Female</td>
<td>10</td>
</tr>
</tbody>
</table>

Interview Data

The first research question asked if there is a difference in teacher efficacy between teamed and non-teamed teachers at the middle school level. The interview data indicate that there were mixed reports among teamed and non-teamed teachers. These results show that teachers are likely to report differing levels of teacher efficacy depending on their individual experiences and current situation. This points to the idea that these middle school teachers believe and report that they are able to employ their
individual professional competencies at various levels in order to bring about preferred results with regard to their students' learning.

The second research question looked to see if there is a difference in collective efficacy between teamed and non-teamed teachers at the middle school level. The interview data indicate that there is no difference in collective efficacy between these two groups of teachers. These results reinforce that if you look at the entire faculty within a middle school, they are likely to report similar levels of collective efficacy. This points to the idea that the faculty as a whole believe that the entire faculty is able to utilize their capabilities to bring about desires results with regard to impacting students' learning.

The third research question asked if there is a relationship between teacher efficacy and collective efficacy at the middle school level. The interview data indicate that there is a relationship between teacher efficacy and collective efficacy. These results suggest that if teachers report high levels of teacher efficacy then they are likely to also report high levels of collective efficacy.

The fourth research question looked at variables that might correlate with teacher efficacy and collective efficacy in a middle school setting. Years teaching was the single variable that was discussed by all teacher interviewees. The interview data indicate that there was a significant relationship with regard to number of years teaching for teacher efficacy. Teachers who have been teaching longer on average reported higher levels of teacher self-efficacy than teachers with less experience. This could be attributed to the idea that teachers with more years of experience might have greater confidence in their abilities as well as more ideas to pull from when dealing with various situations.
Interview Themes

Each interview provided individual descriptions of situations which impacted the interviewees' experiences at the middle school level. Through systematic coding of the interview data, several other salient themes emerged as factors impacting both teacher and collective efficacy from the teachers (Table 14) as well as the administrators (Table 16, p. 87).

<table>
<thead>
<tr>
<th>Table 14</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Themes Influencing Teacher &amp; Collective Efficacy - Teacher Interview Data</strong></td>
</tr>
<tr>
<td><strong>Theme</strong></td>
</tr>
<tr>
<td>Communication</td>
</tr>
<tr>
<td>Teaming</td>
</tr>
<tr>
<td>Stability of Staff</td>
</tr>
<tr>
<td>Increased Demands &amp; External Influences</td>
</tr>
<tr>
<td>Size of School</td>
</tr>
<tr>
<td>Leadership</td>
</tr>
</tbody>
</table>

**Teacher Themes**

The most common themes which influence teacher and collective efficacy, mentioned among the interviewed teachers include: (1) communication, (2) teaming, (3) stability of staff, (4) increased demands & external influences, (5) size of school, and (6) the leadership. Each of these six themes will be discussed in greater detail below.

**Theme 1: Communication**

The theme that was mentioned most frequently by teachers was that of communication. Specifics were mentioned about the amount of communication, the type of communication including both formal as well as informal, and communication between and among administrators, teachers, and teams. In general the teachers place a
high value on access to information that they believe will help them to make decisions in their classroom. Mrs. Spruce, a 5th grade core and teamed teacher said,

For that matter, with the new teacher evaluations, I'm being evaluated on every child in the building. It's important for me to know how other teachers are doing their job. I think that we have so much information coming at us so quickly that we need to share the load and the burden. I also am always amazed at the wealth of information and resources that my peers have.

Good communication typically means that the information is available to everyone in a systematic, and timely manner. This should be no different in a middle school. The amount and speed at which information is provided can seem overwhelming at times. Teachers and administrators constantly receive information from multiple constituents including: parents, district level administration, the school board, taxpayers, politicians, and even local businesses members. This communication comes in the form of emails, agendas, spreadsheets of data, and meetings to name a few. Teachers and administrators alike are expected to process this information, make decisions for the benefit of the students, assess the outcomes, and make changes when necessary, all while hitting benchmarks, passing state assessments, and following district procedures and policies. Mrs. Oak, a teamed and core teacher with more than three decades of experience discusses the volume of information.

I got into teaching in the late 70's. I think we had one or two faculty meetings a month. Sometimes there would be a flyer in the mailroom with information on it. That's it. You had to talk to people face to face if you needed some kind of information. It is unbelievable how much information overload there is nowadays. I mean, it's incessant. If you are out sick for a day, you come back to an inbox filled with 25 emails that you have to catch up on. That was nonexistent ten, well maybe fifteen to twenty years ago. There was a huge learning curve when every teacher got a computer in their classrooms. The emailing just takes up a lot of time. It does make some things more efficient but really I would be happy to go back to the days of less technology, less information, less overload. I think I've been in the profession long enough to be able to block out the extra stuff. I go in my classroom, shut the door, and teach the kids. That's what it's all about. Right?
The information piece can really make some teachers feel swamped. I just think I've been in teaching long enough to know what's important and feel confident in my abilities. I may not be able to tell you about the best app and the latest and greatest smart board lesson, but I know I'm a good teacher and in the end, that's what matters to me. Don't get me wrong, the information and communication is critical, especially at the middle school level, but it can just be a lot.

Although the information can be daunting at times, many of the teachers noted concerns about the methods of communication and availability of information. Mr. Locust, a 7th grade teacher with two decades of experience notes, "I'm in the far end of the building so sometimes I may not necessarily hear things or see things" when referring to informal communication. Mr. Pine, a non-teamed teacher voiced a commonly heard concern,

I am a health and PE teacher, so those aren't considered core classes. You are kind of left out of the loop when you don't have that team communication on a daily basis. You wind up finding out about important stuff after it's already happened. It's kind of annoying. I eventually just wrote it off as part of my position. I mean I did choose to teach these subjects, so it's fine. They just seem to put more emphasis on math and reading anyway since they are the tested subjects. You know, even if people [teachers] decide last minute to go out after school on Friday, you wind up getting left out because you are in an office in the gym and people forget about you sometimes. You know it's not on purpose but that's definitely an advantage to being on a team and close to other classrooms. You can easily find out what's going on.

Feeling left out as a professional in an organization can lead to disenfranchisement, detachment, and indifference. Interdisciplinary teams offer the structure to diminish those feelings of isolation, while developing and promoting professional relationships through collaboration (Johnston, Markle, & Arhar, 1988).

When asked about how collective efficacy could be impacted among teachers in her building, Mrs. Elm, a veteran 8th grade teamed teacher eloquently explained.

I don't think it [collective efficacy] would be as high because I don't think team members would recognize the effectiveness that they're having without sharing ideas, without seeing what's going on in each other’s classroom. I think that
communication helps you feel good about what you're doing that's making a difference and that you can see what's going on in their classes and feel that you are part of team making a difference in the big picture.

A seemingly simple solution to communication concerns was given by Mrs. Spruce, a midcareer teacher, "I think most of us are on the same page, but with such a big group, I think they would have to have more opportunities for us to meet and exchange ideas. It's crazy how many teachers I don't know in September at our first faculty meeting. We're just a big staff and we don't have time to get to know one another." The idea of more time to meet and exchange ideas would eventually translate to more resources and money, which most districts are cutting back on in recent budgets.

**Theme 2: Teaming**

Another recurring theme that occurred throughout the interviews was the idea of whether or not teaming impacting efficacy. The statistical data from the survey results indicated that there was no difference in either teacher or collective efficacy between teamed and non-teamed teachers at the middle school level. The interview data suggested mixed reporting with regard to this idea.

Some of the teachers viewed their team as a necessary, professional structure to benefit both the students as well as the teachers. Mrs. Oak, a veteran teamed, core teacher notes:

The team approach is really good because it gives you a chance to get to know the students, first of all, to work together and collaborate, even with things like when you are giving a task, when is your project due so that there's not a whole lot of overlap. For the most part, it's just really a good way to deal with the kids to make sure that we're on top of them, deal with parental concerns, collaborate, and we share a lot of what we do and cross team too. Our team meeting times are the same for the entire grade so that we can work with our teammate or our [curricular] counterpart on the other team.
Mrs. Fir, a teacher with a couple of years of experience, who currently is not on a team notes, "The team setup is a good thing. There's a sense of belonging to a set group of kids. They have team competitions and contests. Teaming is really for the kids." Mr. Locust's comments lined up with both Mrs. Oak and Mrs. Fir's sentiments. He is a teamed, core teacher with two decades of experience. He notes, "Predetermined team time provides us the opportunity to get together and discuss the kids, assignments, and other things. I think that time is extremely valuable for us as professionals. We really take advantage of it." Mrs. Elm, a veteran teamed, core teacher reports, "Predetermined team time is very helpful as long as you have functional teams where everyone gives their input and listens to one another. If you're not a functional team then it's not going to be very helpful spending extra time with those individuals." Although she mentioned that she had only ever been on functional teams, she was aware of other teams that did not work well together. She noted this was typically due to personality clashes.

Mrs. Spruce, who currently teaches a core subject on a team, mentioned that there can be some animosity between teamed and non-teamed teachers. She said, "I have colleagues who feel that some of the noncore specialists do not do their fair share, or have more prep time. I don't exactly feel that way. There are pros and cons to each of our jobs. Some of us have more grading, some of us have more duties, and some of us have high stakes testing associated with our courses." When asked a follow-up question regarding how this animosity might impact collective efficacy, Mrs. Spruce notes "I don't think it's a big enough problem to be a common concern. The teachers who complain about the discrepancies, complain about a lot of other things. It becomes a problem when
we go to settle a contract and teachers are pitted against each other. We are all good at a particular subject or two, and we should support our colleagues."

Ms. Hemlock, a teamed, core teacher, made some interesting comments regarding the challenges facing a non-teamed, noncore teachers.

I think it is difficult for teachers that aren't on a team when it comes to the kids, their homework, and discipline. Classroom management is very difficult and I think part of it is because it's hard for the kids to see the value in the noncore classes. If they [the students] don’t really want to learn Italian or take art, then they [the students] don’t put the same priority on it. It has no reflection on the teacher at all. It’s the kid’s perspective on the course. There is a disconnect between what the kids will do for them [noncore teachers] versus us [core/teamed teachers].

Mrs. Cypress, a veteran reading teacher, who is not teamed explains some challenges facing some of the specialists within her building.

We have a fulltime speech pathologist, psychologist, and ESL (English as a Second Language) teacher. I think a lot of times, those teachers who are still in educational roles are very isolated from what we're doing because they have to adopt their schedule to meet the needs of the students. They might even be in two different buildings. It's really on them to reach out and find out what's going on in the teams.

Mrs. Spruce, who is currently a core and teamed midcareer teacher comments about a time when she was not on a team.

When I was a specialist, I was in multiple buildings and there was no sense of home. I wasn't on a team and I didn’t have that personal tie to anyone and I also didn’t have anyone to collaborate with. There were two other specialists in the district and we would occasionally collaborate but only when we initiated it. It would have worked more effectively if we had a set predetermined weekly time to meet.

Both Mrs. Cypress and Mrs. Spruce noted that non-teamed specialists have to do more work on their end to feel what might otherwise be an automatic connection to the school for teamed or core teachers.
Mr. Pine, currently a non-teamed and noncore teacher explained, "There are advantages to both the teamed and non-teamed situations. The team is a nice safety net, but I don't think it necessarily makes me a better teacher. I think that the teaming is mainly for the kids benefit and not the teachers. The team is there to make sure the kids are not slipping through the cracks. It's not a structure that is meant to make teachers better at what they do." When asked a follow-up question about whether he preferred the team or non-team position, he thought for a minute then responded.

The team situation was good for me because I was a brand new teacher right out of college at the time. I think it just helped me to get acclimated to teaching, the building, and the expectations in the district more quickly. Now that I've been teaching for ten years, I don't really care if I am on a team or not. I'm definitely more confident and comfortable in my teaching skin now. I think it just depends on where you are in your career.

Mr. Pine brings up an interesting point regarding years of experience. His comments line up with the statistical data presented previously that argue that teachers who have been teaching longer on average report higher levels of both teacher and collective efficacy than teachers with less experience.

The commentary from both teamed and non-teamed as well as core and noncore teachers leans toward the idea that non-teamed and noncore teachers face different challenges with regard to establishing efficacy.

**Theme 3: Stability of staff**

The inconsistency of both the teaching and the administrative staff from year to year was mentioned frequently throughout the interviews. All seven middle schools associated with the study had significant administrative changes within the past three years. Some principals were shifted to the high school or another middle school in the district, while others were newly hired from outside of the district. One of the schools
was working with an interim principal and another had three administrators with less than seven years of combined administrative experience. The teachers noted that this inconsistency caused additional stress among the professional staff when they had to get to know a new administrator with differing philosophies, styles, and expectations year after year. Mrs. Elm, a teacher with 26 years of experience notes,

Most of the teachers in our building keep their distance with new administrators. It becomes a revolving door at the middle school level. I think we're had eight new principals or assistant principals in the past seven years. If we get someone good, they get moved to the high school within a couple of years. You know we're like the stepchild. I don't think it's obvious to the kids, but it does impact the teachers when you're getting to know someone new all of the time. They just don't have the history of the building and that's not their fault. But they ultimately have a big say with observations and performance appraisals. It can really screw with you when you're constantly having to prove yourself to a new person. It can make you question your own beliefs.

Mrs. Cypress, a veteran non-teamed teacher in a different district reports, "As much as I hate to say it, the climate is not really good in our building. We had the same principal for many years and about five years ago, he retired. The climate was much different when he was here." The administrative changes seemed to impact every teacher interviewed in some capacity.

In addition to there being unease with consistency among the administrative staff, there were also concerns voiced about the stability of the teaching staff. All ten interviewed teachers noted that there was major staffing changes for teachers in the last two years. Ms. Hemlock, an 8th grade teacher with seven years of experience commented,

There is always someone new on my team each year, so you wind up having to train that person and get them comfortable with the team, the grade, the building, you know. It takes time away from our normal planning. I don't mind helping, but it just gets old when you can't expect any kind of consistency from year to year. It all started when we didn't settle our contract a number of years back. The
administration just started moving teachers around to different teams, grades, and buildings just to prove that they were in charge. It just wound up being very disruptive to everyone.

Mr. Maple, a teamed teacher with almost 20 years of experience in five different core and noncore positions in multiple buildings and districts summed up the idea of longevity in a certain position,

There is something to be said for working with people who have different amounts of experience in a position. I have worked with people who have been in the same building and grade level their entire career and are highly effective because they know what that kid is supposed to be. I personally know at this point after eleven years how a sixth grader is supposed to look a certain way. Although various teaching experiences have rounded me out, there is something to be said for staying in the same position and doing a really good job in it year after year.

Stability of staffing impacts both administrators as well as teachers, and eventually the students. A leader who is familiar with the history and culture of the school typically has a better understanding of why things are the way they are. Constant administrative and staffing changing can impact the climate of a building as well as the moral of the staff.

**Theme 4: Increased Demands & External Influences**

School districts were hit hard after the financial crisis of 2008. In the six year period from 2008 through 2013, school districts were forced to cut 324,000 school related jobs (Bureau of Labor Statistics, 2014). In addition, Title 1 and special education funds were cut by 12% and 11% respectively from 2010 to 2013 (Budget Control Act, 2011). Many states used emergency fiscal relief starting in 2008, which expired after the 2011 school year, forcing many districts to cut spending sharply (Center on Budget and Policy Priorities, 2013).
Less employees compounded with funding cuts put additional burdens on teachers. In some districts, class sizes increased while other districts froze salaries in order to cover the deficits. Still other districts tackled the tightening budgets by increasing the number of classes per teacher, while sacrificing their team preparation time. Teachers at some middle schools went from teaching five classes with an individual as well as a team prep period to teaching six classes and maintaining only an individual prep period. In many districts the middle schools maintained the teaming concept by expecting the teachers to carve out additional time to keep up with the teaming responsibilities, which were once taken care of during a daily team prep period. The Franklin School District saved money during that time by changing the eighth grade team from multiple smaller teams to one larger interdisciplinary team, which gave the master schedule more flexibility. In addition, the Bell School District was planning to go from two smaller teams to one larger interdisciplinary team for the eighth grade for the school year following (2014-2015) the research study.

In addition, new federal, state, and local mandates continue to be implemented year after year. In many cases, funding is tied to mandates, so districts have their hands tied. When discussing what impacts her individual efficacy, Ms. Hemlock, a teamed and core teacher, explains that there is a lot that is out of her control.

Because of all the changes from the state, core content and SLOs (student learning objectives) and there’s always a plethora of new stuff at the district level; teachers are overwhelmed. It impacted them in the classroom. I don't know if we're as effective when we have to do new things every year. I think people are trying to stay positive and I think that’s great. People are really trying to keep it together, but I know it’s hard. Once in a while you see the cracks, but overall, I’d say it’s very, it's positive and supportive. We're all trying to support each other but we're all going through the same thing.

From the perspective of a noncore teacher, Mr. Pine explains,
It’s so difficult the way that they work the schedule. We need that time together. Really, I feel like it’s no reflection on any teachers, it’s just that we have got to get time where teachers can come and talk. How can we be expected to plan cross-curricular and tie all that stuff together? More stuff just keeps getting put on our plate. If we had more time, we would be on the same page and the collective efficacy in the building would be much higher.

When discussing the exchange of professional ideas, Miss Sycamore, a core teacher explains, "We share but it's limited. Everybody is willing to help each other but there's not a lot of time for it." Later in the interview she added,

Technical standards that have passed require us to basically work harder to be more accountable, to be more structured and maximize our time. Then part of that also is the financial changes that have happened with schools. Because of that, we had less flexibility with our schedules. We had more students in the classroom. Technology had holistically changed so it makes things easier but then also there are more requirements. You have to email parents, you have to keep track of data.

Clearly the idea of time versus expectations was on her mind. Mrs. Spruce summed it up "We don't have enough time to meet and I think that would be better to create a team atmosphere."

Increased demands and decreased funding along with heightened accountability at the classroom, building, and district levels have placed additional burdens on classroom teachers. Getting rid of smaller teams in the higher grade levels (mainly 8th and 7th) is a recent trend that districts turn to when dealing with tightening budgets. This in turn takes away from the traditional teaming model which allows for additional time for teachers to meet with their interdisciplinary teams.

Theme 5: Size of School

In 1999-2000 the National Center for Educational Statistics reported that the mean number of students in a public middle school in the United States was 595. The seven middle schools in the study range in population from 450 to 1300 students, with
various grade configurations (Table 15, p. 84). When broken down by grade level, the average number of students per grade level in the study ranged from 150 to 650. When visiting each of the buildings, there was a different feel at Harrison Middle School, which was by far the smallest in terms of number of students (450) and teachers (30). The words community and family were used frequently throughout the conversations I had with teachers as well as the principal from that school. Mrs. Oak who has worked in that building for the majority of her teaching career summed it up,

> We have opportunities to get together and do things that when you have 80 to 100 staff, you just don’t have the opportunity to even take five minutes and talk to each other in the hall. It has nothing to do with the staff or the teachers or anything, it's just the size of the school. That impacts schedules. When you have bigger numbers, sometimes you have more restrictions with the teachers' schedules which may not allow for as much opportunity to meet.

While I spent time interviewing at Harrison Middle School, it was easy to navigate and everything was close together. When teachers only have to spend less than a minute getting from room to room, it makes it much easier to have a quick conversation with a colleague. In some of the other buildings, it could easily take three minutes to get from one end of the building to another. This could definitely be a deterrent to impromptu collaboration.

Miss Sycamore, who works at one of the larger buildings explains the implications of their larger staff size,

> What we're probably lacking is though, I do feel that because we're so big, there are struggles with it and we do not have a lot of common meeting space. We can go into the office and check our mail but people are always running. The building isn't designed around a commonplace for the teachers to meet and discuss. I can go all day, I'm downstairs on the back of the building and only see the people on either side of me and really never see even an administrator or other teachers.
Mrs. Spruce, a teacher from one of the larger buildings in the study, sighed when she explained, "Building and maintaining professional relationships is an ongoing struggle, again, because we're such a large building. We recognize the fact that building that sense of community is important. Some people recognize that. There are efforts that are made but they end up being not so much building-wide."

Mr. Pine, a non-teamed, noncore teacher from Madison Middle School made a comment about a previous school at which he worked, "Part of it also was the district was smaller. It was a smaller staff. There was much more community, more autonomy. I like this school, but I feel the size makes the biggest difference when it comes to making a teacher with my schedule [non-teamed and noncore] feel like a part of the bigger school community." Mrs. Fir, a fairly new non-teamed teacher reports, "The school is big, but because the team thing works for the kids, I really like it." Mrs. Fir mentioned that her principal recently told the staff that teaming may not be around in a couple of years due to the cost. She shook her head and said "But if there is no team, I wouldn't know many kids very well. I mean I hope it sticks around, because I truly believe that things work better for the kids. Teaming is better for the kids, because it makes the size of the school more manageable for them."

The percentage of teachers included on a team in this study ranged from 46% (Jefferson Middle School) on the low end to 80% (Tyler Middle School) on the high end, with the average being 65%. Harrison, which was the smallest school in the study in terms of student population, was able to include 77% of teachers on a team because of the size of the study body and the nature of the master schedule. Tyler Middle School, which was the largest school in the study in terms of student population, was able to include
80% of its teachers on a team. This is due in part to the fact that teachers that hold an elementary certificate, which qualifies them to teach through 6th grade, can teach any subject under the one elementary certificate. Teachers from 7th grade and up must hold a different certificate for each subject they teach. As mentioned previously, Tyler Middle School consists of three main core teams, which are comprised of approximately 13 teachers who teach a combination of math, language arts, reading, science, social studies, and special education. Within each of the three larger teams, the teachers are paired up into four two-teacher subteams. This allows for students to attend math and science class with one teacher, then switch to the other subteam teacher for language arts and social studies. This scheduling practice allowed for a large majority of the teachers to identify with an interdisciplinary team.

The size of school impacts the program offerings as well as the number of professional teaching staff needed. Ultimately the master schedule impacts the experience that the teachers have day in and day out and whether or not they work directly with an interdisciplinary team.

**Theme 6: Leadership**

The last theme mentioned frequently among teachers is that of leadership within the school building. The leadership team in a middle school building typically includes a principal as well as one to three assistant principals depending on the size of the student population. Most of the comments recorded in the teacher interviews were specific to the principal unless otherwise noted when they referred to the entire leadership team.

There is an abundant amount of research on principals and leadership styles. Principal leadership can correlate to efficacy among teachers, which can also lead to
increased teacher effectiveness in the classroom (Printy & Marks, 2006; Ross & Gray, 2006; Wahlstrom & Louis, 2008). A principal’s leadership style can influence not only the effort teachers put forth but also teachers' job satisfaction (Grayson & Alvarez, 2008; Ross & Gray, 2006). Mr. Maple, a teacher in the smallest building in the study, explains "The principal really sets the tone for the building. The principal knows who is doing the job that they need to be doing and who needs a little bit of a nudge." Ms. Hemlock, who works in a building with a young leadership team with little experience comments "I feel that our leadership is very strong and very positive and that in turn impacts us as a staff."
## Table 15

**Middle School Demographics**

<table>
<thead>
<tr>
<th>School</th>
<th>Total Student Population</th>
<th>Grade Levels</th>
<th>Average # of students per grade</th>
<th>Professional Teaching Staff</th>
<th>Core Teams per grade level</th>
<th>Average # of teachers per team</th>
<th>% of teachers on a team</th>
<th>Additional Noncore Team</th>
</tr>
</thead>
<tbody>
<tr>
<td>Washington MS</td>
<td>640</td>
<td>6 - 8</td>
<td>213</td>
<td>51</td>
<td>2</td>
<td>6</td>
<td>71%</td>
<td>Yes</td>
</tr>
<tr>
<td>Adams MS</td>
<td>685</td>
<td>6 - 8</td>
<td>228</td>
<td>62</td>
<td>2</td>
<td>6</td>
<td>58%</td>
<td>Yes</td>
</tr>
<tr>
<td>Jefferson MS</td>
<td>880</td>
<td>7 - 8</td>
<td>440</td>
<td>65</td>
<td>3</td>
<td>5</td>
<td>46%</td>
<td>Yes</td>
</tr>
<tr>
<td>Harrison MS</td>
<td>450</td>
<td>6-8</td>
<td>150</td>
<td>30</td>
<td>2 (6th &amp; 7th), 1 (8th)</td>
<td>4 (6th &amp; 7th), 7 (8th)</td>
<td>77%</td>
<td>No</td>
</tr>
<tr>
<td>Madison MS</td>
<td>800</td>
<td>6-8</td>
<td>267</td>
<td>56</td>
<td>3 (6th &amp; 7th), 1 (8th)</td>
<td>4 (6th &amp; 7th), 12 (8th)</td>
<td>64%</td>
<td>Yes</td>
</tr>
<tr>
<td>Tyler MS</td>
<td>1300</td>
<td>5-6</td>
<td>650</td>
<td>97</td>
<td>3</td>
<td>13</td>
<td>80%</td>
<td>Yes</td>
</tr>
<tr>
<td>Polk MS</td>
<td>650</td>
<td>7</td>
<td>650</td>
<td>53</td>
<td>5</td>
<td>6</td>
<td>57%</td>
<td>Yes</td>
</tr>
</tbody>
</table>
A principal’s leadership can have a significant influence on increasing teacher efficacy by providing learning opportunities, sharing leadership, and acknowledging successes (Nir & Kranot, 2006). Miss Sycamore, who works in the largest of the buildings represented in the study, notes "I think leadership in any building has a huge impact on the collective efficacy. It can also be individual efficacy in some cases if a teacher has frequent interactions with the principal. It's nice when the principal notices something you are doing for the students that goes above and beyond the expectations."

Teachers will tend to work harder when they feel they are appreciated by school leadership (Youngs & King, 2002). Mrs. Fir, who previously worked in the business world, states "They [the leadership team] have an open door policy. If we have a suggestion, or they come right out and ask us for input, they attempt to make changes. You can't please everybody, but when the attempt is there it really sets the tone."

Mrs. Elm, a veteran teacher in a building with a significant amount of leadership turnover, notes "I've found that if you have a strong staff with lots of efficacy and a decent climate in the building, the staff will work together regardless of who that leader is."

**Teacher Themes Summary**

The six common teacher themes discussed above cover a nice range of topics that might give more insight into why some teachers believe both teacher and collective efficacy to be a multi-layered subject matter. The themes ranged from individual concerns (schedules), to building concerns (communication, stability of staff, and leadership), as well as district concerns (increased demands and size of school).
Although it was not discussed frequently in the teacher interviews, the idea of years of experience as it relates to levels of efficacy is summed up nicely by Mrs. Fir, a non-teamed, noncore teacher, with four years of experience:

I don't have nearly as much experience as some older teachers in the building. I do the best that I know how, but I just don't have that bag of tricks that comes along with 20, 25, 30 years of experience. I am a confident person and I love the kids, but I probably don't have as much efficacy as my mentor for example. She just has a plethora of solutions when I come to her with a problem. I know I'll eventually get there, but it takes time and experience. Come back and interview me in 15 years and hopefully I'll have that bag of tricks and be mentoring someone myself by then.

Mrs. Fir's comments support the findings mentioned previously from the survey data that the number of years teaching showed a significant relationship for both teacher efficacy as well as collective efficacy. Teachers who have been teaching longer on average report higher levels of teacher efficacy ($r = .216, p < .05$) and higher levels of collective efficacy ($r = .248, p < .05$) than teachers with less experience.

Each of the teacher themes discussed reiterates the idea that teacher and collective efficacy are important topics for teachers to consider throughout a school year and over a career. Although efficacy may not be at the forefront of their mind compared to lesson plans, discipline concerns, or performance ratings, efficacy is an important aspect of a teacher's well-being in the classroom and school community.

*Administrator Themes*

The most common themes, which influence teacher and collective efficacy, mentioned among the administrators during the interviews included: (1) the principal's leadership, (2) teaming, (3) teacher involvement, (4) communication, and (5) size of school. Each of these six themes will be discussed in greater detail below.
### Table 16

**Themes Influencing Teacher & Collective Efficacy - Principal Interview Data**

<table>
<thead>
<tr>
<th>Theme</th>
<th>Total # of distinct comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Principal's Leadership</td>
<td>6</td>
</tr>
<tr>
<td>Teaming</td>
<td>5</td>
</tr>
<tr>
<td>Teacher Involvement</td>
<td>4</td>
</tr>
<tr>
<td>Communication</td>
<td>2</td>
</tr>
<tr>
<td>Size of School</td>
<td>2</td>
</tr>
</tbody>
</table>

**Theme 1: The Principal's Leadership**

The theme that was mentioned most frequently by administrators was that of the principal's leadership. Research conducted by Hunter-Boykin and Evans concluded that the school principal is the person who not only determined the basic rules for the operational environment in the school, but was ultimately responsible for high teacher morale (1995).

The four principals interviewed were on the same page regarding their impact on teacher efficacy. Principal Rye, a principal with three years of administrative experience in a single district notes "I would hope to think that my leadership would impact the self-efficacy of teachers, but it's so tough to measure that. I'm not sure to the degree of which it is impacting. I think listening and following through when a teacher has a good idea is the best way to send the biggest message that teachers are valued members of the middle school model." Principal Barley, a principal in a second district with 10 total years of administrative experience in 5 different districts remarks "It has been difficult but I do believe that it's my leadership as well as the 3 assistant principals underneath me and their interactions with teachers that has helped to define what this culture has become. In addition, we play a big role in influencing teacher efficacy and how the teachers feel about their ability to impact the kids." Principal Millet, a principal in a third district with
15 total years of administrative experience in 2 different districts states "I believe it's part of my job to have an impact on teacher efficacy, otherwise anybody could do my job I guess. The key piece for me as the instructional leader is developing clarity of vision and clarity of purpose, so that the teachers know what they are expected to do." Principal Teff, a principal in a fourth district with two years of administrative experience in a single district comments,

I think my leadership impacts teacher efficacy. I think that the principal is the instructional leader in the building. They really do impact how the teachers feel about themselves, their teaching, and so forth. You have a pretty strong influence on their performance. As the leader of the building, I think that it's important to make your staff aware that they are doing a good job when they are in order to validate them.

Both Principal Teff's and Principal Millet's comments referred to instructional leadership. In recent years, building principals have been referred to as instructional leaders. Instructional leadership includes the principal concentrating on supervision, as well as coordinating, controlling, and developing curriculum and instruction (Hallinger, 2003). This is different from traditional leadership where the majority of time is spent on management, discipline, budgeting, scheduling, and facilities as opposed to teaching and learning. Hart defined instructional leadership as a leadership style that influences teachers through the design of curriculum and instruction (2006). Leithwood and Jantzi described instructional leadership as behaviors designed to impact teachers' thinking and practice as well as classroom instruction through coaching, supervision, modeling, and staff development (1999).

**Theme 2: Teaming**

The second most discussed theme for the principals as well as the teachers was the idea of whether or not teaming impacts efficacy. The statistical data from the survey
results indicated that there was no difference in either teacher or collective efficacy between teamed and non-teamed teachers at the middle school level, although the interview data suggested mixed reporting with regard to this idea.

After transitioning from an assistant principal to principal, Principal Rye brought two-thirds of special education teachers, who has previously not been on a team, onto a team. He strongly believes that "There's no excuse in this place the way it's set up to not be in the loop and to be collaborative and responsive." Only two of the seven schools had a significant number of special areas teachers on a core team. Principal Millet, the principal of the other school with special areas teachers on teams notes "I personally like that the related arts teachers are part of the team, because they've been able to connect the learning that they do in the classroom (core areas) to some of the projects that they do in the related arts. It is a great experience. It is just was a nice situation to be able to have the related arts teacher on the teams." Both Principal Rye and Principal Millet believe that having as many teachers as possible assigned to a team is ideal for the middle school setting where teaming is a priority. Unfortunately size of a school as well as scheduling can significantly limit this option in many situations.

When asked to consider how the non-teamed, noncore teachers fit into the middle school model, the principals had some interesting perspectives. Principal Teff comments.

Non-teamed teachers have told me, they don't feel as if they're a part of the building when you don't include them. The way it was set up here, they didn't participate in team meetings because they are usually teaching at the time. They definitely felt like they are not part, they felt left out of a lot of decisions and things like that because they aren't in those team meetings.

Principal Rye explains "The noncore teachers don't have time in their schedule where they are contractually obligated to meet. They could, but most choose not to. I think the
noncore teachers feel slighted because they're not core content teachers, although it was their decision to get a certain certification." Principal Millet remarks "I think the difference between the core teamed teachers and related arts teachers is they're just not as connected to both the staff and students. They're connected to their students, but in terms of the entire student body and part of that whole, it's everybody's responsibility, they're not as connected as the team of teachers." The possibility of some workers not being as connected as others seems as though it might impact both individual and collective efficacy.

**Theme 3: Teacher Involvement**

Another common theme that was discussed during the principal interviews was the idea that teachers who are involved in the building in some additional capacity are noted by their principals to have higher levels of efficacy. This involvement can come in the form of coaching a team, sponsoring a club, serving as a mentor, or working on a district or building committee to name a few. The teachers referred to were typically eager to get involved and help out when the opportunity arose. Principal Teff notes "I'm amazed at some of the teachers. They just come in and get involved in so much. Those that are involved with multiple activities and show leadership qualities are definitely those that are more motivated and have the high levels of efficacy." Principal Millet remarks "That is another big piece for me, that I want every teacher to get involved in something outside the school day. That really helps build them as a team as well. It gets them to work and interact with each other in a different capacity." Principal Barley states "Teachers that have high self-efficacy are committed to the school. They look at the school as a whole and get involved. The other ones work 8:00 to 4:00 and they are gone."
They don't get on committees or want to learn what's going on." Principal Rye comments
"I think it's just their positivity. I can think of several individuals both on and off team
who are willing to jump right in, maybe coach, do whatever it takes. This definitely
impacts their levels of efficacy."

Theme 4: Communication

A fourth common theme that was mentioned by two of the principals was the idea
of communication. Principal Teff noted that "A lot of information is disseminated in team
meetings. I think they [non-teamed teachers] feel like they do get the information
communicated via email or some other fashion when it happens, but it's just not the same
as a face to face [team] meeting." When the same information is delivered to different
constituents in different fashions that could send mixed messages. Information presented
face to face in a team meeting format is typically discussed among the team members. If
that same information is communicated via email with an agenda attachment, the
information could possibly be misinterpreted. Principals must be careful when
disseminating information since the delivery platform can communicate different
information or priority level to various groups.

Principal Teff also noted the importance of communicating both to individual
teachers as well the entire faculty about special individual successes.

You have to recognize teachers that are going above and beyond and doing things
that are great for kids. It could be at a faculty meeting. They just need to hear their
name. Obviously you know, personal notes, emails, those types of things are
always beneficial, and just saying thank you. Also sharing. Sometimes parents
share information but teachers never get to hear it. You want to make sure you
really pass that information on to them as well.

Principal Rye noted that communication was critical when sending the message
that teachers are valued members of the middle school model. "I think listening is number
one, and making decisions that support that, and following through when a teacher has a good idea." Principal Rye noted that open lines of informal communication were a constant in his building.

**Theme 5: Size of School**

Middle school enrollment can vary greatly from district to district. As mentioned above in the teacher themes, in 1999-2000 the National Center for Educational Statistics reported that the mean number of students in a public middle school in the United States was 595. This study noted total enrollment, but did not specify the number of grade levels. The seven research site locations had total enrollments ranging from 450 to 1300, with various grade configuration (Table 15, p. 84). The average number of students per grade ranged from 150 up to 650. Only one of the seven research site locations fell below the mean number of students in a public middle school.

Principal Millet who was the principal of the school with the smallest population in the study reported "The biggest difference between the two middle schools (in Franklin School District) is the size of the buildings. One is almost double the other." This difference allows for two different master schedules. The physical size of the building also makes it easier to run into a colleague, exchange an idea, or discuss a student concern.

**Principal Themes Summary**

The five common teacher themes discussed above cover a nice range of topics that might give more insight into why some administrators believe both individual teacher and collective efficacy to be an important topic that can infiltrate many areas in the middle school setting. The themes ranged from individual concerns (teacher
involvement), to building concerns (communication, teaming, and the principal's leadership), as well as district concerns (size of school).

Principal Millet summed it up the idea of the teaming model nicely,

We work together, and there's after-school, and there's guidance counselors, and there's myself, and assistant principals. Everybody has an impact on the students' lives, so we want to make sure that we're maximizing all of that, so we can have a greater impact on the students' ability to achieve so that the teacher can be more effective in their classroom. I have to make them believe that they can impact student achievement, when they only see each student for less than an hour a day. It's not really just an hour, because we work as a team. So, it's not just in your class, especially in a middle school, when the team is your model.

Each of the administrator themes discussed reiterates the idea that individual teacher as well as collective efficacy are important topics for administrators to consider when leading a school. Although the idea of efficacy may be pushed to the side compared to observations, discipline, budgeting, and facilities, efficacy is an important aspect of the school community which is intertwined with the day to day workings of a middle school building.

*Overlapping Themes between Teachers & Principals*

The themes of communication, leadership, size of school, and teaming were common among both teachers and principals. Table 17 depicts the rankings side by side. Although they were ranked differently, the overlapping themes are of interest. Both teachers and administrators ranked teaming as the second most important factor impacting teacher and collective efficacy at the middle school level. Although the quantitative data indicate that there is no difference in teacher efficacy (Table 7, p. 59) and collective efficacy (Table 8, p. 60) between these teamed and non-teamed teachers, the interview data indicate that teaming is a critical factor impacting efficacy.
It is interesting to note the difference between two of the overlapping themes, notably teaming and leadership. Most of the teachers were quick to mention teaming as well as communication when asked about factors impacting efficacy. Some teachers viewed their team as a necessary professional structure, which benefits both students and teachers. Both teamed as well as non-teamed teachers noted that there are advantages to each teaching position and that various positions experience teaming in different capacities.

On the other hand, each of the four principals interviewed was quick to note that their personal leadership was the most influential factor impacting teachers’ efficacy in their building. Although they noted that they could not measure the degree to which their leadership was impacting individual teachers in various positions, they thought it was essential to the existence of teacher and collective efficacy in each of their buildings. The commentary from both teachers and principals leans towards the idea that teachers face different challenges with regard to establishing efficacy regardless of their position and the factors are variable depending on whom you ask.

| Table 17 |
| Overlapping Themes Influencing Teacher & Collective Efficacy - Interview Data |
| Theme | Teachers' Ranking | Principals' Ranking |
| Communication | 1 | 4 |
| Leadership | 6 | 1 |
| Size of School | 5 | 5 |
| Teaming | 2 | 2 |
Historical Documents Review

In addition to surveying teachers and interviewing both administrators and teachers, historical documents were also reviewed. The current collective bargaining agreements (CBA) for each of the four districts along with the district and school websites were reviewed. Table 18 (p. 97) provides a summary of both prep times as well as availability of the district and school vision, mission, and strategic plans.

Upon receipt of a hard copy of each CBA, otherwise known as the teacher union contract, I looked at the section specifying prep time, which is also referred to as planning time. Common prep time, also called team prep time, is one of the hallmarks of the traditional interdisciplinary teaming model at the middle school. The model relies heavily on common prep time for teamed teachers in order to work collaboratively on integrating curricular units, developing special schedules, conducting teacher-parent conference, resolving student needs, and meeting with guidance counselors or special education teachers to name a few (Warren & Muth, 1995). It is necessary to have both individual as well as common planning time in order to support team collaboration. Unfortunately in most cases the non-teamed teachers are not taken into consideration with regard to common planning time and typically do not have the opportunity to benefit from it. All four districts provided all teachers a minimum number of guaranteed individual daily prep time ranging from 40 to 50 minutes. Although the common prep time was not necessarily noted in the CBA, it is a given in most cases due to the nature of the master schedule. Both individual as well as team prep were during common times for teamed teachers in all seven buildings. In addition, five of the seven schools maintained a schedule, which allowed for additional daily team prep time for teamed teachers only.
Jefferson Middle School provided a daily team prep time for all teachers, except special education, although only core teamed teachers were expected to meet on a daily basis. This ultimately gave the noncore/non-teamed teachers additional individual prep time if they chose not to meet as a group. At Tyler Middle School, the teachers were expected to utilize part of their individual prep time to meet with their sub teams or grade-level teams to accomplish necessary team tasks such as meeting with the guidance counselor, planning field trips, conducting teacher-parent conference, and resolving student concerns. Ideally teachers' common prep time should not come at the expense of their individual prep time, because both collaborative and individual workloads suffer (Jackson & Davis, 2000). The findings from the review of the CBAs were reflective of the concerns voiced in the teacher interviews about having less time and increased demands. It is also interesting to note that team planning time was going to be taken away from 8th grade teachers at Washington and Adams Middle Schools starting in the 2014-2015 school year when one larger interdisciplinary team would replace two smaller teams.

In addition to looking at the prep time listed in each CBA, I also looked at the websites for each district and building. The mission statement was listed on three of the district websites, the vision was listed on two of the district websites, while the strategic plan was listed on three. Three schools in two of the districts mentioned something about teams or team-based middle school programs on their individual building websites.
<table>
<thead>
<tr>
<th>District</th>
<th>School</th>
<th>Individual Prep Time in daily minutes</th>
<th>Team Prep Time in daily minutes</th>
<th>District website</th>
<th>Middle School website</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bell</td>
<td>Washington MS</td>
<td>47</td>
<td>47 - teamed teachers only</td>
<td>Mission, vision, and strategic plan</td>
<td>Nothing mentioned</td>
</tr>
<tr>
<td>Bell</td>
<td>Adams MS</td>
<td>47</td>
<td>47 - teamed teachers only</td>
<td>Mission, vision, and strategic plan</td>
<td>Nothing mentioned</td>
</tr>
<tr>
<td>Edison</td>
<td>Jefferson MS</td>
<td>42</td>
<td>42 - all teachers, except special education</td>
<td>Strategic plan</td>
<td>Mentions team-based MS programs</td>
</tr>
<tr>
<td>Franklin</td>
<td>Harrison MS</td>
<td>50</td>
<td>50 - teamed teachers only</td>
<td>Mission</td>
<td>Mentions teams on website</td>
</tr>
<tr>
<td>Franklin</td>
<td>Madison MS</td>
<td>50</td>
<td>50 - teamed teachers only</td>
<td>Mission</td>
<td>Mentions teams on website</td>
</tr>
<tr>
<td>Wright</td>
<td>Tyler MS</td>
<td>40</td>
<td>0</td>
<td>Mission, vision, and strategic plan</td>
<td>Nothing mentioned</td>
</tr>
<tr>
<td>Wright</td>
<td>Polk MS</td>
<td>42</td>
<td>42 - teamed teachers only</td>
<td>Mission, vision, and strategic plan</td>
<td>Nothing mentioned</td>
</tr>
</tbody>
</table>
Summary

Chapter Four provided the research findings in detail. It began with an historical context for each of the four school districts in the research study. A hierarchical flow chart was also provided for each of the seven research site locations. The survey respondents' demographic information was presented. This was followed by a thorough statistical analysis of the survey data specific to the research questions. The teacher and administrator characteristics were then described. The interview themes were broken down by teachers and administrators and overlapping themes were discussed. The historical documents review rounded out the research findings. Chapter Five summarizes both recommendations as well as implications for further research.
CHAPTER 5
SUMMARY, CONCLUSIONS, and RECOMMENDATIONS

Introduction

The purpose of this mixed method study was to investigate and analyze the nature of interdisciplinary team teaching at the middle school level as it relates to teacher efficacy and collective efficacy for both teamed and non-teamed as well as core and noncore teachers. More specifically, I was interested in learning how individuals and groups within the organizational structure of a middle school perceive that they impact and belong to the school in which they teach and how this affects their teaching. The study focused on seven schools in four districts in the northeast section of the United States, which have various combinations of grades five through eight and have subscribed to the interdisciplinary teaming model for at least ten years. The interdisciplinary teaming within each of the middle schools operates in various configurations including but not limited to: two to three teams per grade level with two to five teachers per team, which may or may include special areas or special education teachers. In addition, the middle school teachers work in a combination of roles including: teamed, non-teamed, core, and noncore positions. I utilized the Tschannen-Moran and Hoy (2001) Teachers' Sense of Efficacy Scale (TSES) and Goddard and Hoy (2003) collective efficacy short forms, both teacher and principal interviews, and a historical document analysis as sources of data. One hundred ten teachers completed an online questionnaire and ten of those participated in a follow-up interview. Interviews
were also conducted with a principal from each of the four district. A review of historical documents was also completed to round out the study.

The research questions posed in this study explored possible connections between levels of both teacher and collective efficacy as they might relate to various teacher variables.

1) Is there a difference in teacher efficacy between teamed and non-teamed teachers at the middle school level?

2) Is there a difference in collective efficacy between teamed and non-teamed teachers at the middle school level?

3) Is there a relationship between teacher efficacy and collective efficacy at the middle school level?

4) Which variables, singly and in combination, correlate with teacher efficacy and collective efficacy in a middle school setting? The variables used for the analysis are gender, race, highest degree earned, years teaching, years in the district, years in the building, years in current position, grades taught, and subjects taught.

Summary of Results

- The online teacher survey data for this study suggest that:

  1) There is no difference in teacher efficacy or collective efficacy between teamed and non-teamed teachers.

  2) Teachers who report high levels of teacher efficacy are likely to also report high levels of collective efficacy.
3) There is a significant relationship for teacher efficacy for those that teach 6th grade.

4) There is a significant relationship for both teacher and collective efficacy for those that teach 7th grade.

5) There is a significant relationship for both teacher and collective efficacy with regard to number of years teaching.

6) Teachers who teach core subjects report higher levels of teacher efficacy.

- The teacher interview coded data indicate that: (1) communication, (2) teaming, (3) stability of staff, (4) increased demands & external influences, (5) size of school, and (6) the leadership impact teacher and collective efficacy.

- The principal interview coded data indicate that: (1) the principal's leadership, (2) teaming, (3) teacher involvement, (4) communication, and (5) size of school impact teacher and collective efficacy.

- The historical documents review implies that:

  1) Common and individual prep time were not uniform among all contracted teachers in each building. In addition, non-teamed teachers were not required like the teamed teachers to meet during their scheduled common prep time.
2) Less than half of the schools mentioned teaming on their website, while just over half of the districts had their vision, mission, and strategic plan readily accessible on their website.

Conclusions

The discussion for this mixed method study is separated by online survey data, interview results, and historical document review.

*Online Survey Data*

The data indicate that there is no difference in teacher efficacy between teamed and non-teamed teachers. These results shown in Table 7 (p. 59) indicate that whether or not a teacher works on a formalized team at the middle school level, he or she is likely to report similar levels of teacher efficacy. This could be a result of the overall culture of a building or the idea that non-teamed teachers tend to associate themselves with, gravitate towards, and create connections with other non-teamed teachers. Within the context of the study, the non-teamed teachers were referred to as specialists, related arts teachers, or special areas teachers depending on the district and building. Six of the seven buildings reported that these non-teamed teachers were collectively on a team consisting of anywhere from 12 to 35 teachers. These special areas 'teams' generally work with all students in all grade levels on a rotating non-daily basis. This is in contrast to the core interdisciplinary grade -level teams, which work with a predetermined number of students on a daily basis. The comparable reporting of teacher efficacy in this study indicates that teamed and non-teamed teachers report similar beliefs about their attitude
regarding their professional competences related to bringing about desired outcomes in their classrooms with regard to students' learning.

The data also indicate again that there is no difference in collective efficacy between teamed and non-teamed teachers. These results shown in Table 8 (p. 60) indicate that whether or not a teacher works on a formalized team at the middle school level, they are likely to report similar levels of collective efficacy. Based on results from the first research question above regarding teacher efficacy, these additional findings regarding collective efficacy add up. The comparable reporting of collective efficacy in this study indicates that teamed and non-teamed teachers report similar beliefs about the entire faculty's joint capabilities to reach particular goals with regard to impacting students' learning.

The data additionally indicate that there is a relationship between teacher efficacy and collective efficacy. These results suggest that if teachers report high levels of teacher efficacy then they are likely to also report high levels of collective efficacy. This concept can be viewed in a self-fulfilling type of manner. If teachers expect that they will individually have a positive impact on student achievement, then beliefs and behaviors will match up and have a greater chance of occurring. On top of this a teacher who has a high level of teacher efficacy, may in turn project that onto the rest of the faculty. If a majority of the staff is individually feeling confident about their abilities then the staff as a whole will most likely feel confident about their collective potential.

In addition, the data indicate that there is a significant relationship with regard to number of years teaching for both teacher efficacy as well as collective efficacy. These results shown in Table 10 (p. 63) indicate that teachers who have been teaching longer on
average report higher levels of teacher efficacy and collective efficacy than teachers with less experience. Teachers with greater than 30 years of experience, which was the highest level a teacher could indicate on the survey, reported the highest mean scores for both teacher efficacy as well as collective efficacy. This could be attributed to the idea that teachers with more years of experience might have greater confidence in their abilities as well as more ideas to pull from when dealing with various situations.

Lastly, the survey data indicate that there is a significant relationship with regard to teaching a core subject for teacher efficacy. These results shown in Table 11 (p. 64) indicate that teachers who teach core subjects report higher levels of teacher efficacy. Core subjects typically include: English, foreign languages, mathematics, reading, science, and social studies while noncore subjects, which can also be called related arts, electives, or specials include: art, computer technology, foreign language, health, physical education, music, and special education. Foreign language can be included in core or noncore depending on the grade level and district. Four (English, mathematics, reading, and science) of the six core areas are typically associated with a standardized state test, whereas none of the noncore areas are. In recent years, additional resources and funding have been funneled towards tested areas. This could impact core teachers reporting higher levels of efficacy due to additional attention or noncore teachers feeling overlooked and therefore reporting lower levels of efficacy.

Interview Results

The interview data indicate that there were mixed reports among teamed and non-teamed teachers. The interview data also indicate that there is no difference in collective efficacy between these two groups of teachers. Lastly, the interview data indicate that
there is a relationship between teacher efficacy and collective efficacy as well as a significant relationship with regard to number of years teaching for teacher efficacy.

The overlapping themes influencing teacher and collective efficacy that were reported by both teachers and principals during the surveys include: communication, leadership, size of school, and teaming. Table 17 (p. 94) shows the rankings by teachers and administrators side by side. Although they were ranked differently, the overlapping themes are of interest. Both teachers and administrators ranked teaming as the second most important factor impacting teacher and collective efficacy at the middle school level.

**Historical Documents Review**

The historical document review revealed that prep time was not uniform among all contracted teachers in each building. Although additional common prep time was embedded in non-teamed teachers' schedules, they were not obligated like the teamed teachers to meet during the common prep time. On top of the prep time inconsistencies, less than half of the schools mentioned teaming on their website. In addition, just over half of the districts had their vision, mission, and strategic plan readily accessible on their website.

**Relationship of Results to Theory**

The primary goal of this mixed method study was to investigate and analyze how the nature and structure of the widely accepted middle school and teaming models impact levels of individual teacher efficacy as well as collective efficacy for subgroups of teachers within a building. In addition, the study results were compared to the literature
and theoretical frameworks. The two theories used as a framework for this study were Bandura's social cognitive theory and Baumeister and Leary's belonging theory.

The results of the study reflected the ideas behind social cognitive theory. Social cognitive theory notes that individuals are agents, who are proactively engaged in their development and can use their actions to create desired outcomes (Bandura, 1986). Both the quantitative and qualitative results indicated that the teachers care about their work and want to help students to succeed in the middle school setting regardless of their position. Bandura believed that self-efficacy stood at the core of social cognitive theory. Individuals possess self-beliefs, which are "people’s judgments of their capabilities to organize and execute courses of action required to attain designated types of performances" (1986, p. 391). Individuals' behavior is predicted by beliefs about capabilities as opposed to actual capabilities. Many of the comments that both the teachers and administrators voiced during the interviews reflected that they first believed that could impact a particular student, program, or group endeavor. It was evident that a team or group effort was the expectation at all of the research site locations. Although the teachers teach a particular subject to their students in isolated rooms, there was frequent mention of the idea of group or team effort to help both teachers and students reach their maximum potential. This correlates well with Bandura's ideas about collective efficacy. Individuals work together on shared beliefs about capabilities and ambitions to accomplish a task or attain a goal, which ultimately creates a sense of collective efficacy (1986). Although the idea of collective efficacy was in fact expressed during each interview, this may not be completely reflective of the faculties at each research site.
In addition to social cognitive theory, the belonging theory also served as a framework for this mixed method study. Belonging theory notes the need to have regular contact which creates interpersonal relationships that are marked by stability, affective concern, and are ongoing (Baumeister & Leary, 1995). A distinguishing feature of the middle school model is smaller learning communities, better known as interdisciplinary teams or simply teams, operating within a larger school, which would ideally build collaborative communities of teachers (Supovitz, 2002). Building a smaller community of learners through teaming in order to provide relationships and stability for the students was noted multiple times during the interviews. The teachers reported that they had created positive and professional relationships in the teaming environment and also believed it was the best scenario for the students. It would be of interest to find out the students perspective on this same concept in future studies. Additionally, the idea of isolation was noted by some non-teamed teachers during the interviews. The 'belongingness hypothesis' proposes that "humans have a pervasive drive to form and maintain at least a minimum quantity of lasting, positive, and significant interpersonal relationships" (Baumeister & Leary, 1995, p. 497). Lack of belongingness can lead to isolation, alienation, and loneliness. Participants in this study noted that although you teach in isolation, it is anything but an individual effort. Again it would be interesting to get the perspective from students as well as more teachers who may be on the periphery.

Recommendations

Through this mixed method study, I examined factors impacting both teacher and collective efficacy at seven middle schools from four suburban school districts. The
findings indicate that teachers working at the middle school level can experience varying levels of both teacher and collective efficacy based on teaching position and experience. Recommendations are broken down into building and district level.

**Building Level**

*Utilize veteran teachers*

Teachers in this study with more than 30 years of experience were identified as having the highest levels of both teacher and collective efficacy. With that in mind, it makes sense to utilize these teachers in various capacities throughout the building and day. Some ideas include but are not limited to: 1) serve as mentors for novice teachers, 2) allow them to help with hiring new administrators and/or teachers for the building, 3) observe teachers and provide informal feedback, and 4) serve as teacher leaders on various committees at both the building and district level. These opportunities would provide mutual benefit to the veteran teacher, the district, and other teachers. The veteran teacher would have the opportunity to be utilized as an exemplar and role model towards the end of an accomplished career.

*Establish school culture*

Complete a survey at the end of each school year. This would allow the administration to gain some insight into how the professionals in the building believe things are going specific to leadership, culture, and professional development to name a few. Team building activities could then be developed and implemented throughout the year to build on the idea of collective responsibility for students.
District Level

**Complete a demographic study**

Each district could consider hiring a demographer to complete an enrollment study. A demographic study would provide estimations for future enrollments based off of the local live birth rate in addition to anticipated new construction. Some possible points of interest might include: moving grade levels up or down such as 5th grade down to elementary or 9th to middle, or redistricting to create equal size or smaller buildings. Since middle school grade level configurations are not set in stone, districts have the option with the approval of the state board of education, to move grade levels if there is sound educational reasoning to back the decision. Two of the middle schools in the same district in the study, Harrison, enrolling 450 students, and Madison, enrolling 800 students, were forced to run a different master schedule simply because of size. With Harrison enrolling about half of the students that Madison enrolls, this allowed for special area teachers to work on the interdisciplinary teams at Harrison. Balancing grade levels and buildings within a district might provide the flexibility needed to consider a new schedule or initiative, which would positively impact the culture.

**Recreate the professional development experience**

Ongoing professional development is required in the teaching profession. It is delivered in various methods including but not limited to: in-service days throughout the year, workshops, training sessions, mentoring, or graduate classes. Most of these options present ideas in a stand-alone fashion. In an effort to connect teamed, non-teamed, core, and noncore teachers, there should be various opportunities throughout the school year, which facilitate these relationships.
One option would be to establish Professional Learning Communities (PLCs) which provide ongoing learning opportunities on a regular basis. PLCs work collaboratively to engage in learning which impacts the culture of the building and the practice of the professionals. PLCs can bring together a cross section of teachers from grade levels, subjects, experience levels, teamed, non-teamed, core, and noncore to work on a district or teacher driven initiative.

Another professional development option would be to provide teachers the opportunity to observe one another across teams, grades, subjects, and experience levels in order to establish nontraditional professional connections throughout a building. Teachers could be offered 20 minutes early release time on a Friday, for example, in lieu of observing and conferencing with a colleague to provide informal collegial feedback.

*Preserve teaming*

Districts that subscribe to the middle school model should commit to preserving teaming in all grades at the middle school level. Two of the seven schools planned on eliminating teaming in 8th grade the year after the research study was completed. Three of the other buildings discussed the potential of getting rid of teaming at least in 8th grade in the near future. All five of these schools noted budgetary constraints as the driving force behind such conversations. Getting rid of teaming in some grade levels and preserving it in others within the same building might create tension among teachers and grade levels. In addition, eliminating teaming goes against the philosophy of the middle school model.
Implications for Further Research

The future of public education is unclear. There are currently numerous challenges which threaten the ability of school districts to deliver a quality education to all students. The current climate in public schools is tense. Federal mandates, decreased funding, teacher evaluations, common standards, cyber bullying, and an unpredictable future are popular topics of conversation held by teachers, administrators, parents, school boards, and politicians alike. Budget cuts in recent years have created problems in districts across the country. Less funding can translate to bigger class sizes, leaner staff and faculty, as well as fewer programs, resources, and services for students.

Schools continue to struggle to not only acquire but also keep up with the latest technology and the demands of 21st Century learning skills. Bullying, and more recently cyber bullying, have become major concerns within the last decade. Laws regarding bullying and cyber bullying can fall into a grey area since some situations start at home and carry over into the school day and vice versa.

The Common Core State Standards have played out on the public stage over the last few years as well. The Common Core, as they are commonly referred to, are multistate high-quality academic standards that most states recently adopted. These shared goals and expectations outline what knowledge a student should have and what skills they should be able to accomplish by the end of each grade level. States have aligned their curriculum and state tests with the Common Core and districts were then charged with aligning and adopting the Common Core at the local level as well.

In December of 2015, the seventh reauthorization of the Elementary and Secondary Education Act (ESEA) was updated through the enactment of the Every
Student Succeeds Act (ESSA). This new act significantly decreases the role of the federal government while giving states more flexibility with regard to accountability. In addition, adequately yearly progress (AYP) was eliminated and the federal government is prohibited from mandating teacher evaluations. This act will first impact the 2017-2018 school year. Local and state governments will have to work together to implement the new or updated requirements of this act.

Future research can be conducted in order to gain a deeper understanding of the inner workings of each of the schools in the study. Since it was determined that teachers with more experience tend to have higher levels of efficacy, it might be of interest to see how their teacher and collective efficacy change over time. Is this relationship a linear or exponential one over a career? Do levels of teacher and collective efficacy start to level out after a certain number of years?

Since multiple middle school configurations exist, it would be helpful to see if a certain arrangement maximizes levels of efficacy. For example does the 5-8 configuration have an advantage over 6-8 or 7-8 with regard to levels of efficacy?

In addition, there were various size schools represented in this study. Size of school was mentioned multiple times as a factor impacting levels of efficacy. It would be interesting to find out if there is a tipping point for the number of teachers and/or students, which would maximize levels of individual and collective efficacy.

Three other areas of interest would include rapid district growth, leadership styles, and student perspectives. Does rapid growth typically caused by new construction in a district impact levels of efficacy? Does a certain leadership style enhance individual and
collective more so than other styles? What does teacher efficacy look like from the students' perspectives?

It was evident from the interviews that both teachers and principals were interested in the idea of efficacy and how various levels of individual and collective efficacy play out within a building. Although it may not be addressed on a daily basis, it is relevant to the overall culture within a building. Various levels of efficacy have implications for students, teachers, and schools. All teachers possess beliefs about their individual teacher efficacy as well as collective efficacy. A school must first find out what its teachers' beliefs are about individual and collective efficacy in order to decide where it wants to focus energy and resources. Increasing levels of perceived efficacy within a school could have wide-range impact on students and teachers alike. This mixed method study provides an opportunity to begin the conversation about how various types of efficacy can impact individual middle schools, as well as the teachers that work there, and the students that attend there.

Summary

Chapter Five began with a summary of the results. It then explained the relationship of the results to the theory, followed by recommendations broken down by building and district level. Last but not least, implications for further research were discussed.
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APPENDIX A

LETTER TO SUPERINTENDENTS

DATE
NAME
SUPERINTENDENT
SCHOOL DISTRICT
ADDRESS

RE: Permission to Conduct a Research Study

Dear NAME,

My name is Kristen Connelly and I currently teach at Tredyffrin-Easttown Middle School. I am writing to request permission to conduct a research study in your district. I am currently enrolled in the Educational Leadership program at Temple University and in the process of writing my dissertation. The study is entitled The Impact of Teacher Self-Efficacy and Collective Efficacy at the Middle School Level.

I hope that the school administration will allow me to recruit approximately ten teachers from each of your middle school buildings to anonymously complete a two page survey (copy enclosed). In addition, an individual follow-up interview will be conducted with each teacher. Interested teachers, who volunteer to participate, will be required to sign and return a consent form (copy enclosed).

If approval is granted, teacher participants will complete the survey on their own time. This should take no longer than 20 minutes. Follow-up interviews will occur during a mutually agreed upon place and time. Each interview will last approximately 30 minutes. The survey and interview results will be pooled for the dissertation and individual results of this study will remain absolutely confidential and anonymous. All results will be shared directly with you and the SCHOOL DISTRICT School Board. No costs will be incurred by either SCHOOL DISTRICT or the individual participants.

Your approval to conduct this study will be greatly appreciated. I will follow up with a telephone call next week and would be happy to answer any questions or concerns that you may have at that time. You may contact me at tub87236@temple.edu or 615-545-9534.

If you agree, kindly sign below and return the signed form in the enclosed self-addressed envelope. Alternatively, kindly submit a signed letter of permission on SCHOOL DISTRICT'S letterhead acknowledging your consent and permission for me to conduct this study at your institution.
Sincerely,
Kristen Quirk Connelly
Temple University
Graduate Student Researcher

Enclosures (2)

Approved by:

___________________________            ____ ______________        _________
Print your name and title here           Signature                                Date
APPENDIX B

LETTER TO TEACHERS

DATE

RE: Research Study

To the Faculty of MIDDLE SCHOOL:

My name is Kristen Connelly and I am currently conducting research as required by Temple University for the fulfillment of my doctoral dissertation. My research focuses on the impact of the middle school model on teacher self-efficacy and collective efficacy.

Your school is of particular interest because of the teaming model and your significant experience within this setting. This research has been approved by SUPERINTENDENT at SCHOOL DISTRICT. I am asking teachers to participate in the study, in order to help me garner information related to this topic. Participation will involve:

(1) an online survey, which will take approximately 10 - 15 minutes to complete. Questions will focus on teachers' perceptions of collective efficacy.

(2) a follow-up individual interview, which will take approximately 30 minutes. Participation will be solicited at the conclusion of the survey. The interview will be conducted at a mutually agreed upon place and time, and will focus on the teacher's perception of efficacy.

I ask that you consider participating in my research study. If you are interested, please read the enclosed implied consent form. Return all completed forms to the designated area in the front office by DATE.

It is understood that participation in and responses to questions in the survey and/or interview, will be held in the strictest confidence. Participation is completely voluntary.

Sincerely,

Kristen Quirk Connelly
Temple University
Graduate Student Researcher
Enclosures (1)
APPENDIX C

TEACHER SURVEY

*This survey will be in an online format.
The following questions and statements will give you an opportunity to tell me more about your experiences as a teacher. This is a secure survey. Results will remain confidential.

Gender
What is the highest degree you have earned?
In your own words, how would you describe your race and/or ethnicity?
How many years have you been teaching?
How many years have you taught in this district?
How many years have you taught in this building?
How many years have you taught in your current position?
What grade(s) do you currently teach?
What subject(s) do you currently teaching?
Do you teach a core subject?
Are you assigned to a team?

The following survey will identify teacher efficacy within ABC Middle school. Please use the likert scale to indicate your answer to each question ranging from 'nothing' to 'a great deal'. This survey is a research-based tool developed and copyrighted.

<table>
<thead>
<tr>
<th>Teacher Efficacy Questions</th>
<th>Nothing</th>
<th>Very Little</th>
<th>Some Influence</th>
<th>Quite a Bit</th>
<th>A Great Deal</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>How much can you do to control disruptive behavior in the classroom?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>How much can you do to motivate students who show low interest in school work?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>How much can you do to get students to believe they can do well in school work?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>How much can you do to help your students value learning?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>To what extent can you craft good questions for</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
The following survey will identify collective efficacy within ABC Middle school. Please use the likert scale to indicate your level of agreement with each statement ranging from 'strongly disagree' to 'strongly agree'.

<table>
<thead>
<tr>
<th>Collective Efficacy Statements</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Somewhat Disagree</th>
<th>Somewhat Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Teachers in this school are able to get through to the most difficult students.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>2 Teachers here are confident they will be</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
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</tr>
<tr>
<td>3</td>
<td>If a child doesn’t want to learn teachers here give up.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5 6</td>
</tr>
<tr>
<td>4</td>
<td>Teachers here don’t have the skills needed to produce meaningful student learning.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5 6</td>
</tr>
<tr>
<td>5</td>
<td>Teachers in this school believe that every child can learn.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5 6</td>
</tr>
<tr>
<td>6</td>
<td>These students come to school ready to learn.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5 6</td>
</tr>
<tr>
<td>7</td>
<td>Home life provides so many advantages that students here are bound to learn.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5 6</td>
</tr>
<tr>
<td>8</td>
<td>Students here just aren’t motivated to learn.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5 6</td>
</tr>
<tr>
<td>9</td>
<td>Teachers in this school do not have the skills to deal with student disciplinary problems.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5 6</td>
</tr>
<tr>
<td>10</td>
<td>The opportunities in this community help ensure that these students will learn.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5 6</td>
</tr>
<tr>
<td>11</td>
<td>Learning is more difficult at</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5 6</td>
</tr>
</tbody>
</table>

130
<p>| | | | | | | |</p>
<table>
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</tbody>
</table>

12. Drug and alcohol abuse in the community make learning difficult for students here.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
</table>


Are you interested in participating in a follow-up interview?

If you answered yes to the previous question, please enter an email or phone number where you can be reached?
I am currently conducting research as required by Temple University for the fulfillment of my doctoral dissertation. My research focuses on the impact of the middle school model on teacher efficacy. Efficacy is

I will ask you a set of predetermined questions. Please answer this openly and honestly. I will record your responses with this audio recorder. I will transcribe your responses and allow you the opportunity to review them. These transcripts will also allow me to identify common themes among responses provided by you and your colleagues. Your responses will be coded and you will be identified only by a number and letter. Your responses to these questions will be held in the strictest confidence.

Do you understand? Do you have any questions before we begin?

General Questions
1. Record the name, date and time of the interview
2. How many years have you been teaching?
3. How many years have you been in ABC district?
4. How many years have you been at ABC Middle School?
5. What is your position at ABC Middle School?

Questions about Experience with Teaming
1. How do you feel about being assigned/not being assigned to a team?
2. Do you feel professionally fulfilled in your current position?
3. Do you feel personally valued in your current position?

Questions about Colleagues
1. Do you trust your colleagues?
2. Do you participate in exchanging ideas?
3. Is there time for reflective professional dialogue?
4. How many times per day/week do you collaborate with colleagues?
5. Do you socialize with your colleagues outside of the school day?
6. What are some activities you engage in with your colleagues to build a relationship?

Questions about Building and Leadership
1. Can you describe the climate in this building?
2. Do you feel a connection to ABC Middle School?
3. What could the administration do that would send the biggest message to you that you are valued?
4. Do you believe there is a collective focus on student learning?
5. Do you have a shared sense of purpose?
6. Do you believe professional development opportunities help the group experience?
7. Do you feel your organization can adapt and cope with disruptive forces?
8. Do you feel that you work in a purposeful teaching community?
9. Do you feel that you work in an impersonal bureaucratic environment?
10. Do you have a shared sense of purpose?
11. Do you know/believe in the school vision/mission/value/goals?

Is anything else that you may not have covered which your respondent thinks might be helpful?
APPENDIX E
ADMINISTRATOR INTERVIEW PROTOCOL

I am currently conducting research as required by Temple University for the fulfillment of my doctoral dissertation. My research focuses on the impact of the middle school model on teacher efficacy. Efficacy can be defined as an individual's beliefs about his or her abilities to produce certain levels of performance which in turn influence events.

I will ask you a set of predetermined questions. Please answer this openly and honestly. I will record your responses with this audio recorder. Your responses will be transcribed. I will allow you the opportunity to review them. These transcripts will also allow me to identify common themes among responses provided by you and your colleagues. Your responses will be coded and you will be identified only by a number and letter. Your responses to these questions will be held in the strictest confidence.

Do you understand? Do you have any questions before we begin?

Questions
1. Record the name of the interviewee as well as the date, time, and location of the interview
2. Can you please give me a brief summary of your teaching and/or administrative experience?
3. How long have you been in this district, this building, and this position?
4. Do you believe your leadership impacts teachers' self-efficacy beliefs? If so, how?
5. Are there any professional development opportunities to develop individual or collective efficacy among teacher. If so, please explain.
6. Can you pinpoint any general differences in teachers whom you believe to have high levels of self-efficacy versus other teacher who may not.
7. Can you think of a particular team in the building who you believe has high levels of collective-efficacy? What do they do differently to create outcomes?
8. Do you believe there are any differences between teamed and non-teamed teachers in this building?
9. What do you believe sends the biggest message to teachers that they are a valued member of the middle school teaming model?

Is anything else that you may not have covered which your respondent thinks might be helpful?
Title of research study: Teacher Efficacy at the Middle School Level

Investigator and Department: Kristen Quirk Connelly, Department of Educational Leadership

Why you are being invited to take part in a research study?
We invite you to take part in a research study because you are a middle school teacher or administrator.

Who can I talk to?
If you have questions, concerns, or complaints, or think the research has hurt you, contact the research team at:
Kristen Quirk Connelly
118 South Avenue
Swedesboro, NJ 08085
tub87236@temple.edu
615-545-9534 (cell phone)

This research will be reviewed and approved by an Institutional Review Board. You may talk to them at (215) 707-3390 or e-mail them at: irb@temple.edu for any of the following:

- Your questions, concerns, or complaints are not being answered by the research team.
- You cannot reach the research team.
- You want to talk to someone besides the research team.
- You have questions about your rights as a research subject.
- You want to get information or provide input about this research.

Why are we doing this research?
This research is attempting to identify how the nature and structure of the middle school and teaming model impact individual teacher efficacy as well as collective efficacy.

How long will the research last?
We expect that you will be in this research study approximately 6 months.
**How many people will be studied?**
We expect about 30 people here will be in this research study out of all of the teachers and administrators working at the middle school level.

**What happens if I say yes, I want to be in this research?**
- You will be asked to fill out a two page survey, which will take approximately 20 minutes. This survey can be completed whenever and wherever you choose.
- You will be asked to partake in a follow-up interview with Kristen Quirk Connelly. This should take approximately 30 minutes. This interview will occur at a mutually agreed upon place and time.
- The interview will be recorded in order to guarantee accuracy when transcribing the interview.
- The individual interviews will take place over the course of a school semester.

**What are my responsibilities if I take part in this research?**
If you take part in this research, you will be responsible for completing the survey and participating in an individual interview.

**What happens if I say yes, but I change my mind later?**
You agree to take part in the research now and if you stop at any time, it will not be held against you.

**What happens to the information we collect?**
Efforts will be made to limit your personal information, including research study records, to people who have a need to review this information. We cannot promise complete secrecy. For example, though the study team has put in safeguards to protect your information, there is always a potential risk of loss of confidentiality.

Organizations that may inspect and copy your information include the IRB, Temple University, and its affiliates, and other representatives of these organizations, and the Office of Human Research Protections.

**Can I be removed from the research without my permission?**
The person in charge of the research study or the sponsor can remove you from the research study without your approval. Possible reasons for removal include: failure to follow instructions of the research staff or if the principal investigator decides that the research study is no longer in the subject’s best interest. The sponsor can also end the research study early. We will tell you about any new information that may affect your choice to stay in the research.
**Participating in Future Research Studies**

We may want to contact you in the future to see if you would be interested in participating in another research study and/or to obtain additional information related to your participation in this study. Please indicate by initialing on the line in the next paragraph below if you are willing to be contacted. Please know that you can amend your answer below at any time without prejudice to you or your relationship with the study, Temple University, or the researcher.

Initial your choices

Yes, I agree to be contacted about future research studies.

OR

No, I do not want to be contacted about future research studies.

Yes, I agree to be contacted to obtain additional information related to my participation in this study.

OR

No, I do not want to be contacted to obtain additional information related to my participation in this study.

*Your signature below indicates that:*

- Someone has explained this research study to you.
- You freely volunteer to be in this research study.
- You can choose not to take part in this research study and it will not affect you.
- You can agree to take part in this study now and later change your mind. Your decision to leave the study will not affect you.
- You have been offered the opportunity to ask questions and all your questions have been answered.
Signature Block for Capable Adult

Your signature documents your permission to take part in this research.

DO NOT SIGN THIS FORM AFTER THIS

Signature of subject

Date

Printed name of subject

Signature of person obtaining consent

Printed name of person obtaining consent
APPENDIX G

PERMISSION LETTER FOR INCLUSION
OF COPYRIGHTED MATERIAL

Kristen Quirk Connelly
118 South Ave
Swedesboro, NJ 08085

8/15/15

Dr. Anita Woolfolk Hoy
The Ohio State University
121 Ramseyer Hall
29 West Woodruff Avenue
Columbus, OH 43210

Dear Dr. Anita Woolfolk Hoy:

I am completing a doctoral dissertation at Temple University entitled "The Impact of Teacher Self-Efficacy and Collective Efficacy at the Middle School Level." I would like your permission to reprint in my dissertation an excerpt from your website:

The excerpt to be reproduced is: Teachers' Sense of Efficacy Scale (short form).

The requested permission extends to any future revisions and editions of my dissertation, including non-exclusive world rights in all languages, and to the prospective publication of my dissertation by ProQuest LLC (ProQuest) through its UMI® Dissertation Publishing business. ProQuest may produce and sell copies of my dissertation on demand and may make my dissertation available for free internet download at my request. These rights will in no way restrict republication of the material in any other form by you or by others authorized by you. Your signing of this letter will also confirm that you own [or your company owns] the copyright to the above-described material.

If these arrangements meet with your approval, please sign this letter where indicated below and return it to me in the enclosed return envelope. Your consideration is appreciated.

Sincerely,

Kristen Quirk Connelly

PERMISSION GRANTED FOR THE USE REQUESTED ABOVE:
APPENDIX H

PERMISSION LETTER FOR INCLUSION
OF COPYRIGHTED MATERIAL

Kristen Quirk Connelly
118 South Ave
Swedesboro, NJ 08085

8/15/15

Dr. Wayne K. Hoy
7687 Pebble Creek Circle, Unit 102
Naples, FL 34108

Dear Dr. Wayne K. Hoy:

I am completing a doctoral dissertation at Temple University entitled "The Impact of Teacher Self-Efficacy and Collective Efficacy at the Middle School Level." I would like your permission to reprint in my dissertation an excerpt from your website: http://www.waynehoy.com/collective_efficacy.html

The excerpt to be reproduced is: The Collective Efficacy Scale - Short.

The requested permission extends to any future revisions and editions of my dissertation, including non-exclusive world rights in all languages, and to the prospective publication of my dissertation by ProQuest LLC (ProQuest) through its UMI® Dissertation Publishing business. ProQuest may produce and sell copies of my dissertation on demand and may make my dissertation available for free internet download at my request. These rights will in no way restrict republication of the material in any other form by you or by others authorized by you. Your signing of this letter will also confirm that you own [or your company owns] the copyright to the above-described material.

If these arrangements meet with your approval, please sign this letter where indicated below and return it to me in the enclosed return envelope. Your consideration is appreciated.

Sincerely,

Kristen Quirk Connelly

PERMISSION GRANTED FOR THE USE REQUESTED ABOVE:

_________________________________________  ________ ______