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THE EFFECTS OF THE LOSS OF THE MIDDLE SCHOOL TEAM PLANNING PERIOD ON STUDENT DISCIPLINE, GRADES, AND ACHIEVEMENT

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THE EFFECTS OF THE LOSS OF THE MIDDLE SCHOOL TEAM PLANNING PERIOD ON STUDENT DISCIPLINE, GRADES, AND ACHIEVEMENT

A DISSERTATION APPROVED FOR THE
DEPARTMENT OF EDUCATIONAL LEADERSHIP AND POLICY STUDIES

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Abstract

The middle school concept provides recommendations for schools that teach adolescents. One of the components of this philosophy is the common team planning period, which is in addition to the teacher's individual planning period. This planning period was designed to have team teachers meet together to discuss curriculum, students, and interdisciplinary units. The common team planning period was removed from the middle school studied, during the 2003-2004 school year due to budgetary constraints. This quantitative study explores the effects on student disciplinary infractions, achievement test scores in mathematics and reading, and grade point averages for two years with the common team planning period and then three years after the elimination of this practice.

The literature review addresses the components of the middle school concept, including the importance of the common team planning period. It also outlines past research on the common team planning period and the effects that this planning time for teachers has had on student achievement and disciplinary infractions. This study provides information for district leaders when contemplating whether or not to provide the common team planning period for their schools.

Five years of middle school data were analyzed on student disciplinary infractions, student achievement scores in mathematics and reading, and grade point averages. The data collected were from seventh and eighth graders at a

suburban middle school during the 2002-2006 school years. The results found that the models were statistically significant in discipline infractions, student achievement scores in mathematics and reading, or grade point averages; however, this was not related to the loss of the common team planning period.

This research does not suggest that the middle school team planning period is not beneficial or irrelevant for adolescent students. It does reinforce the need for districts to have a clear plan and purpose for implementing the common team planning period and ensuring that teachers understand their specific roles during that time period. This is important information for district leaders so that they can provide guidance in professional development opportunities regarding the purpose of the common team planning period and how it can benefit students academically, behaviorally, and socially.

Future research is suggested to determine if similar results will be found in another school district that has lost the common team planning period. A qualitative study that includes teacher interviews that have experienced the loss of the common team planning period would also assist district leaders in the decision-making process of whether to eliminate or retain the common team planning period.

CHAPTER 1

INTRODUCTION

Historical Implementation of the Middle School

Middle schools have not always been a part of the American educational system. They are a relatively recent change to the American educational format that has been evolving since the 1800s (George et al., 1992). By the early 20th century students spent eight years in elementary school and four years in high school (George & Alexander, 2003). Increased student enrollment after World War I and II and the prevalence of research on educational needs of adolescents caused many districts to reconsider the grade configuration of their schools. To address these issues, junior high schools became a popular solution to American educational needs (George & Alexander, 2003; Gruhn & Douglas, 1971; Gutek, 1983; Knowles & Brown, 2000; Lounsbury, 1960). According to George, et al. (1992), the first junior high schools, in theory, were:

> To be based on the characteristics of young adolescents and concerned with all aspects of growth and development. It would be a school designed to provide continued work in learning skills while bringing more depth to the curriculum than had been the case in elementary schools (p.3).

One reason to transition to a junior high school was to "replace the repetitious reviews of reading, arithmetic, spelling, and vocabulary experiences with

different kinds of educational experiences" (Gutek, 1983, p. 192). These educational experiences included courses designed to expose and train students in different vocational fields such as agriculture, business, and home economics (Gutek, 1983).

Junior high schools changed the traditional educational format of eight years in elementary school and four years in secondary school. Some schools chose the seventh and eighth grades to be a part of the junior high school, while other school arrangements used were "6-6, 7-5, 7-4, 6-2-4, and 6-3-3 plans" (Gutek, 1983, p. 192). The students in these schools were to be taught by content specialists, similar to those found in the high school (Gutek, 1983). In practice, most junior high schools became miniature versions of the high schools due to the curriculum and structure of the school (George & Alexander, 2003). Junior high schools changed their names and locations, but did not prepare the teachers or the curriculum for the transition.

During the 1960s middle schools developed as a better transition between elementary and high schools. These middle schools were not based on adolescent development, but on solving societal issues that were occurring in the 1960s and 70s. In 1954, *Brown v. Topeka Board of Education* ruled that desegregation practices were unconstitutional in schools. African Americans were to be integrated into public schools with equal access to educational opportunities, not the "separate but equal" practices that were common until that

time (Wirt & Kirst, 2001). To comply with the change in the law, several districts chose to move the ninth grade to a newly desegregated high school, transferred the fifth and sixth grades to elementary schools and then created desegregated middle schools (George & Alexander, 1993).

Another factor that influenced the growth of middle schools was the decrease in student population after the baby boom of World War II. There was an increased enrollment at the elementary level, while the high school numbers declined. Districts chose to reconfigure their schools to add more numbers to the high school population so that they would not have to close some of the schools (George et al., 1992). The ninth grade then became a part of the high school, increasing the enrollment by twenty-five percent (George et al., 1992; George & Alexander, 1993). Sixth grade students were then moved to the newly created middle schools to alleviate growth related to the implementation of kindergarten.

Another reason many districts changed their school format was the publication of *A Nation at Risk* in 1983 (George & Alexander, 2003). This report challenged districts to prepare their students better for the workforce and to increase academic standards in high school to help prepare students for college (National Commission on Excellence in Education, 1983). This caused states to change their high school programs and closely monitor the credits that students earned in the ninth through twelfth grades (George & Alexander, 2003).

While many changes were occurring in the structure and format of schools, research increased on the emotional and physical development of adolescents and the type of school that could address their unique and individual needs. Donald Eichhorn, known as one of the founders of middle school education, worked with his district to establish a school for 6-8 graders to separate them from the elementary and high school in the 1960s (George & Alexander, 2003). Many middle schools grew in popularity due to the positive experiences and results that many districts encountered in educating adolescent students with the implementation of the middle school concept in the 1980s and 1990s (George et al., 1992).

The middle school concept that many schools adopted was more than a chant or motto but an effective school wide belief and set of practices that enabled middle schools to be set apart from junior high schools. Many schools looked at *Turning Points: Preparing American Youth for the 21st Century* that was published by the Carnegie Council on Adolescent Development in 1983. It urged districts to look at the educational needs of adolescents. *Turning Points* stated that many students attend "massive, impersonal schools, learn from unconnected and seeming irrelevant curricula, know well and trust few adults in school" (p.13). Smaller learning environments or teams were recommended so that students would build meaningful relationships with adults so that they could benefit academically and personally (Carnegie Council, 1989).

In 1982 and then later in 2003, the National Middle School Association (NMSA), founded in 1973, published a position paper on the characteristics that middle schools should incorporate to address the emotional, social, and cognitive differences that this age group possesses. The paper was entitled, *This We Believe*. The features needed for middle schools according to NMSA (2003) were:

- Interdisciplinary teams
- Advisory periods
- Flexible scheduling
- Curriculum that is relevant, challenging, integrative, and exploratory
- Common team planning time

Interdisciplinary teams combine the content area specialists of language arts, mathematics, science, and social studies into a team that teaches the same 100-140 students (George & Alexander, 1993; Gutheinz-Pierce & Whoolery, 1995). The team shares a common part of the building, similar rules, and provides a smaller learning community for adolescents in a large school (Carnegie Council, 1989; George & Alexander, 1993; Merenbloom, 1991; NMSA, 2003; Strahan, 2001). Teams allow for teachers to get to know the students on a more personal level and communicate with them to provide additional services for students with educational or emotional needs (George& Alexander, 1993; Rottier, 1996).

Advisory periods allow middle school students to get to know at least one

adult in the building and a small number of students in a nonacademic setting (Carnegie Council, 1989; George & Alexander, 2003; Knowles & Brown, 2000). In this class students may focus on career exploration, additional study time, clubs, school or community projects, or intramurals (George & Alexander, 1993). Some of the advisory period classes are grouped by teams or may have students from all grade levels (George & Alexander, 1993; Knowles & Brown, 2000).

Flexible scheduling is an opportunity for the teachers to set the schedule to meet the needs of the curriculum or activities planned for the day (Carnegie Council, 1989; George & Alexander, 1993; Knowles & Brown, 2000; Rottier, 1996). Since students on the same team have their elective classes during the same time when their core teachers (language arts, mathematics, science, and social studies) are planning, the team teachers may modify their class schedules without impacting the entire school. Schedules can be adapted in three ways: block schedules, rotating schedules, and dropped schedules to accommodate for the activities planned (George & Alexander, 1993; Knowles & Brown, 2000).

Curriculum should be "challenging, integrative, and exploratory" according to the National Middle School Association (2003) to engage adolescent students actively in the learning process. Students should be exposed to a variety of activities and assessments through collaborative assignments, presentations, projects, and laboratories while addressing relevant issues, not

just gaining information to pass a test (Knowles & Brown, 2000). The integrative curriculum should allow subject material to intertwine with one another helping students connect what they are learning in one class to another subject area (Beane, 1993; Knowles & Brown, 2000). Exploratory classes help students gain exposure to different classes and interests that they may have not had previously. These classes may be in photography, cooking, astronomy, languages, technology, etc. (George & Alexander, 1993; Knowles & Brown, 2000).

The common team planning period is a planning time for team teachers that is in addition to the individual planning time that they receive. This time was designed to provide teachers'- the opportunities to discuss students, curriculum, plan interdisciplinary units, coordinate lessons, meet with parents, and communicate with other school personnel (George & Alexander, 1993; Hackmann, et al., 2002; Rottier, 1996). The common team planning time has been found to be a core component of interdisciplinary teaming (Felner et al., 1997; Flowers, Mertens, & Mulhall, 1999; Merenbloom, 1991).

After the adoption of the middle school concept, many schools found success in student achievement and academic achievement which caused many districts to shift to this formation. Felner (1997) found that students' academic achievement on standardized tests, socio/emotional development, and disciplinary behavior improved based on the level of implementation that

schools used the teaming strategies that *Turning Points* recommended for middle level schools. He was not alone in his findings and many other researchers noticed a positive relationship with the integration of the middle school concept with adolescents. According to George and Alexander (2003):

> Student behavior and attitudes improved, home-school relationships became closer, interethnic interaction became more positive, students enjoyed school more, teachers grew increasingly more appreciative of the opportunity to work together, and in many situations academic achievement held steady or improved (p.45).

Problem Statement

The middle school concept has become an accepted format to educate adolescents. According to research, this educational format improved academic and behavioral performance in adolescents (Felner et al., 1997; Merenbloom, 1991). The components recommended by the Carnegie Council (1989) and the National Middle School Association (2003) that are intended to enhance middle level education include:

- interdisciplinary teaming
- advisory groups
- flexible scheduling
- curriculum that is relevant, challenging, integrative, and exploratory
- common team planning time

These features are intended to create a small learning environment for adolescent students. They provide a climate where there is consistency in rules, expectations, and procedures- in a similar location in the building and enhance the educational environment. Teachers also benefit from the features of the middle school concept. Interdisciplinary teaming fosters communication and collaborative planning among the core subject areas of language arts, mathematics, science, and social studies (Brown & Knowles, 2007). Other researchers also found benefits of teaming, according to Rottier (1996):

> In a middle school with an interdisciplinary organization, teachers not only become aware of the content of various disciplines as a result of meeting with colleagues on a regular basis but they make connections. Teaming allows the coordination of teaching learning skills such as reading, problem solving, and information retrieval (p.6).

The common team planning period is the essential element that drives the integration of curriculum and activities in middle schools (Felner, et al., 1997; Merenbloom, 1991). Teachers need time to plan units, communicate with students, parents, counselors, and collaborate with other educators to help them become better teachers and in turn have students who are achieving academically and behaviorally.

The middle school concept is facing challenges to maintain its hierarchy in a time of financial constraints. Tragically, schools across the nation are facing

repeated budget deficits and have had to make significant financial cuts. In fact, according to McNichol, et al. (2011) forty-two states and the District of Columbia have faced a $103 billion deficit in Fiscal Year (FY) 2012. This is already after shortfalls in FY 2009 through FY 2011 (McNichol, et al., 2011). Due to these budget cuts many schools are working off of their FY 2008 budgets with increased student enrollment (Oliff & Leachman, 2011). Unfortunately, school districts have seen a cyclical pattern of budget reductions in the past ten years. According to former Oklahoma State Superintendent of Public Instruction Sandy Garrett (2003), "Fiscal Years 2002 and 2003 were very difficult, totaling $263 million in revenue shortfalls" (p.1). Districts have had to reduce the number of teachers to accommodate for the deficit in the budget. This financial strain has caused the middle school concept to change in a suburban district, where I am privy to the setting. There were many staff reductions in the district when the economy took a downturn in FY 2002. The common team planning time that middle school teachers received was eliminated to help save teachers' jobs across the district (Matthews, 2003).

Statement of Purpose

The purpose of this study is to identify the effects of fiscal constraints on the implementation of the middle school concept. The intent of this study is to determine what role the team planning period had on this district and if there are additional services the district would need to implement to salvage the middle

school concept in times of economic downturn. This study will also add to the current research regarding the middle school concept and the role of the common team planning period. A thorough analysis of student disciplinary data, grade point averages, and state achievement scores of students who were on teams with a common team planning period and those without that exposure will allow administrators, school board members, principals, and teachers to review the research to make informed decisions about the team and individual planning periods and services provided at the middle schools in their districts. Further information regarding the district being studied will be provided in the Context.

Context

Lincoln Middle School was like many middle schools before them. It became a middle school in name, but not in the practices that make this concept unique for adolescents. It was not until 1986 that four teachers at Lincoln East Middle School piloted an interdisciplinary teaching team that brought about change in the district (Gatzke, 1987a). The teachers taught the same students and incorporated similar classroom rules, make-up work requirements and assistance to students (Gatzke, 1987). The following school year sixty teachers from the two middle schools in the district were involved in a three-day training event sponsored by corporate donations. The training featured renowned speakers on middle school reform, Alfred Arth and Thomas Erb (Francis, 1987).

After the teachers and administrators were educated on the components of the middle school philosophy and visited other middle schools in the region, Lincoln East Middle School and Town West Middle School adopted the middle school concept. Four core teachers of language arts, mathematics, science, and social studies would work with the same students (approximately 120) in an interdisciplinary fashion with an advisory period to help monitor student progress (Francis, 1987). In 2000, the district reconfigured the middle schools and combined them into one building that contained all of the seventh and eighth grade students in the district. The teaming structure and philosophy continued in this manner until 2000, when special education teachers were included into the team structure. Changes were made again in 2002-03 when the district budget started to tighten. Teachers' individual planning periods were modified mid-year to allow for departments to meet during the school day. Up until this point, teachers had an individual planning period and a common team planning period at the same time as other members of their teaching team, which allowed for creating a flexible schedule with students.

Also during the second semester of the 2002-03 school year, middle school teachers were asked to substitute teach for their co-workers due to the lack of funds to pay for substitute teachers in the district (Budget, 2003). During the 2003-04 school year, there was a reduction of ten teaching positions at the middle school, decreasing the number of teams by two, which is equivalent to

eight core teachers. Special education teachers began working with several teams of teachers and were not primarily responsible for one team. Core teachers were only allowed one planning period due to the financial constraints of the district, thus losing the common team planning period.

Research Questions

1. Are there statistically significant differences in student behavior according to discipline data when students are on a team with teachers that have a team planning period and an individual planning period versus when students are members of a team where the teachers only have one planning period?
    a. Are the differences in question 1 related to gender of the students?
    b. Are the differences in question 1 related to the ethnicity of the students?
    c. Are the differences in question 1 related to the student being a seventh or eighth grader?
2. Are there any statistically significant differences in student achievement on mathematics and reading tests when students are on a team with teachers that have a team planning period and an individual planning period versus when students are on a team where the teachers only have one planning period?
    b. Are the differences in question 2 related to gender of the students?

c. Are the differences in question 2 related to the ethnicity of the students?

3. Are there any differences in student grade point averages when students are on a team with teachers that have a team planning period and an individual planning period versus when students are on a team in which the teachers only have one planning period?
   a. Are the differences in question 3 related to gender of the students?
   b. Are the differences in question 3 related to the ethnicity of the students?
   c. Are the differences in question 3 related to the student being a seventh or eighth grader?

Significance of the Study

The declining federal and state budgets are a concern for all school districts. The limitations of funds require district leaders to make decisions that impact all sites and departments. As more and more districts face budget crises they will look for measures to reduce spending. The intention of this study is to provide insight on whether the loss of the common team planning time is worth the financial commitment to keep this component of the middle school philosophy in place.

There have been several studies in the 1980s and 1990s regarding the effects of implementing the middle school concept into schools. There are

currently no studies available that describe the loss of the common team planning period on a school that Felner and associates (1997) described as a middle school with a high level of implementation and the affect that it has on student discipline, student achievement, and student grades.

Limitations of the Study

This research is limited to one suburban district that had two planning periods for teachers at the middle school and then lost one of the planning periods due to significant budget cuts in the district. Limitations on this study include the fact that some seventh and eighth grade students may not be randomly assigned to a team due to scheduling conflicts within the constraints of this school's master schedule and the availability of requested elective courses. Another limitation to this study is the inability to coordinate student data with the socio-economic status of the student. Low socio-economic status is identified by students who received free or reduced lunch prices. Due to confidentiality reasons and the age of the data requested, this information was unable to be extracted. During the five school years studied, the students did not remain constant. Each year there was a new seventh grade class and eighth grade class whose data was included in this research. Teachers also did not remain constant during the five year study. Each year there were teachers who resigned and new teachers that were hired to replace the vacancy for the open position. Each teacher during this study remained the teacher of record for both

semesters during each individual school year. The teachers' knowledge of the middle school teaming concept, team cohesiveness, and team effectiveness were not measured for this study. The results of this study are based on the coding of discipline infractions and consequences received, the test score data from the State Department of Education for each eighth grade student in mathematics and reading, and the grades that the students earned in each of their classes per semester while in the seventh or eighth grades during the 2001-2002 school year through the 2005-2006 school year.

Definitions

Ethnicity – an affiliation resulting from racial or cultural ties (Merriam-Webster, 2012).

Gender - sex, male or female (Merriam-Webster, 2012).

Assumptions

1. It is assumed that the students' disciplinary coding and consequences were recorded accurately and that the information provided is correct and consistent.
2. It is assumed that the point value associated with the disciplinary offense reflects the correct amount based on the district's discipline pyramid and the consequence assigned.
3. It is assumed that the students' grades are correct and recorded accurately.

4. It is assumed that the students' scores on the CRT exams correctly demonstrate the knowledge of the students.
5. It is assumed that all students in this study are seventh or eighth graders.

Overview of Method

This is a quantitative study of ex-post data from a suburban middle school where teachers had an individual planning period and a common team planning period and then, due to budgetary constraints lost the team planning period. The data were collected from the district student database system and stored in a secure manner with limited access. The data was used only for the purpose of the study. A regression analysis was used to determine the relationship of the discipline infractions, standardized test scores, grade point averages, grade level, gender, and ethnicity in regards to whether the student experienced teaming with or without the common team planning period.

Summary

Chapter one provided a historical reference on the transformation from junior highs into middle schools. The middle school concept became the accepted solution and format to educating adolescent students that provided a small learning community that allowed them to be known among adults at school (Carnegie Council, 1989; George & Alexander, 2003). One component of the middle school concept is the common team planning period. It was

designed so that the core subject (language arts, mathematics, science, and social studies) teachers on the team could meet regularly to discuss the curriculum, student issues, team activities, and establish common rules and procedures (Hackmann, et al., 2002; Merenbloom, 1991). The purpose of this study was to identify the effects that the loss of the common team planning period had on educating adolescent students, provide data to district officials to determine if students discipline, grades, and achievement test scores have changed due to the shift in the middle school structure, add to the current body of research on the importance of the common team planning period, and provide districts with information to help make further decisions based on the findings.

CHAPTER 2

THEORETICAL FRAMEWORK AND REVIEW OF THE LITERATURE

Middle schools have transitioned into institutions that are designed to meet the educational and behavioral needs of adolescents (Alexander, et al., 1969; George & Alexander, 2003; Knowles & Brown, 2000; Merenbloom, 1991). The middle school philosophy encompasses structural needs, curriculum, and coordination with other educators to provide an environment that is conducive to the learning of adolescent students. This is far removed from the segmented junior high schools that students once experienced at this age level.

Middle School Concept

Many districts across the nation have adopted the middle school philosophy. This was due in part to the National Middle School Association, which was founded in 1973. They published a position paper entitled, *This We Believe,* in 1982, stating the importance of educating adolescent students in a manner that addressed their emotional, social, and cognitive differences. The paper also listed essential elements and focused on educational practices that would meet the needs of adolescent students. The integral components of this philosophy are the following:

- interdisciplinary teams
- advisory periods

- flexible scheduling
- curriculum that is relevant, challenging, integrative, and exploratory
- common team planning time

These practices were aimed at providing a "safe, secure, and appropriate environment for a young adolescent to learn challenging content that will enable him or her to explore self, others, and the larger world" (Dickinson, 2001, 1).

Interdisciplinary Teaming

The interdisciplinary teaming philosophy is one of the most accepted practices of middle schools. Each team consists of two to five teachers from the core curriculum areas; language arts, mathematics, science, and social studies. This is to allow for content specialization like the high school, while retaining the small community from elementary school (George & Alexander, 1993; Gutheinz-Pierce & Whoolery, 1995). One additional team member that many schools add is a special education teacher. This allows for teachers to discuss inclusion modifications for their students as well as provide individual small class instruction (Rottier, 1996).

The interdisciplinary teams are comprised of 100-140 students that are located in a similar part of the building (Carnegie Council, 1989; George & Alexander, 1993; NMSA, 2003). Teams have been instrumental in providing a smaller learning environment in a large school (Merenbloom, 1991; Strahan, 2001). In schools with more than 1,000 students, teams provide students with an

opportunity to identify themselves with a smaller group. "They (students) want to be a part of something important and significant, Team 7D or The Explorers can be a very meaningful experience in the life of a student" (Merenbloom, 1991, 29).

Teaming allows for teachers to get to know their students. "Teachers are more cognizant of changes in student behavior and can offer assistance when needed" (Rottier, 1996, 4). Deficiencies in curricular areas are noticed by team teachers immediately (George & Alexander, 1993). In fact, teachers can also meet with students, parents, counselors, administration, etc. to discuss any changes noticed and come up with strategies to assist the student. "Students experiencing difficulties in more than one academic area can be identified, diagnosed, and remedied much more accurately and efficiently when, in an interdisciplinary team setting, teachers in all academic areas are present for the discussions (George & Alexander, 1993, p. 283).

There are many benefits to the interdisciplinary team organization. Teachers can create a unified discipline plan that addresses late papers, tardies to class, makeup work, chewing gum, leaving the classroom, etc. (Rottier, 1996). Flowers, Mertens, and Mulhall (1999) have found that teaming is:

> intended to create a context that enables students and teachers to know one another better and allows teachers to better support and understand the educational needs of students. Teams generally

> focus on creating coordinated lesson plans, share and discuss student progress, problems and issues, and integrate subjects around a central theme or issue (p.57).

In *Turning Points* (1989), the Carnegie Council on Adolescent Development stated recommendations for positively assisting the adolescent development in schools. They also reinforced the need for "small learning environments where stable, close, mutually respectful relationships with adults and peers are considered fundamental for intellectual development and personal growth" (p.40).

Advisory groups

Advisory groups allow for an advisor, usually a teacher, to meet with a small group of students to help them establish a relationship with at least one adult in the building, as well as with a small number of students (Carnegie Council, 1989; George & Alexander, 2003; Knowles & Brown, 2000). In these groups students discuss academic achievement, personal problems, character development issues, study skills, and other areas to help middle school students be successful (Carnegie Council, 1989; George & Alexander, 1993). Students are also exposed to civic education through the decisions that they make regarding school issues (George & Alexander, 1993). This time can also be used to dispense information to students about field trips, school pictures, and other school activities (George & Alexander, 1993).

Advisory groups do not count for a grade and are designed around adolescents' social and emotional issues (Knowles & Brown, 2000). Discussions and group activities may revolve around core values that affect decisions made at school (George & Alexander, 1993). The main goal of this program is to build relationships with students and include everyone in the activities. Activities for the week may include study time, career exploration, clubs, organization, school or community projects, or intramurals (George & Alexander, 1993).

Advisory groups or homerooms can be grouped in a variety of ways. Some schools group members from the same team together in small classes of 15-20 students (George & Alexander, 1993). Others use a multi-age approach in which sixth, seventh, and eighth graders are all in one class together (Knowles & Brown, 2000). Some keep the same teacher and class together throughout their time in middle school (Knowles & Brown, 2000).

Flexible Scheduling

An advantage to teaming at the middle school level is the ability to flex the schedule to meet the needs of students and teachers (Carnegie Council, 1989; George & Alexander, 1993; Knowles & Brown, 2000; Rottier, 1996). Schedules can be adapted in three primary ways: block schedules, rotating schedules, and dropped schedules. Block schedules provide teachers with eighty to ninety minutes of uninterrupted class time (Knowles & Brown, 2000; Rottier,

1996). "Because students are not scheduled for courses other than those taught by team members, the team has complete control of the time allocated to them" (Rottier, 1996, p. 36). This allows teachers to involve students in more in-depth activities or interdisciplinary units and adjust the schedule to meet the team's needs (Knowles & Brown, 2000).

Rotating schedules permit classes to shift the meeting time to maximize the optimal teaching and learning times for both teachers and students (Knowles & Brown, 2000). In this schedule, a first hour class would rotate to different hours in the day. On some days this class may meet during second hour or third hour, etc. to accommodate for interest and energy levels that students and teachers may have throughout the day.

Dropped schedules eliminate classes so that exploratory classes, assemblies, or advisory periods may meet (Knowles & Brown, 2000). It provides an opportunity for teachers to extend a class to finish a project, and then rotate groups to meet with a different class on the next day. The class that is dropped would be rotated so that one curricular area is not continually compromised.

Flexible scheduling promotes the characteristics of the middle school philosophy. The school schedule reflects the true philosophy of the school, not just the stated beliefs (George & Alexander, 1993). Schedules that are used at the middle school level should meet the needs of the students and teams. They

should incorporate flexibility so that interdisciplinary units, exploratory classes, and advisory programs can occur (George & Alexander, 1993).

Curriculum

Curriculum is more than the textbooks students use on a daily basis. It is everything that happens with them from the time they enter the building until they leave for home (Knowles & Brown, 2000). James Beane (1993) realized the importance of curriculum and the change it can bring to a school:

> It is hard to imagine an authentic school improvement project at any level that does not involve rethinking the curriculum since the curriculum is a central and crucial factor in the life of a school (p. 1).

The curriculum of middle schools, as proposed by the National Middle School Association (2003), was to be "challenging, integrative, and exploratory" (p. 19). It should be also focused on adolescent students and help them "construct meaning about themselves, their world, and their future" (NMSA, 2003, p. 19).

Challenging curriculum actively engages students in the learning process. Students should be allowed to explore significant issues that have personal meaning (Beane, 1997; Knowles & Brown; 2000). In this type of curriculum, students should be exposed to a variety of assessments from collaborative assignments, presentations, projects, and laboratories with an

emphasis on addressing relevant issues, not just gaining information to pass a test (Knowles & Brown, 2000).

Integrative curriculum overlaps subjects and intertwines them with one another. This allows the students to make sense of their learning and helps blur the lines of subject areas (Beane, 1993; Knowles & Brown, 2000). This aspect of curriculum should connect the issues in students' lives with that in the classroom and make learning more relevant and applicable (Beane, 1993; Beane, 1997; George & Alexander, 1993; Knowles & Brown, 2000).

Exploratory curriculum allows students to "explore" their options through a variety of courses (George & Alexander, 1993; Knowles & Brown, 2000). These classes provide students with exposure to areas and interests that they may not have had previously. Students can take a class in photography, cooking, astronomy, languages, technology, etc., and learn more about themselves and the world in which they live (George & Alexander, 1993; Knowles & Brown, 2000). "The original intent of the exploratory program was to have relatively brief, introductory courses for beginners, with longer, more intensive courses available another year for those interested" (George & Alexander, 1993, p. 73). Schools vary their exploratory curriculum based on the needs of the students and availability of staff members.

Middle school curriculum should be different than the subject-centered focus of junior high schools. It should link curriculum together from the

different subjects and allow exploratory programs, while maintaining a challenging curriculum (George & Alexander, 1993). These three main curricular areas make middle school education unique from the other levels and developmentally responsive to the adolescents they serve.

Common Team Planning Time

One of the most important aspects of interdisciplinary teaming is the use of a common planning time shared by all teachers on the team (Felner et al., 1997; Flowers, Mertens, & Mulhall, 1999; Merenbloom, 1991). This planning period is in addition to the individual planning time that the teacher receives for subject curriculum. The team planning period is designed to discuss team issues such as; curriculum and ways to link the subject areas together, parent-teacher conferences, interdisciplinary units, field trips, student behavior, etc. (George & Alexander, 1993). Teaching teams need several periods per week for planning purposes. According to Merenbloom (1991), "Without common planning periods, it is virtually impossible for clusters of teachers to be effective" (p.69). The common planning period creates an atmosphere of collaboration. Teams of teachers are easily able to access one another through the challenges of teaching adolescent students. Teachers can share ideas, create interdisciplinary units, and link the curriculum that is being taught on the team (Rottier, 1996). Tests, assignments, and project dates can also be coordinated so that not all teachers

are giving large assignments at the same time. This can ease the stress and frustration levels of students, parents, and teachers.

Communication among staff members is a significant advantage of the additional planning period. Teachers can share teaching strategies and ideas, as well as discuss student concerns, and discipline issues (Powell & Mills, 1994). The common planning time also allows for teachers to meet with parents to discuss Individual Education Programs (IEPs) and ways to successfully help their children in school. This communication with teachers, parents, counselors, and administrators is essential in ensuring that fewer students on the team go unnoticed (George & Alexander, 2003; Rottier, 1996).

Importance of the Common Team Planning Period

The common team planning period is an integral component of the middle school concept. The more often a teaching team meets the more effective their instruction will be (Flowers, Mertens, & Mulhall, 1999; Merenbloom, 1991). This time should be used for teacher collaboration on curriculum, student interventions, problem solving, parent/teacher conferences, planning interdisciplinary units, and building unity with students and teachers (Hackmann et al., 2002).

Many middle schools have not fully implemented the common team planning period into the school day. Most schools have provided one common planning time with a team of teachers, but have not provided two planning

periods to fully execute this component of the middle school concept. In a study of more than 1,400 middle school principals in 2000, Hackmann et al., (2002) found that only fifty-nine percent provided a common team planning period and an individual planning period for teachers. Thirty-seven percent of the schools provided a common planning period for teachers on the team, but it was the only planning period allotted for the teachers. With different districts offering a variety of planning time options for middle school teams Hackmann et al., (2002) asked more questions regarding the time spent collaborating with other team members. They found that fifty-five percent of the teachers in the study met two to four hours a week to plan team activities. Another twenty-two percent met more than four hours a week, while twenty-three percent met less than two hours a week for team planning (Hackmann et al., 2002). The results of this study found that without the two planning periods, teams do not work together as much to address curricular and student needs. The teams would then have to meet outside the school day or teachers' contracted time if they decided that those items were important to the operation of the team unit.

Felner et al., (1997) found similar results of the importance of the common team planning period and providing time for teachers to meet. He and his colleagues studied the implementation levels of middle schools on the components that *Turning Points* recommends for schools to be successful. Those characteristics were:

- create small learning environments
- form teachers and students into teams
- assign an advisor to each student

To find further data this study looked at team size, student/teacher ratios, length of time teams worked together, amount of common team planning time, change in curriculum, and student achievement data of thirty-one middle schools during the 1991-92 school year (Felner, et al., 1997). The researchers classified these schools into different levels of implementation based on the *Turning Points* criteria. Schools that were considered "high level" were ones in which teams met four to five times a week, contained no more than 120 students on a team, had a teacher/student ratio of 1:25, had an advisory period during the school day with no more than 22 students (Felner, et al., 1997). Schools that met some of the criteria were labeled as "partial" and those that did not have many of these attributes were identified as "low-implementation". The researchers then gathered student achievement data on mathematics and reading, surveys from teachers regarding student behavior, and student self-reports on behavioral issues.

The data in this study positively correlated the level of implementation (high, partial, or low-implementation) to student achievement scores on the Iowa Test of Basic Skills and the California Test of Basic Skills, teacher surveys, and student behavioral issues. (Felner, et al., 1997). The "high level" of

implementation schools scored significantly higher than the other two groups in all areas. The researchers recommended that all of the suggestions by *Turning Points* are essential to student growth and academic achievement. According to this study, the common planning period is essential in making any educational gains and without the adequate amount of planning time; instruction will not change (Felner et al., 1997).

The common team planning period was found to be a crucial element in the increase of standardized test scores due to research provided by Flowers, Mertens, and Mulhall in 1999. In their research of 155 middle schools in Michigan that were a part of the Middle Start Initiative, teachers, students, and administrators completed surveys in 1994-95 and in 1996-97 to find out if middle school teaming was "working" (Flowers, Mertens, & Mulhall, 1999). They classified teams into levels based on the amount of time the teams had for a common planning time (CPT). They determined that a team with high levels of CPT met at least four times per week with a minimum of thirty minutes per meeting. There were twenty-five schools that met this criterion in their study. The results of this study concluded that schools with high levels of CPT had a more positive work climate, increased parental communication, increased levels of teacher job satisfaction, and higher student achievement results in math and reading (Flowers, Mertens, & Mulhall, 1999).

Research studies on loss of common team planning period

Continued research on the common team planning period has been suggested by Mertens, Flowers, Anfara, and Caskey (2010) to make a "significant and positive impact in addressing the critical importance of common planning time in middle level schools across our country" (p. 57). Currently there is not any research available on the effects on students when districts shift from having two planning periods for middle school teachers to one planning period. This study is of particular interest due to the high level of implementation of the middle school concept of this particular building. According to Felner et al., (1997) this school would have once been ranked as "high level" due to the number of students assigned to a team (below 120), teacher/student ratio of 1:25, an advisory period every day, and a designated team planning period five days a week that was separate from the individual planning period that teachers received. Studying the student achievement scores, discipline data, and grade point averages over a five year period when this school transformed will provide insight of the loss of the common team planning period. This school would have also been given a high level classification by the studied conducted by Flowers, Mertens, and Mulhall (1999) due to the amount of time that the teachers spent meeting with one another during their common planning time. This research will also help to add information to the importance of the middle school team planning period.

Summary

The middle school concept features many components that are developmentally appropriate for educating adolescents. When these components are all working together in a district, middle schools will see results. According to the NMSA (2003):

> For middle schools to be successful, their students must be successful; for students to be successful, the school's organization, curriculum, pedagogy, and programs must be based upon the developmental readiness, needs, and interests of young adolescents. This concept is at the heart of middle level education (p.1).

The common team planning period is a component of the middle school concept that cannot be ignored. Its significance to the curriculum, pedagogy, and achievement of students is irrefutable. Increased common planning time yields better results for districts. Now we are going to explore this context from 2001-02 through 2005-06 on a school that has reduced the amount of common team planning time due to financial constraints.

CHAPTER 3

DESIGN

Introduction

Research has found that the common team planning period is an integral component of the middle school concept (Felner et al., 1997; Flowers, Mertens, & Mulhall, 1999; Hackmann et al., 2002). The literature review discussed the components of the middle school concept, the importance of the common team planning period, and the impact that it has on student achievement. The purpose of this study is to determine what effect the loss of the common team planning period has on middle school students.

The questions that directed this study:

1. Are there statistically significant differences in student behavior according to discipline data when students are on a team with teachers that have a team planning period and an individual planning period versus when students are on a team where the teachers only have one planning period?
2. Are there statistically significant differences in student achievement on mathematics and reading tests when students are on a team with teachers that have a team planning period and an individual planning period versus when students are on a team where the teachers only have one planning period?

3. Are there statistically significant differences in student grade point averages when students are on a team with teachers with a team planning period and an individual planning period versus when students are on a team where the teachers only have one planning period?

Context

The district being studied is a suburban district that comprises thirty nine square miles in Northeastern Oklahoma. The town has a population of 16,924 and neighbors a major city in the area. The school district encompasses the town and part of the Southern edge of the major city. This district serves 10,165 students and has three elementary schools (pre-K-4), two intermediate schools (5-6), one middle school (7-8), one freshman academy (9), and one high school (10-12), and an alternative school (9-12) (Students & Staff, 2010).

Academics are a priority for parents and students in the district. The 2009 average for students taking the ACT was a 23.7 while the state average was 20.4 (2009 Test Results, 2010). Traditionally, students at the elementary and middle school levels have performed in the top percentages on state standardized tests. As demonstrated in Table 1, most students in the district are performing at a proficient or an advanced level in this district on student achievement assessments. The percentages are those of students that scored Satisfactory or Advanced on an End of Instruction exam or the Oklahoma Core

Curriculum Test in the third through the eighth grades (2009 Test Results, 2010).

Table 1

2009-2010 District Oklahoma Core Curriculum Tests

	3rd Grade	4th Grade	5th Grade	6th Grade	7th Grade	8th Grade
Reading	80%	83%	79%	82%	86%	85%
Math	76%	86%	89%	88%	90%	81%
Science	*	*	97%	*	*	95%
U.S.History	*	*	95%	*	*	87%
Geography	*	*	*	*	96%	*
Writing	*	*	96%	*	*	99%

(2009 Test Results, 2010, p.7)

According to the 2012 Community Profile Guide (Lincoln, 2012), 53.4% of residents in the district have a college degree compared to 25.7% of the residents in the state. In fact, the average household income in the district is $101,028, while the state household income average is $53,605 (Lincoln, 2012). The financial data along with the test scores help to paint a picture of the significance that education has on families in this district.

Due to the reputation of this district for scholastic and athletic endeavors, more students have moved into its schools and have caused the student

enrollments to increase. Table 2 demonstrates the growth over the last few years.

Table 2

District Student Population

School Year	District Population
1989-1990	7,440
1994-1995	8,670
1999-2000	9,148
2004-2005	9,190
2005-2006	9,444
2011-2012	10,686

(Oklahoma State Department, 2012; Student Population, 2006)

This district has changed in its socio-economic status, as well. During the beginning of this study in 2001, there was 14% of the student population at the middle school that were served under the free/reduced lunch program. At the end of the study, there was 22% of the population served under this program. Table 3 defines the free/reduced lunch percentages per year of the study district wide and school wide, as well as the current school year (Turnbow, 2012).

Table 3

Percent of students on Free/Reduced Meal Program

School Year	Middle School	District
2001-02	12%	14%
2002-03	15%	17%
2003-04	18%	20%
2004-05	21%	22%
2005-06	22%	21%
2011-12	32%	31%

(Turnbow, 2012)

"A Tradition of Excellence with a Vision for Tomorrow" is the motto that this district proclaims. The district expects all staff members to continually improve in their positions. Each employee writes goals annually that are associated with the district's vision and mission statement and the employee's role in the district. It is no wonder that teachers continually try new strategies in their classrooms to enhance the learning of the students. It is this philosophy that spurred the district into moving its middle schools into using the teaming concept.

The district began using the middle school philosophy in its two middle schools in 1987 after a team of teachers piloted this structure the previous school year. (Before a restructuring process that culminated in 2001, there were two middle schools that served grades 6-8.) The middle schools divided the district into two sections based on the students' physical address in relation to the

Arkansas River. Students that lived on the East side of the river went to one middle school, while students that resided on the West side of the river were educated at a middle school on the central campus, near the high school. Before school started in 1987, sixty teachers and administrators received three days of training at Northeastern Oklahoma A&M Junior College in Miami, Oklahoma. The teachers learned about the important components of the middle school philosophy and heard from renowned middle level educators, Alfred Arth and Thomas Erb (Francis, 1987). According to one of the middle school principals, "Lincoln has had middle schools in name for about 13 years, 'but in concept, we're just not getting around to it'" (Francis, 1987, D-1).

Middle school teaming continued to be a main focus for this district after this professional development training. In January 1995, a committee that included educators, parents, and school board members was organized to look at building one middle school that would house all seventh and eighth graders in the district (Kelsey, 1995b). According to that agenda the Middle Level Restructuring Committee the group was to make decisions for the following (Kelsey, 1995b):

- Preparation of a mission statement
- Description of school programs and/or modifications of intended programs
- Curriculum and co-curriculum

- Time line for reorganization
- Staff Development
- Public Relations
- Transition

One item that the committee members read to help them base their decisions for the new school in this district were *Turning Points* as well as many articles that discussed middle school philosophy and adolescent development and structuring schools to meet their needs. From the initial meeting came twenty-one characteristics of the proposed new middle school that the committee stated would be beneficial to educate the seventh and eighth grade students in the district (Kelsey, 1995). Some of the recommendations included, "The middle school philosophy of teams should foster an atmosphere of cohesiveness" and "The individual teams components should also be grouped together as closely as possible." These features reinforced the importance of middle school teaming in the new building that would unite the two previous middle schools into one location.

The middle school philosophy was found to be an integral part of designing the new school. The committee discussed many different features about the school including the size of the teams, number of teachers placed on each team, and the number of rooms needed (Kelsey, 1995c). After two years of planning and construction, the middle school opened in the fall of 1998 with two

teams of seventh graders and two teams of eighth graders in one wing of the building. During the following two years, the gymnasium and two additional wings of the building were added. August 2000 was when the middle school opened officially for the first time with six seventh grade teams and six eighth grade teams. The middle school team teachers (language arts, mathematics, science, and social studies) were given two planning periods, as they had before in a back-to-back formation to allow for flexible scheduling on team.

Interdisciplinary teaming was a key component of this new building. The core teachers' classrooms and student lockers were all located near each other to allow for a small community to form in a large building. Each team created a team name based on a theme for the year and decorated their hallway in a unique manner to designate their separate area in the school. These teams contained 120 students with the teachers teaching four classes with two planning periods built into the schedule. Teachers had an individual planning period and a common team planning period that was scheduled back-to-back to accommodate for any interdisciplinary units that the team may want to plan. The teachers also had an advisory class during the day that was a non-academic course that incorporated activities such as team building, homework assistance, character education, and exploratory classes based on student interest.

Teachers were placed on teams based on their degree and certification of their content area specialty. Each team consisted of a language arts teacher, a

mathematics teacher, a science teacher, and a social studies teacher. When teacher vacancies occurred, the team leaders were involved in the interviews and hiring decisions to ensure that the new teachers would work well with the students and adults on their newly assigned team.

This middle school began to change when fiscal constraints during the 2002-03 school year caused the district to evaluate all spending. Mid-year the middle school teachers began substituting in classrooms during the common team planning period time to help defray substitute teacher costs (Budget, 2003). Janitorial and maintenance costs were decreased and positions across the districts were reviewed to determine where cuts could be made. It was determined that eight core teachers or two teams would be cut to help the district save money. This decision cost the middle school teachers their common team planning period.

Population & Sample

The population for this study was middle school students that were enrolled in the middle school during the school years 2001-02, 2002-03, 2003-04, 2004-05, and 2005-06. Table 4 shows the seventh and eighth grade student population during the study.

Table 4

Middle School Student Population

School Year	Number of Seventh Graders	Number of Eighth Graders	Total Student Population
2001-02	725	710	1435
2002-03	711	725	1436
2003-04	709	756	1465
2004-05	699	699	1398
2005-06	697	723	1420

The students during the 2001-02 and 2002-03 school years were exposed to teaming which had two planning periods for their team teachers. These teachers had an individual planning period and a common team planning period during the school day. The students during the remaining school years of the study, 2003-04, 2004-05, and 2005-06 had teams where teachers only had an individual planning period. This planning period was at the same time as other teachers on the team, but the teachers were not required to meet with other teachers on the team on a consistent basis. Student grade point averages and disciplinary infractions were collected for each semester that the student was enrolled at the middle school. Data was also collected from eighth grade state achievement test scores.

Methods

Permission was granted by the district to obtain student data on discipline, grades, and standardized test scores. A proposal was also admitted to the Institutional Review Board (IRB) at the University of Oklahoma and approved to gain this information. Data were collected by retrieving the student data system for the years 2001-02, 2002-03, 2003-04, 2004-05, and 2005-06. Students were given a randomly assigned number so that confidentiality was preserved. This information was secured in a limited access file. All data was kept confidential and was only used for the purpose of this study.

The data were analyzed using SPSS Statistical Software. The study included six regression analyses, each with a separate dependent variable (discipline, grade point averages, and student achievement scores). The independent variables in this study were Semester (represented with a 1-10 for each of the semesters represented), seventh graders (0) or eighth graders (1), common team planning period (1) or no team planning period (0), gender: which was represented by a 0 for girls and a 1 for boys, and ethnicity: 0 for Caucasian or 1 for minority. Semester was included as a variable to control for the natural changes in the dependent variables over time. The results were shared with district administrators and the middle school principals to help make future decisions regarding the middle school team planning period.

Instrumentation

To help find significant correlations with the loss of the common team planning period student disciplinary data, state achievement test scores, and grade point averages were used from the district before and after changes were made to the school structure. The first section will discuss the disciplinary data and how it was retrieved and assigned a point total value to any of the students that received consequences. The second section highlights the student achievement data that were retrieved from the State Department of Education. The third section focuses on the grading scale and grade point averages that students were given during their tenure at the middle school.

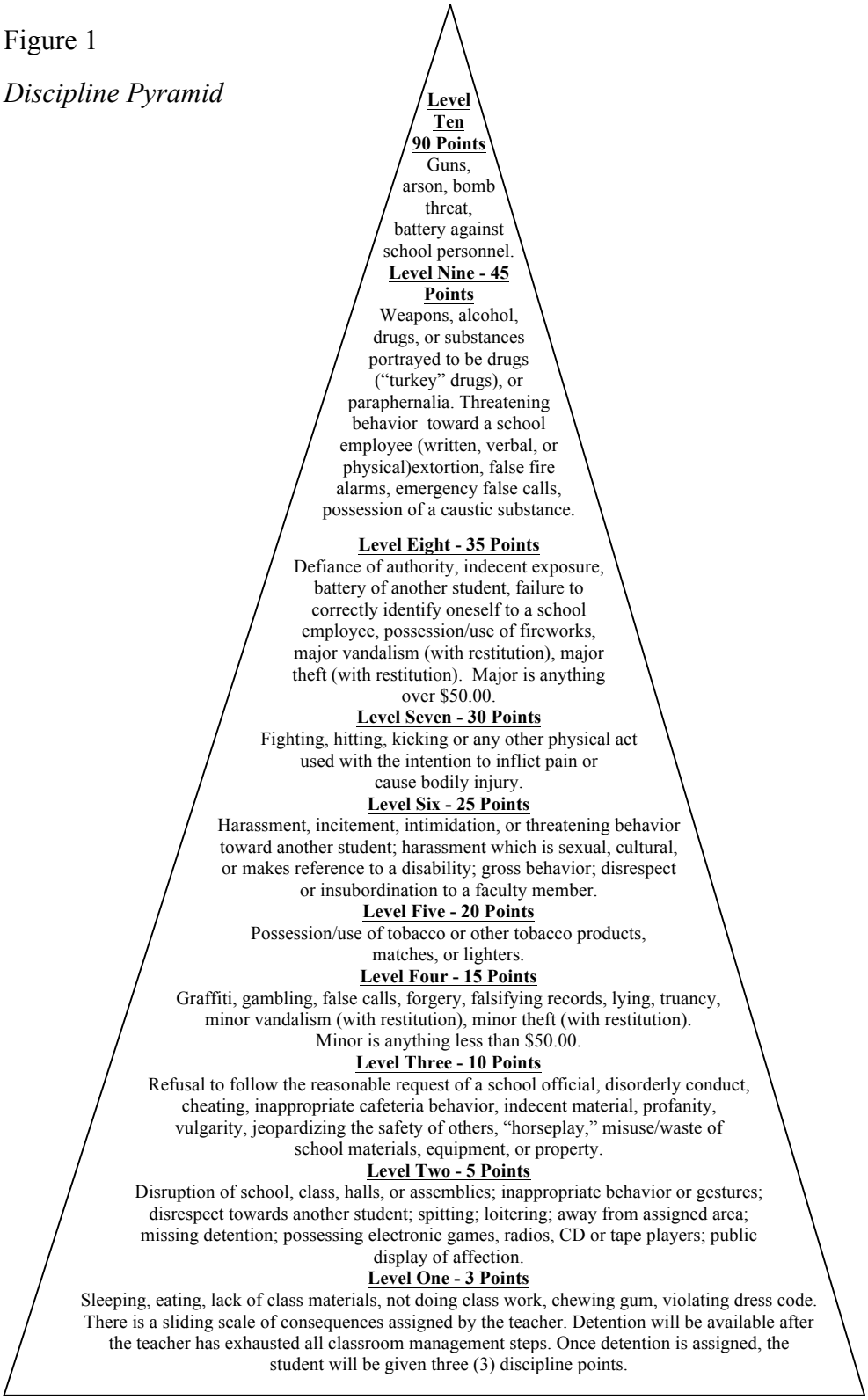
Discipline

One of the areas of research was the different disciplinary infractions and the actions or consequences that principals or teachers assigned for a student due to a choice made that violated the student management plan. A copy of the rules and possible consequences were provided at the beginning of each year to students. Each consequence was recorded in the student information data system at the time of the consequence. The incidents are assigned an infraction heading (fighting, tardy, etc.) and then consequences (off-campus suspension, lunch detention, etc.) are given. The district being studied has a Discipline Pyramid in place where a point value is given to each student offense. Each infraction has a point total assigned to it and a list of possible consequences as

demonstrated in Figure 1 (Middle School, 2011). In 2004-05 the district implemented a policy where students were required to wear a student identification card at all times throughout the day. Since this was a new policy and the disciplinary consequences would impact the data, this information was omitted for this study. Data will be gathered and totaled for each semester for 2001-02 through 2005-06 on the seventh and eighth graders at the middle school.

Figure 1

Discipline Pyramid



Grades

Student Grade Point Averages (GPAs) were gathered for each semester beginning with the 2001-02 school year through the 2005-06 school year for each seventh and eighth grade student. GPAs recorded were for each of their core classes and the two elective courses that the students took during each semester. Students were enrolled in an advisory class called Homebase, but it was only recorded as a Pass/Fail course and the student did not receive any credits for this course. The following scale is the adopted grading scale for the district being studied (Middle School, 2011, p. 4):

Grading Scale

A+	98-100
A	93-97
A-	90-92
B+	88-89
B	83-87
B-	80-82
C+	78-79
C	73-77
C-	70-72
D+	68-69
D	63-67
D-	60-62
F	0-59

Each letter grade is assigned a GPA value based on the grade that the student earned in a class. The following chart shows the point value for the grading scale.

GPA point calculator

A = 4 points
B = 3 points
C = 2 points
D = 1 point
F = 0 points

To calculate a student's GPA the total number of points are divided by the number of classes that a student has in his or her schedule.

Student achievement

Students in the eighth grade took the Oklahoma Core Curriculum Test (OCCT) in mathematics and reading. The students were given a score based on their individual test results as determined by the Oklahoma State Department of Education. The data was collected from the student data management system, but was sent to the district by the Oklahoma State Department of Education. Table 4 identifies the Oklahoma Performance Index (OPI) ranges for student scores for each year of the study OCCT in reading.

Table 5

Eighth Grade OPI Ranges for Reading

Year	Advanced	Satisfactory	Limited Knowledge	Unsatisfactory
2002	999-838	837-700	699-638	637-465
2003	999-838	837-700	699-638	637-465
2004	999-838	837-700	699-638	637-465
2005	999-838	837-700	699-638	637-400
2006	999-838	837-700	699-638	637-400

Table 6 shows the OPI ranges for each year of the study on the OCCT in mathematics.

Table 6

Eighth Grade OPI Ranges for Mathematics

Year	Advanced	Satisfactory	Limited Knowledge	Unsatisfactory
2002	999-801	800-700	699-636	635-451
2003	999-801	800-700	699-636	635-400
2004	999-801	800-700	699-636	635-400
2005	999-801	800-700	699-636	635-400
2006	999-801	800-700	699-636	635-400

Data Analysis

A regression model was used to find any relationship among discipline, student achievement, and grades by grade level with students whose teacher

received the common team planning period and those that did not. The SPSS software was used to help identify the relationships of any areas of significance that could be reported back to the district regarding the loss of the middle school planning period.

Summary

Chapter three discussed the research design of the study regarding the loss of the middle school planning period in one suburban school district. In this chapter the study was introduced; context given on the school district and middle school that was involved in the study; the population and sample procedures; the instrumentation of the discipline data, grade point average, and student achievement scores; and the method used to analyze the data. Chapter 4 includes the results on the analysis.

CHAPTER 4

RESULTS

Introduction

The common team planning period has been regarded as one of the most important aspects of the middle school concept (Felner et al., 1997; Flowers, Mertens, & Mulhall, 1999; Merenbloom, 1991). This planning period allows teachers time to collaborate with one another about the curriculum, share concerns regarding student behavior and academics, plan interdisciplinary units and field trips, and communicate with parents or other members in the school community (George & Alexander, 1993). Hackmann et al., (2002) reinforced the importance of the common planning period with his research and found that without this time, teams do not collaborate as much with one another to address curricular and student needs. According to Felner and associates (1997), student achievement scores increased and discipline decreased with schools that had a higher implementation level of middle school teaming. Flowers, Mertens, and Mulhall (1999) also reaffirmed that increased amounts of common team planning period would increase student achievement scores. Due to a financial downturn in the economy, the common team planning period was eliminated from Lincoln Middle School in 2003. This study investigated the effects of the loss of the common team planning period by analyzing student data specific to

the research questions two years before and three years after the structural shift was made in this district.

The following research questions were used to determine if there were significant relationships in discipline data, grade point averages, and student achievement scores in mathematics and reading with the loss of the common team planning period:

1. Are there statistically significant differences in student behavior according to discipline data when students are on a team with teachers that have a team planning period and an individual planning period versus when students are members of a team where the teachers only have one planning period?
    a. Are the differences in question 1 related to gender of the students?
    b. Are the differences in question 1 related to the ethnicity of the students?
    c. Are the differences in question 1 related to the student being a seventh or eighth grader?
2. Are there any statistically significant differences in student achievement on mathematics and reading tests when students are on a team with teachers that have a team planning period and an individual planning

period versus when students are on a team where the teachers only have one planning period?

   a. Are the differences in question 2 related to gender of the students?
   b. Are the differences in question 2 related to the ethnicity of the students?

3. Are there any differences in student grade point averages when students are on a team with teachers that have a team planning period and an individual planning period versus when students are on a team in which the teachers only have one planning period?

   a. Are the differences in question 3 related to gender of the students?
   b. Are the differences in question 3 related to the ethnicity of the students?
   c. Are the differences in question 3 related to the student being a seventh or eighth grader?

This chapter is organized to provide information on the changes that occurred on the amount of disciplinary infractions, student achievement scores, and grade point averages. General trends will be relayed at the beginning of each section related to the questions, followed by data for each of the research questions, and a summary. Semester data was provided for each student who

was enrolled at Lincoln Middle School to provide information from the 2002-03 school year through the 2005-06 school year, encompassing ten semesters for this study.

The information described in this chapter was retrieved from the student data base of a middle school that served seventh and eighth graders in a suburban school district. Disciplinary infractions were collected from the data base and then assigned point values according to the district's discipline pyramid shown on Figure 1. Each student with disciplinary consequences was assigned point totals of his/her disciplinary infractions for each semester of the study. Student achievement scores were also retrieved from the student data base system. They were originally approved by the Oklahoma State Department of Education and sent to the district. Grade point averages were calculated based on the grades earned in classes taken at the middle school. Gender and ethnicity information for each student were also provided from the district data base system. The findings of the three research questions were answered from this data and will be presented through visual and descriptive representations of the data. Permission to conduct the research was given by the Superintendent of the district and the Institutional Review Board (IRB) at the University of Oklahoma.

Participants

The sample of the study included students enrolled at Lincoln Middle School during the following school years: 2001-02, 2002-03, 2003-04, 2004-05, and 2005-06. Sample sizes for discipline and GPA are included in Table 7. For this study there were a total of 7,081 student data entries (or 3,540 students) for seventh graders and 7,068 student entries (or 3,534 students) for eighth graders. In this study, 2002-1 and 2002-2, etc. represented on data tables. The number after the year signifies which semester of that school year the data represents, first semester (1) or second semester (2). Students during the 2001-02 and 2002-03 school years were placed on teams that incorporated the middle school common team planning period, as represented on data tables by "Team Plan." The 2003-04, 2004-05, and 2005-06 school years had a student population that did not receive the common team planning period and are represented on data tables as "No Team Plan."

Table 7

Seventh Grade Student Population

Semester	N Discipline	N GPA
2002-1	725	725
2002-2	725	712
2003-1	710	710
2003-2	711	711
2004-1	709	709
2004-2	709	709
2005-1	699	699
2005-2	699	699
2006-1	697	697
2006-2	697	697
Total	7081	7068

Table 8 reflects the student population (N) of eighth graders for disciplinary records, grade point averages, OCCT reading scores, and OCCT math scores. The OCCT reading and math scores were only available for eighth grade students during the course of this study. This data table provides insight on the number of students involved in this study. The population continued to steadily increase until 2005 when the numbers decreased to 699 students in the eighth grade. The largest eighth grade population was during 2004 with 756 students enrolled. The smallest population during the study was the following year, 2005 with 578 eighth grade students.

Table 8

Eighth Grade Student Population

Semester	N Discipline	N GPA	N Reading	N Math
2002-1	710	710	670	671
2002-2	710	693	670	671
2003-1	725	725	642	642
2003-2	717	717	642	642
2004-1	756	756	741	744
2004-2	756	756	741	744
2005-1	699	699	578	650
2005-2	699	699	578	650
2006-1	723	723	705	705
2006-2	723	723	705	705
Total	7218	7201	6670	6822

These school years were selected for the study due to the availability of student data and changes that occurred to the middle school team structure. The years of the study provided two years of data with the common team planning period and three years without the common team planning period at the middle school level. The quantitative data from the questions were analyzed using SPSS software.

Analytic Procedure

Descriptive data were collected on the middle school students in the study by from the school's data base system. Descriptive results were compiled for the point total of discipline infractions for the first question and are found on

Table 9 and Table 10. Descriptive results for question two are demonstrated in Table 14 and Table 15 of the student achievement scores for eighth graders' mathematics and reading tests. Descriptive results for question three of both seventh and eighth graders' GPAs are shown on Table 19 and Table 20.

Regression analyses were used to answer the three questions in the study to see if there were any statistically significant differences with disciplinary infractions, student achievement scores in mathematics and reading, and student grade point averages with students that were placed on teams with and without the common team planning period. The first two multiple regression analyses determined if the team planning period played a significant role in the discipline infractions for seventh and eighth graders. The third and fourth multiple regressions addressed eighth grade student achievement scores of mathematics and reading and the significance that the team planning period had on student achievement scores. The fifth and sixth multiple regressions identified the effects that the common team planning period had on grade point averages of seventh and eighth graders at Lincoln Middle School.

Description of the Data

The information used for this study was ex-post facto data from students that were enrolled in the seventh or eighth grade at Lincoln Middle School during the 2001-02 through the 2005-06 school years. Student data were collected for each semester of the study and included gender, ethnicity,

discipline infraction point totals, grade point averages, eighth grade student achievement scores in mathematics and reading, and whether or not the student was placed on a team where their teachers had a common team planning period. During the 2001-02 and 2002-03 school years core teachers (language arts, mathematics, science, and social studies) were given a common team planning period along with their individual planning period. The remaining three years of the study, 2003-04, 2004-05, 2005-06, teachers were only given an individual planning period.

Results by Question

Results of Question One

Research question one asked, "Are there statistically significant differences in student behavior according to discipline data when students are on a team with two planning periods versus when students are members of a team where the teachers have only one planning period?" Comparative descriptive statistics were calculated to address this research question. The data in Table 9 show the descriptive statistics for the two comparison groups, students on teams with a common planning period and students on teams without the common team planning period. The table includes overall descriptive data as well as data according to grade level.

The students were placed on teams with the common team planning period during the first two years of the study, 2002-1, 2002-2, 2003-1, and 2003-

2. The findings indicate that seventh grade mean discipline continued to increase with the common team plan ($\bar{x}$ = 3.61) in 2002-1 to ($\bar{x}$ = 5.84) in 2003-2, for a mean difference of 2.23. Seventh graders without the team plan began with ($\bar{x}$ = 4.17) in 2004-1 and ended with ($\bar{x}$ = 7.58) in 2006-2, for a mean difference of 3.41. Eighth grade discipline started with ($\bar{x}$ = 7.94) in 2002-1 and ended with ($\bar{x}$ = 11.65) in 2006-2, for a mean difference of 3.71. The eighth graders in this study, had more disciplinary infractions ($\bar{x}$ = 7.79) than the seventh graders ($\bar{x}$ = 5.83) for a mean difference of 1.96. This data show that eighth graders have more disciplinary infractions than seventh graders.

Table 9

Descriptive Discipline Data

	MS Discipline		7th Discipline		8th Discipline	
Semester	Mean	SD	Mean	SD	Mean	SD
2002-1	5.75	17.32	3.61	11.62	7.94	21.43
2002-2	6.16	15.64	5.00	13.76	7.35	17.28
2003-1	6.03	16.60	5.48	15.84	6.57	17.30
2003-2	5.63	16.19	5.84	17.20	5.42	15.14
2004-1	4.49	14.17	4.17	13.56	4.79	14.72
2004-2	6.71	18.98	7.34	20.06	6.12	17.89
2005-1	6.01	17.44	4.81	13.20	7.21	20.74
2005-2	10.12	24.60	9.48	23.56	10.76	25.60
2006-1	7.77	21.21	5.10	13.99	10.35	26.12
2006-2	9.65	23.79	7.58	20.19	11.65	26.67
Total	6.82	18.93	5.83	16.75	7.79	20.81

Table 10 depicts the disciplinary descriptive statistics according to gender and ethnicity. The findings indicate that female Caucasian students have fewer disciplinary infractions in the seventh grade ($\bar{x} = 1.90$) with the team plan and ($\bar{x} = 2.06$) without the team plan, a mean difference of 0.016. The eighth grade Caucasian girls scored $\bar{x} = 2.92$ with the team plan and $\bar{x} = 3.26$ without the team, a mean difference of 0.34. Seventh grade female minority students were the third lowest group in regard to disciplinary infractions and totaled $\bar{x} = 4.90$ with a team plan and $\bar{x} = 5.56$ without the team plan. Seventh grade male

Caucasian students ($\bar{x}$ = 6.75 with team plan and $\bar{x}$ = 7.01 without the team plan) had a lower mean and standard deviation than the eighth grade female minority students ($\bar{x}$ = 7.30 with team plan and $\bar{x}$ = 7.75 without the team plan). Minority males had the most disciplinary infractions with seventh grade ($\bar{x}$ = 13.92 with team plan and $\bar{x}$ = 15.78 without the team plan) and eighth grade ($\bar{x}$ = 16.06 with team plan and $\bar{x}$ = 17.70 without the team plan) students recording the highest mean in the study. This information shows that females have fewer disciplinary infractions than male students and Caucasian students have few disciplinary infractions than the minority students.

Table 10

Descriptive Gender/Ethnicity Discipline Data

	7th Team Plan		7th No Team Plan		8th Team Plan		8th No Team Plan	
Gender/Ethnicity	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Female Caucasian	1.90	7.28	2.06	7.58	2.92	11.07	3.26	11.50
Female Minority	4.90	15.46	5.56	16.23	7.30	20.73	7.75	21.10
Male Caucasian	6.75	16.24	7.01	16.65	9.57	22.62	9.85	24.24
Male Minority	13.92	28.63	15.78	31.22	16.06	29.96	17.70	32.90
Total	5.83	16.75	6.41	17.97	7.79	20.81	8.43	22.47

A multiple regression analysis was used to assess the relationship among the discipline data and the independent variables, which included Team Plan and Semester. Table 11 depicts the Model Summary for seventh and eighth grade discipline infractions. The squared multiple correlation coefficient of R^2 was used to help predict the relationship with the team planning period and disciplinary infractions. For seventh graders $R^2 = 0.004$ indicating that 0.4% of the variance in discipline of seventh graders was explained by the independent variables, which was statistically significant, (F = 13.26, Sig, = .000). For eighth graders $R^2 = .006$, indicating 0.6% of the variance in discipline of eighth graders was statistically significant (F = 22.48, Sig. = .000). For both grade levels, the overall model was predictive in the population.

Table 11
Discipline Model Summary

Grade	R	R Square	Std. Error of the Estimate
7	.061	.004	16.724
8	.079	.006	20.745

Table 12

Discipline ANOVA

Grade	Model	Sum of Squares	Df	Mean Square	F	Sig.
7	Regression	7418.78	2	3709.39	13.26	.000
	Residual	1979714	7078	279.70		
	Total	1987133	7080			
8	Regression	19348.66	2	9674.33	22.48	.000
	Residual	3105002.99	7215	430.35		
	Total	3124351.65	7217			

Table 13 reports the disciplinary regression coefficients. For seventh graders, the regression coefficient for the team planning variable was a .03 (sig. = 0.183), and the coefficient for the semester was .085 (sig. = .000). The regression coefficient for the team planning variable for eighth graders was .073 (sig. = .001), and the coefficient for the semester was .130 (sig. = .000).

Table 13

Discipline Coefficient

		Unstandardized Coefficients		Standardized Coefficients		
Grade	Model	B	Std. Error	Beta	t	Sig.
7	Constant	2.707	1.026		2.637	.008
	Semester	.495	.133	.085	3.729	.000
	Team Plan	1.035	.777	.030	1.332	.183
8	Constant	1.339	1.247		1.074	.000
	Semester	.949	.162	.130	5.874	.000
	Team Plan	3.097	.945	.073	3.279	.351

The entire model summary indicated that 0.4% of the variance in disciplinary infractions among seventh graders was explained by the independents variables, which was statistically significant (F = 13.26, sig. = .000). The model summary also indicated that 0.6% of the variance in disciplinary infractions was explained by the independent variables, which was statistically significant (F = 22.48, sig. = .000)

Results for Question Two

Research question two asked, "Are there any statistically significant differences in student achievement on mathematics and reading tests when students are on a team with two planning periods versus when students are on a team in which the teachers only have one planning period?" Comparative descriptive statistics were calculated to address this research question. The data

in Table 14 depict the descriptive statistics for the two comparison groups, students on team with a common planning period and students on teams without the common team planning period. The table includes descriptive data for reading and mathematics tests that eighth graders take annually. All of the mean scores, even though they vary throughout the study, fall into the OPI range of Satisfactory as described in Table 6. In 2002 and 2003 with the common team plan the mean reading test scores were ($\bar{x}$ = 774) and ($\bar{x}$ = 761), respectively, for a mean difference of 13 points. Without the common team plan the mean reading score started at ($\bar{x}$ = 767) in 2004, then increased to ($\bar{x}$ = 783) in 2005, and ended with ($\bar{x}$ = 758) in 2006. The mean reading test score difference from the last year of the common team plan ($\bar{x}$ = 761) to the last year of the study, without the common team plan ($\bar{x}$ = 758), saw a mean difference of three points.

Eighth grade mean math test scores are also represented on Table 14. In 2002 and 2003 with the common team plan the mean math test scores were ($\bar{x}$ = 758) and ($\bar{x}$ = 764), respectively, for a mean difference of six points. Without the common team plan the mean reading score started at ($\bar{x}$ = 781) in 2004, then increased to ($\bar{x}$ = 785) in 2005, and ended with ($\bar{x}$ = 775) in 2006. The mean reading test score difference from the last year of the common team plan ($\bar{x}$ = 764) to the last year of the study, without the common team plan ($\bar{x}$ = 775), saw a mean difference of 11 points.

Table 14

Descriptive Eighth Grade OCCT Reading and Math Data

	OCCT Reading		OCCT Math	
Year	Mean	SD	Mean	SD
2002	774	85.71	758	84.22
2003	761	61.22	764	67.90
2004	767	56.56	781	70.78
2005	783	58.52	785	74.84
2006	758	104.46	775	85.32
Total	768	76.64	773	77.62

Table 15 shows the descriptive analysis of the OCCT reading scores for eighth graders according to gender and ethnicity. The findings indicate that female Caucasians moved from ($\bar{x}$ = 783) with the team plan to ($\bar{x}$ = 785) without the team plan, for a mean difference of two points. Female minority students' scores shifted from ($\bar{x}$ = 755), with the common team plan to ($\bar{x}$ = 751), without the common team plan, for a mean difference of four points. Male Caucasians increased their mean reading score and moved from ($\bar{x}$ = 769) with the team plan and ($\bar{x}$ = 773) without the team plan, for a mean difference of four points. Minority males' scores decreased from ($\bar{x}$ = 737) with the team plan to ($\bar{x}$ = 734) without the team plan, for a mean difference of three points. This information shows that females have higher reading test scores than males and Caucasians scored higher than minorities.

Table 15 also depicts the descriptive analysis of the OCCT math scores for eighth graders according to gender and ethnicity. Female Caucasian students scored ($\bar{x}$ = 775) with the team plan and increased their score to ($\bar{x}$ = 782) without the team plan, for a mean difference of seven. Female minority students increased their mean score moving from ($\bar{x}$ = 753) with the team plan to ($\bar{x}$ = 759) without the team plan, for a mean difference of six. Male Caucasians' increased their mean math scores starting with ($\bar{x}$ = 779) with the team plan and ending with ($\bar{x}$ = 793) without the team plan, for a mean difference of 14. The male minority students' math scores moved from ($\bar{x}$ = 754) with the team plan to ($\bar{x}$ = 760) without the team planning period, for a mean difference of six. This information shows that males have higher math test scores than females and Caucasians scored higher than minorities.

Table 15

Eighth Grade Gender/Ethnicity Descriptive Data

		Team Plan		No Team Plan	
OCCT	Gender/Ethnicity	Mean	SD	Mean	SD
Reading	Female Caucasian	783	62.42	785	57.68
	Female Minority	755	100.86	751	107.84
	Male Caucasian	769	68.48	773	63.18
	Male Minority	737	97.11	734	104.64
	Total	768	76.64	769	77.73
Math	Female Caucasian	775	69.43	782	67.45
	Female Minority	753	82.77	759	81.58
	Male Caucasian	779	73.54	793	74.35
	Male Minority	754	86.1	760	93
	Total	773	77.62	780	77.24

A multiple regression analysis was used to assess the relationship among eighth grade reading and math test scores and the independent variables, which included team plan and semester. Table 16 depicts the Model Summary for eighth grade OCCT reading and math test scores. The squared multiple correlation coefficient of R^2 was used to help predict the relationship with the team planning period and reading and math scores. For the reading score R^2=.003, indicating that 0.3% of the variance was explained by the independent variables, which was statistically significant (F = 9.13, Sig. = .000). For the math score R^2=.015, indicating that 1.5% of the variance was explained by the

independent variables, which was statistically significant (F = 52.40, Sig. = .000)

For both tested subjects, the overall model was predictive in the population.

Table 16

Eighth Grade OCCT Model Summary

OCCT	R	R Square	Std. Error of the Estimate
Reading	.052	.003	76.549
Math	.123	.015	77.041

Table 17

Eighth Grade OCCT ANOVA

OCCT	Model	Sum of Squares	Df	Mean Square	F	Sig.
Reading	Regression	107040.40	2	53520.20	9.13	.000
	Residual	39066782.04	6667	5859.72		
	Total	39173822.44	6669			
Math	Regression	622047.58	2	311023.79	52.40	.000
	Residual	40472562.85	6819	5935.26		
	Total	41094610.43	6821			

Table 18 displays the regression coefficient of the OCCT reading and math scores. For reading the regression coefficient for the team planning variable was -.087 (sig. = .000), and the coefficient for semester was -.097 (sig. = .000).

For math the regression coefficient for the team planning variable was -.144 (sig. = .000), and the coefficient for semester was -.025 (sig. = .262).

Table 18

Eighth Grade OCCT Coefficient

		Unstandardized Coefficients		Standardized Coefficients		
OCCT	Model	B	Std. Error	Beta	T	Sig.
Reading	Constant	787.853	4.695		167.810	.000
	Semester	-2.585	.608	-.097	-4.252	.000
	Team Plan	-13.718	3.588	-.087	-3.824	.000
Math	Constant	785.247	4.710		66.726	.000
	Semester	-.685	.611	-.025	-1.122	.262
	Team Plan	-22.925	3.598	-.144	-6.372	.000

The entire model summary indicated that 0.3% of the variance in OCCT reading scores was explained by the independent variables, which was statistically significant (F = 9.13, sig.= .000). The model summary also indicated that 1.5% of the variance in math scores was explained by the independent variables, which was statistically significant (F = 52.40, sig. = .000).

Results of Question Three

Research question three asked, "Are there differences in student grade point averages when students are on team with two planning periods versus

when students are on a team where the teachers only have one planning period?" Comparative descriptive statistics were calculated to address this research question. In Table 19 are the descriptive statistics for the two comparison groups, students on teams with a common planning period and students on teams without the common team planning period. The table includes overall descriptive data as well as data according to grade level.

The findings indicate seventh grade mean GPA continue to increase with the team plan ($\bar{x}$ = 3.18) in 2002-1 and slightly increase to ($\bar{x}$ = 3.23) in 2003-2, for a mean difference of 0.05. Seventh graders without the team plan begin with a mean GPA ($\bar{x}$ = 3.08) and ended with ($\bar{x}$ = 3.05), for a mean difference of 0.03. The overall difference in GPA for seventh graders is 0.13, ($\bar{x}$ = 3.18) at the beginning of the study, to ($\bar{x}$ = 3.05) at the end of the study. Eighth graders' mean GPA slightly increased with the common team plan with ($\bar{x}$ = 3.11) in 2002-1 and ending with ($\bar{x}$ = 3.18) in 2003-2, for a mean difference of 0.07. GPAs of eighth graders without the team plan declined and began at ($\bar{x}$ = 3.10) in 2004-1 and finished with ($\bar{x}$ = 2.89) in 2006-2, for a mean difference of 0.21.

Table 19

Descriptive GPA Statistics

	MS GPA		7th GPA		8th GPA	
Semester	Mean	SD	Mean	SD	Mean	SD
2002-1	3.14	0.81	3.18	0.78	3.11	0.83
2002-2	3.12	0.82	3.11	0.830	3.13	0.81
2003-1	3.18	0.76	3.22	0.75	3.15	0.76
2003-2	3.20	0.74	3.23	0.72	3.18	0.750
2004-1	3.09	0.91	3.08	0.94	3.10	0.88
2004-2	3.10	0.80	3.12	0.81	3.09	0.79
2005-1	3.08	0.91	3.13	0.90	3.03	0.89
2005-2	3.07	0.79	3.12	0.80	3.02	0.79
2006-1	2.95	0.97	3.06	0.940	2.84	0.99
2006-2	2.97	0.87	3.05	0.85	2.89	0.89
Total	3.09	0.84	3.13	0.84	3.05	0.849

Table 20 shows the GPA descriptive statistics according to gender and ethnicity. The findings indicate that students that were exposed to the common team planning period had higher GPAs than students that did not have that option. Seventh grade female Caucasians moved from a mean GPA ($\bar{x}$ = 3.36) with the common team plan to a mean GPA ($\bar{x}$ = 3.31) without the common team plan, for a mean difference of 0.05. Seventh grade minority females earned a mean GPA ($\bar{x}$ = 3.05) with the team plan and mean GPA ($\bar{x}$ = 3.00)

without the team plan, for a mean difference of 0.05. Seventh grade male Caucasian students started with a mean GPA ($\bar{x}$ = 3.08) with the common team plan and ended with a mean GPA ($\bar{x}$ = 3.07), for a mean difference of 0.01. Seventh grade male minority earned a mean GPA ($\bar{x}$ = 2.77) with the team plan and a mean GPA ($\bar{x}$=2.71) without the team plan, for a mean difference of 0.06. Eighth grade female Caucasians and female minority students both decreased their mean GPAs by 0.07 points with the loss of the common team plan. The eighth grade female Caucasians started at a mean GPA ($\bar{x}$ = 3.28) with the team plan and moved to a mean GPA ($\bar{x}$ = 3.21) without the team plan. The eighth grade female minorities began at a mean GPA ($\bar{x}$ = 3.00) with the team plan and decreased to a mean GPA ($\bar{x}$ = 2.93) without the team plan. The eighth grade male Caucasian mean GPA declined from a mean GPA ($\bar{x}$ = 2.98) with the team plan to a mean GPA ($\bar{x}$ = 2.95), for a mean difference of 0.03. Male minority eighth graders' mean GPA moved from ($\bar{x}$ = 2.71) with the team plan to a mean GPA ($\bar{x}$ = 2.67) without the team planning period, for a difference of 0.04. This information shows that females have a higher mean GPA than males and that Caucasians earned a higher mean GPA than minorities.

Table 20

Gender/Ethnicity Descriptive GPA Data

	7th Team Plan		7th No Team Plan		8th Team Plan		8th No Team Plan	
Gender/Ethnicity	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Female Caucasian	3.36	.72	3.31	.77	3.28	.76	3.21	.81
Female Minority	3.05	.87	3.00	.92	3.00	.92	2.93	.95
Male Caucasian	3.08	.83	3.07	.85	2.98	.82	2.95	.82
Male Minority	2.77	.95	2.71	.99	2.71	.94	2.67	.98
Total	3.12	.84	3.09	.88	3.05	.85	3.00	.88

A multiple regression analysis was used to assess the relationship among the GPA data and the independent variables, which included team plan and semester. Table 21 reports the Model Summary for seventh and eighth grade GPAs. The squared multiple correlation coefficient of R^2 was used to help predict the relationship with the team planning period and GPAs. For the seventh grade GPA, R^2=.003, indicating that 0.3% of the variance was explained by the independent variables, which was statistically significant (F = 9.89, Sig. = .000). For the eighth grade GPA, R^2=.011, indicating that 1.1% of the variance was explained by the independent variables, which was statistically significant

(F = 40.21, Sig. = .000). For both grade levels, the overall model was predictive in the population.

Table 21

GPA Model Summary

Grade	R	R Square	Std. Error of the Estimate
7	0.53	.003	.83675
8	0.105	.011	.84409

Table 22

GPA ANOVA

Grade	Model	Sum of Squares	Df	Mean Square	F	Sig.
7	Regression	13.86	2	6.93	9.89	.000
	Residual	4946.53	7065	.70		
	Total	4960.39	7067			
8	Regression	57.29	2	28.65	40.21	.000
	Residual	5128.50	7198	.71		
	Total	5185.79	7200			

Table 24 depicts the regression coefficients for the GPAs of the seventh and eighth graders. The seventh grade regression coefficient for the team planning variable was .046 (sig. = .041), and the coefficient for semester was -.007 (sig. =

.748). The eighth grade regression coefficient for the team planning variable was -.021 (sig. = .351), and the coefficient for semester was -.122 (sig. = .000).

Table 23

GPA Coefficient

		Unstandardized Coefficients		Standardized Coefficients		
Grade	Model	B	Std. Error	Beta	T	Sig.
7	Constant	3.109	.051		60.536	.000
	Semester	-.002	.007	-.007	-.322	.748
	Team Plan	.079	.039	.046	2.040	.041
8	Constant	3.268	.051		64.397	.000
	Semester	-.036	.007	-.122	-5.512	.000
	Team Plan	-.036	.038	-.021	-.932	.351

The entire model summary indicated that 0.3% of the variance in GPA among seventh graders was explained by the independent variables, which was not statistically significant. The model summary indicated that 1.1% of the variance in GPA among eighth graders was explained by the independent variables, which was moderately significant.

Summary

This chapter explained the statistical analyses of the discipline infractions, student achievement scores in mathematics and reading, and grade point averages of students in one middle school where the teachers had a

common team planning period and then due to budgetary constraints, lost the team planning period. The data were analyzed by descriptive statistics and multiple regression analysis using SPSS software. Included in the chapter were data tables and explanations for each of the three questions in the study. The results found that the models were statistically significant in discipline infractions, student achievement scores in mathematics and reading, or grade point averages; however, this was not related to the loss of the common team planning period. The correlation of the common team planning period and the results provided from this study were not similar to previous research (Felner, et al., 1997; Hackmann, 2002). The following chapter will describe these occurrences as well as a summary, conclusion, and further research suggested for the common team planning period.

CHAPTER FIVE

CONCLUSIONS, LIMITATIONS, AND RECOMMENDATIONS

Introduction

The middle school common team planning period has been described as an essential component of the middle school concept (Felner et al., 1997; Flowers, Mertens, & Mulhall, 1999; Merenbloom, 1991). The more often a team of teachers can meet to collaborate, the more effective they will be at identifying students with needs. Teachers in this study met regularly during the school day during the designated common team planning period five times a week. During this time teachers were expected to create interdisciplinary units, share concerns and information regarding students, conduct meetings with parents, access additional resources provided by the school such as a counselor or social worker to ensure that students on the team are noticed and helped (George & Alexander, 2003; Powell & Mills, 1994; Rottier, 1996). In previous studies, student achievement has increased with the implementation of the middle school concept and incorporation of the common team planning period (Felner et al., 1997; Flowers, Mertens, & Mulhall, 1999).

The research conducted on the suburban school district that lost the common team planning period did not have any significant decreases in disciplinary infractions,- nor increases in student achievement scores, or grade point averages associated with the loss of the common team planning period.

During the study, the district found that student achievement scores declined for eighth graders in reading, but increased in math. The decline in the reading scores continued without the common team planning period for the next three years of the study. The students' math achievement scores continued to increase throughout the five years of the study. Seventh graders' disciplinary referrals increased, and their GPAs declined without the common team planning period. The seventh graders' disciplinary infractions and GPAs were found to be statistically significant. Eighth graders in this study had more disciplinary issues during the first semester then decreased the number of infractions during the second semester with the team planning period. Without the common team planning period, eighth graders' disciplinary infractions increased during the second semester. Each question answered through this study found there was a statistically significant impact on discipline, student achievement, or grades with the removal of the common team planning period. Trends and results will be further discussed in the summary of each question.

As noted in Chapter two, this study added to the limited research of the loss of the middle school common team planning period and the effect that it had on one suburban middle school's students' disciplinary infractions, achievement test scores, and grade point averages once it was removed from the school structure. Five years of student data were studied to determine the significance of the elimination of the common team planning period from this

middle school due to financial constraints. The goal of this study was to determine what role the team planning period had on this district and if there are additional services the district would need to implement if there were identified deficits. It also provides information for other school districts that may look at reconfiguring their middle schools and remove the common team planning period from the format of the school day. The following chapter includes a summary, implications, recommendations for further research on the middle school common team planning period, and a conclusion.

Summary of the study

Chapter one of this study, presented historical implementation of the formation of the middle school schools, the recommended components of the middle school concept, problem statement, purpose of the study, significance of the research, limitations of the study, and summary. This study added to the body of literature regarding the middle school concept, the common team planning period, and the effects of losing the common team planning period in schools. There were three research questions that directed this study:

1. Are there statistically significant differences in student behavior according to discipline data when students are on a team with teachers that have a team planning period and an individual planning period versus when students are members of a team where the teachers only have one planning period?

a. Are the differences in question 1 related to gender of the students?
b. Are the differences in question 1 related to the ethnicity of the students?
c. Are the differences in question 1 related to the student being a seventh or eighth grader?

2. Are there any statistically significant differences in student achievement on mathematics and reading tests when students are on a team with teachers that have a team planning period and an individual planning period versus when students are on a team where the teachers only have one planning period?
   a. Are the differences in question 2 related to gender of the students?
   b. Are the differences in question 2 related to the ethnicity of the students?
3. Are there any differences in student grade point averages when students are on a team with teachers that have a team planning period and an individual planning period versus when students are on a team in which the teachers only have one planning period?
   a. Are the differences in question 3 related to gender of the students?
   b. Are the differences in question 3 related to the ethnicity of the students?

c. Are the differences in question 3 related to the student being a seventh or eighth grader?

To set a theoretical framework in Chapter two, a literature review examined the components of the middle school concept recommended by NMSA (2003). These items include:

- interdisciplinary teams
- advisory periods
- flexible scheduling
- curriculum that is relevant, challenging, integrative, and exploratory
- common team planning time

Chapter two examined the limited research of the loss of the common team planning period and the need for this study.

Chapter three described the methods of study used to investigate the research questions regarding the common team planning period. The population sample consisted of students enrolled in one suburban middle school during a five year span from 2002-2006. Two of these school years, 2002 and 2003, incorporated the common team planning period into the middle school concept and structure of the school schedule. Due to budget constraints the team planning period was removed, and teachers were assigned to teach an extra class. During 2004, 2005, and 2006, teachers taught without the common team planning period and gained additional students. The students' disciplinary

infractions, OCCT mathematics and reading scores, and grade point averages were all obtained from the district's data base system. The results of this research may inform district decision making regarding the middle school common team planning period, identify services that the district may need to provide to assist students that are struggling academically or behaviorally, and provide researchers with information regarding school structure and format.

Chapter four provided statistical descriptions and analyses to answer the research questions. The method of study and population were explained and presented. Analyses were conducted using SPSS software to find the correlation and significance for each question using multiple regression analysis.

Conclusions

The first research question asked, "Are there statistically significant differences in student behavior according to discipline data when students are on a team with teachers that have a team planning period and an individual planning period versus when students are members of a team where the teachers only have one planning period?" The findings indicate that seventh graders and eighth graders results were statistically significant; however, they did not relate to the loss of team planning period.

Research question two asked, "Are there any statistically significant differences in student achievement on mathematics and reading tests when students are on a team with teachers that have a team planning period and an

individual planning period versus when students are on a team where the teachers only have one planning period?" Results indicated that there were statistical significance in eighth grade OCCT Math or Reading scores; however they were not related to the loss of the common team planning period.

Results for question three: "Are there any differences in student grade point averages when students are on a team with teachers that have a team planning period and an individual planning period versus when students are on a team where the teachers only have one planning period?" The results of seventh and eighth grade students' grade point averages were found to be statistically significant; however, they were not related to the loss of the common team planning period.

Discussion of the Results

There was no relationship between seventh and eighth grade discipline data and the common team planning period. Seventh graders were found to have had fewer disciplinary infractions than eighth graders in this study. The original intent of this question was to determine if disciplinary consequences increased without the common team planning period. The fact that there was no significant change with the elimination of the common team planning period was reassuring to the assistant principal/researcher. This research showed that the decision to eliminate the common team planning period did not have an adverse effect on the number of disciplinary infractions of the students.

The OCCT Reading scores declined while students were exposed to the common team planning period and increased after the common team planning period was eliminated. The OCCT Math scores increased without the common team planning period. However, the changes to the test scores were not closely correlated to the loss of the planning period. The information causes the researcher to ask questions as to why these events occurred. Why did eighth graders improve on the OCCT Math and Reading tests? What did the teachers add to his or her instruction to enable this change? There had been increased pressure on teachers to improve reading and math OCCT scores across the district, due to the fact that these scores are used to calculate a school's and district's Adequate Yearly Progress (AYP) and Academic Performance Index (API) (Academic, 2012; Adequate, 2012). A more focused effort on the performance of the students could have resulted in the increased test scores of the students after the common team planning period was eliminated. No school or district wants to find their school listed on the Needs Improvement list due to test scores remaining static over time.

The students' overall GPAs declined throughout the five years of study. The results for seventh and eighth graders were statistically significant, but were not related to the common team planning period. If the common team planning period did not impact grade point averages, then what did? Perhaps the eight percent increase in SES over the course of this study at the middle school played

a role in the decline of the grade point averages. Unfortunately, the SES data was unable to be collected due to the age of the data.

The results from this study showed that there were an increased number of disciplinary infractions for males and minorities. This trend is supported through other research studies that focused on which students were being disciplined the most in schools (Mendoz & Knoff, 2003, Meyenn, Parker, & Maher, 1998, Monroe, 2006). Achievement test scores in this study found that girls and Caucasians scored higher than males and minorities in reading, while males and Caucasians scored higher on math tests. Nationally girls are scoring as well as boys in math, but are falling behind as far as 10% or more in reading (Chudowsky & Chudowsky, 2010). Caucasians scored higher on the achievement tests than the minorities in Lincoln Public Schools during the study and these results follow the trend nationally according to the National Assessment of Educational Progress (NAEP) (Vanneman et al., 2009). The study also found that boys and minorities did not have as high of GPAs as did girls and Caucasians. This information again followed national trends found by Duckworth and Seligman (2006).

Implications for Practice

This study allows school officials to examine the outcomes when the common team planning period was eliminated from the school structure. This information could then be used to guide district leaders on areas to provide

supplementary programs or services where the data declined or changed. Many school districts have had to strategize to save money with increased costs of materials and services with reduced or limited funds for districts.

This study contradicted the research performed by Felner and associates (1997) and Flowers, Mertens, and Mulhall (1999), which stated that achievement scores and grades would improve with the common team planning period. The results of this study did not show any correlation to the change in achievement scores or GPAs with the loss of the common team planning period. At the time of this change in this district's history, teachers and the researcher were disappointed that the district removed the common team planning period. This practice had been a part of the district since 1987 and was taken away due to budgetary constraints. A possible reason that there was no correlation found in this study was due to teachers' commitment of meeting with their team, even if they weren't required to do so. Questions still unanswered that may play a role in the results are the amount of time the teachers used from their individual planning periods, before and after school, or during lunch to discuss items that would have been shared during the common team planning period. Did the teachers continue working together as if they still had the common team planning period, or did they view the loss as a method to focus primarily on their individual subject areas? Additional research through qualitative measures would help ascertain this information from the middle school teachers.

An interesting finding through this research was the increased disciplinary infractions of eighth graders during the first semesters of the two years with the common team planning period. Perhaps this finding suggests that teachers spent time during the common team planning period to discuss student discipline and interventions. The teachers on the team then assigned consequences for those students that were not acting according to the team's expectations. Hackmann and associates (2002) found that teachers spent 38% of the common planning period discussing student issues, which was the largest percentage of time spent. Fewer disciplinary consequences second semester could account for students not wanting consequences that they had received first semester to continue, or that early conversations and interventions were instrumental in reducing the number of infractions for the second semester. Further investigation on why this happened would add insight to the discrepancy of data during the first and second semesters.

Disciplinary infractions increased for seventh graders without the common team planning period which does follow the data supported by Felner and associates (1997). However, the results were not correlated to the common team planning period. The results then prompted the researcher to ask more questions such as: Did student SES play a factor in this change in discipline? Are the teachers still meeting and talking about student discipline with one another and conducting student/teacher conferences on those students that they

are concerned about so that the loss of the common team planning period was not as much of an issue? Are students every year increasing in behavioral issues? Are seventh graders more compliant behaviorally because it is their first year in the building? Did increased student enrollment on teams impact the number of disciplinary referrals that teachers wrote and communicated with parents regarding behavioral issues? The disciplinary data results prompt more questions than answers.

The changes to the math and reading OCCT scores showed several reasons or a combination of the following: teachers spent more time focused on their curriculum and scores increased, the state altered the cut scores; therefore, the OCCT scores increased, there were more professional development opportunities related to improving students' reading and mathematics scores, students were provided extra assistance in skill building for mathematics and reading through elective classes and after school and Saturday workshops, or did a leadership change effect the results? According to a study by Leithwood, Louis, Anderson, and Wahlstrom (2004) of the Wallace Foundation, the most important factor that can improve student achievement test scores besides the classroom teacher is an effective leader. Each of these factors could have made an impact together or individually that enhanced the student achievement in this district.

The decline of grade point averages is disheartening to see for the seventh and eighth graders of this school. Was this a result of the changing demographics? Did the leadership change have any effect on student grading and expectations in the classroom? Do students realize as they get older that the grades recorded in middle school would not appear on a high school transcript and are not that significant, as long as they are able to move onto the ninth grade? Are the increased student numbers per team not allowing teachers to spend as much time communicating with parents and students, regarding missed assignments and poor tests scores? There are several questions that could be addressed in further research with input from teachers and students.

In this district the 2009 average for students taking the ACT was a 23.7 while the state average was 20.4 (2009 Test Results, 2010). This information shows that overall the students in this district have made academics a priority. Perhaps the reason that there was not a noticeable difference in the number of disciplinary infractions, achievement scores, and GPA was due to the high academic standards that these students are known to achieve. Would there have been a more significant impact if this study would have taken place in a different school district with different demographics?

The middle school team planning period has been described as an essential component of the middle school concept (Felner, et al., 1997; Flowers, Mertens, & Mulhall, 1999; Merenbloom, 1991). When the common team

planning period was eliminated from Lincoln Middle School and there was no significant correlation found in the data, the researcher starts to question what the teams did during their time meeting together. According to research conducted by Hackmann and associates (2002), teachers spent 39% discussing student needs, 22% developing and integrating curriculum, 21% record keeping, 6% meeting with students, and 5% meeting with parents. A qualitative study to investigate what the teachers did during the common planning period would provide insight and hopefully answer questions regarding the results of the study.

During the five years of the study, new teachers entered the halls of Lincoln Middle School as others moved or retired. Perhaps one reason the OCCT math and reading scores improved was due to the hiring practices of the administrators at the time. Could it be that the administrators hired the right people for the job, people who enjoyed adolescents and positively impacted the instruction? Collins, in his book, *Good to Great* (2001) would refer to this as getting the right person on the bus. Placing the right person in the right position can have positive effects (Collins, 2001). Peterson (2002) reiterated this idea in his book, *Effective Teacher Hiring: A Guide to Getting the Best*: "Hiring the best possible candidates makes a long-term difference to school-district quality. By increasing student learning, good teachers gradually improve any district, and often help their fellow teachers as well" (p.vii).

With any new initiative in a school, it is important to implement ongoing professional development. According to Reeves (2010), professional development is "intensive and sustained, it is directly relevant to the needs of teachers and students, and it provides opportunities for application, practice, reflection, and reinforcement" (p.23). In 1987 when Lincoln Public Schools first initiated middle school teaming, there was a tremendous amount of professional development and funds available to educate teachers on the new program. During my tenure at Lincoln Middle School, there has not been any formal professional development in regard to the middle school philosophy and its effects on student achievement. This is not uncommon for districts to have initial excitement, funds, and energy for a new program and then decline in all three areas after a few years. According to Reeves (2006, 2010), this phenomenon is called the Law of Initiative Fatigue. Lincoln Middle School would fit into that model in regard to the implementation of the middle school concept. It is hard to estimate how effective the teachers (myself included) were at implementing the components when we may have not been trained or educated in these methods. This information is of importance to educational leaders when new programs or initiatives are brought to different school sites. Leaders need to be aware that continued, meaningful professional development needs to occur that engages teachers, or the initiative will be compromised and/or doomed to fail (Reeves, 2006).

This research does not suggest that the middle school team planning period is not beneficial or irrelevant for adolescent students. It does reinforce the need for districts to have a clear plan and purpose for implementing the common team planning period and ensuring that teachers understand their specific roles during that time period. This is important information for district leaders so that they can provide guidance in professional development opportunities regarding the purpose of the common team planning period and how it can benefit students academically, behaviorally, and socially.

Recommendations for Further Research

Felner and colleagues (1997) suggest, "There is a clear need, then, for additional research that directly addresses the process of middle-grades restructuring and its impact" (p.3). Continued research is needed regarding the middle school concept and its effects on adolescent students. This study provided one view of a suburban middle school that lost the common team planning period. Additional studies on the effects of student discipline, student achievement, and grade point averages can add information to help district leaders make informed decisions regarding this component of the middle school concept and its integration into the school day. A replication of this study in other districts would test the validity and reliability of the results to see if this is a trend in other schools or a phenomenon in this one middle school.

Recommendations for additional research would be a qualitative study on middle school teachers' work environments with and without the common team planning period. Does including the common team planning period increase communication with parents, job satisfaction, curriculum integration, and student interventions? This information would give a broader picture of the role of the common team planning period that statistical analysis alone cannot provide.

A further look into student socio-economic status (SES) would help researchers identify if removing the common team planning period makes a difference to students based on SES levels. The SES levels shifted in this district by eight percent from the initial year to the final year of study. Individual student information was not able to be retrieved due to length of time of the study and the present date. Researchers that were interested in gaining insight about the role of SES in their districts and were going to shift from the common team planning period could obtain information from their current school year to make sure that this subgroup was identified and changes recorded.

Additional research on team effectiveness with the common team planning period would be valuable in determining if there were any significant differences in student disciplinary infractions, OCCT math and reading scores, and grade point averages. This information would be retrieved based on the

team that a student was assigned to see if there are any statistical differences among teams at the middle school level. Finding distinguishable traits that can be replicated with other teams would be beneficial for placing teachers on teams and rehiring teachers for vacant positions.

It would also be interesting to see if seventh and eighth graders experienced any academic or behavioral changes after moving away from the middle school team structure into a K-8 setting. Data could be collected in a similar fashion to this study to explore these differences and make recommendations to other school districts on the findings.

Research regarding team size could also be conducted on middle schools with the team planning period. As enrollment numbers increased, did this impact the results of teaming? Does it matter if teachers are a part of a six period or seven period day with the inclusion of the team planning period in relation to team size? Does the size of the building matter? These questions would offer insight to answering questions raised in regard to the high levels that this district received in minutes met for the common team planning period and integration of the components of the middle school philosophy with the increase in discipline problems, student achievement, and decline in grade point averages.

The common team planning period has been regarded as one of the most essential components of the middle school concept. This study looked at the

effects of disciplinary infractions, student achievement, and grade point averages of seventh and eighth graders of a middle school where the common team planning period was eliminated due to budgetary constraints. The results found that there were statistically significant differences in the above mentioned areas; however, this was not correlated to the loss of the common team planning period. The results fostered questions which could lead to additional research of this practice at the middle school level.

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