Humanities Co-Teaching Approach to Middle School Reading and Social Studies

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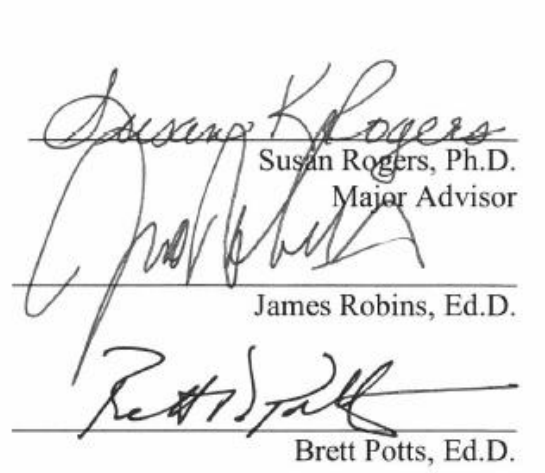

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Abstract

The purpose of this study was to describe middle school humanities students' and middle school humanities teachers' perceptions, and student achievement, as measured by the NWEA MAP assessment, in a co-taught humanities class. The study was a quantitative, descriptive study. The independent variable measured in the current study was time of the year (first semester, second semester). The dependent variables measured were teacher perceptions of co-planning efficiencies, grading efficiencies, classroom management, and instructional efficiencies; student perceptions of engagement; and student attainment of their Reading MAP growth targets. The population consisted of middle school humanities teachers and seventh and eighth-grade students at Middle School A. Data from the teacher perception survey indicated no statistically significant difference in perceptions between semesters. The results from the student survey data indicated a statistically significant difference in student perceptions between semesters. The data, however, showed more favorable perceptions during the first semester than the second semester. There was not a statistically significant difference in Reading MAP growth goal attainment between semesters. The findings of the current study suggest that more research should be done in the area of co-teaching. Future studies could be conducted at multiple middle schools in District B, include a larger sample size, and might be conducted over more than one school year to obtain additional data. The implications for action from the current study suggest that Middle School A could provide additional professional learning for the staff on co-teaching and keep co-teaching partnerships consistent from year to year.

Dedication

This dissertation is dedicated to the following people:

To my parents, who, from the very beginning, have been my biggest supporters, believed in me, and helped shape me into the person I am today.

To my husband and best friend, your love, encouragement, and support have gotten me through this process. I could never have done this without you.

To my son, you are my greatest accomplishment. I hope that you never lose your curiosity and that you always chase your dreams.

I love you all more than words can express.

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understand what the phrase “it starts at the top” means. Your passion and dedication to your work inspire me. I hope that one day I can be the compassionate and strong leader that you are.

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Table of Contents

List of Tables

Chapter 1

Introduction

No singular approach to education is effective in all settings or across all levels. Each school setting and age group has unique needs that are best met by differing instructional approaches. Strategies that are effective in the elementary classroom are not necessarily effective in the middle school classroom. One strategy that has been recognized by the National Middle School Association (2002) as critical in the middle school setting is an integrated curriculum. The National Middle School Association (2002) asserted that students who receive integrated curricula display responsibility for their learning and actions, as well as develop higher levels of commitment to their work (National Middle School Association, 2002).

Drake and Burns (2004) defined curriculum integration as a way of helping students make knowledge and skill-based connections across disciplines and to real life. There are several approaches to curriculum integration. The interdisciplinary approach, often used at the middle school level, is when "teachers organize the curriculum around common learnings across disciplines. They chunk together the common learnings embedded in the disciplines to emphasize interdisciplinary skills and concepts" (Drake & Burns, 2004, p. 12).

The idea of curriculum integration is not new. Curriculum integration originated with Dewey (1902), who proposed that combining curricula would help students better understand the connection between ideas and create more relevance for students in their schooling. Pendergast, Nichols, and Honan (2012) asserted that middle school students learn better when they can make connections between the learning and their personal

worlds. In traditional middle school instruction, each content area is taught in isolation. In contrast, curriculum integration more closely mirrors the real world by combining the content and skills from several subjects and requiring students to show learning across content areas (Pendergast et al., 2012).

Beane (1991) argued that "real curriculum integration occurs when young people confront personally meaningful questions and engage in experiences related to those questions – experiences they can integrate into their own system of meanings" (p. 9). An integrated learning experience should allow students to make personal connections and therefore result in deeper levels of student learning and engagement. The purpose of education is to prepare students for the future and give them the skills they need to be successful once they finish school and enter the workforce. The traditional practice of content area instruction can become an obstacle to education (Beane, 1991). When students enter the workforce, they must be able to apply their knowledge across a broad range of areas, rather than just a single content area. Traditional education can condition students to think in terms of a single content, rather than across a broad spectrum of topics.

Outside of the realm of education, students must be prepared to think beyond subject areas. Students will not be asked to solve specific science or math problems. Rather, they will be asked to utilize skills across subject areas to think critically and to solve problems. Beane (1991) argued that an integrated curriculum encourages students to think, develop, and apply "skills related to communication, questioning, problem-solving, computation, researching, valuing, and social action" (p. 11).

In addition to focusing on academic skills, an integrated curriculum allows opportunities for middle school students to develop other equally important skills such as communication, problem-solving, questioning, and reflective thinking (Beane, 1991). These skills go beyond the academic skills that students need to be successful in the classroom and equip students with future-ready skills. When students enter the workplace, they must be able to communicate, collaborate, solve problems, and think critically. Traditional approaches to isolated curriculum maintain a primary focus on academic skills, while an integrated curriculum allows students a greater opportunity to hone the non-academic, future-ready skills needed for success beyond the classroom (Beane, 1991).

At the middle school level, curriculum integration often occurs through co-teaching or team teaching. Research conducted on these teaching approaches indicates that teachers and students perceive them positively. Cotton (1982) defined team teaching as a collaboration of teachers from more than one discipline who work together on the planning, implementation, and evaluation of a lesson. Cotton (1982) explained that in team teaching, an effort is typically made to pair teachers with varying content knowledge whose skills complement one another.

A team-teaching approach has a number of benefits. Armstrong (1977) advocated for team teaching because it capitalizes on individual teacher strengths, fosters creativity amongst teachers, allows teachers to check one another's instruction, and creates continuity in a program, even when teachers leave or join the team. For students, team teaching helps teachers individualize instruction and offer more individualized support for students (Armstrong, 1977). At the middle school level, this approach creates a more

relevant, authentic, and supportive learning environment that better captures the interest of the students. Likewise, team teaching creates a structure that supports teachers in their professional practice and growth.

Background

This study was conducted in District B, which is a large Midwest suburban school district with approximately 22,183 students during the 2018-2019 school year enrolled in 21 elementary schools, nine middle schools, and five high schools (District B, 2018a). District B is a high performing school district located in a southern suburb of the Kansas City metro area. During the 2017-2018 school year, the enrollment at Middle School A, where the current study was conducted, was 614 students in grades 6-8 (KSDE, 2018). The demographic makeup of Middle School A for the 2017-2018 school year is found in Table 1.

Table 1

2017-2018 Demographic Information for Middle School A

Subgroup	Percentage
Ethnicity	
African-American	0.98
Hispanic	4.72
White	73.62
Other	20.68
Gender	
Male	48.21
Female	51.79
Socioeconomic status	
Economically disadvantaged	3.26
Noneconomically disadvantaged	96.74
English Language Learners (ELL)	
ELL	0.65
Non-ELL	99.35
Students with Disabilities	
With disabilities	7.17
Without disabilities	92.83

Note. Adapted from *Kansas Report Card 2017-2018*, by Kansas State Department of Education, 2018. Retrieved from https://ksreportcard.ksde.org/demographics.aspx?org_no=[redacted]Type=1

The research conducted for the current study originated with work completed by District B to improve the middle school experience for students. In the spring of 2016,

district-level and building-level administrators in District B began to explore best practices and learn new ideas by visiting other schools and districts across the country. This exploration began as a response to concerns of parents, students, and staff communities that the instructional model in middle school was not appropriately meeting the needs of the students (deputy superintendent, personal communication, August 10, 2017).

In the spring of 2017, District B surveyed middle school parents, staff, and students. The results of this survey, displayed in Table 2, showed that the community wanted middle school students to have more elective choices, an increased level of rigor in the classroom, and the opportunity to enroll in a foreign language and music courses every day, all year long beginning in sixth grade (deputy superintendent, personal communication, August 10, 2017).

Table 2

District B Middle School Programming Parent Survey Results

	Survey Responses				
Survey Question	% HD[a]	% D[b]	% A[c]	% HA[d]	N[e]
Middle School students would benefit from opportunities for increased challenge in all classes	4.8	17.7	51.3	26.2	542
Middle School students should be able to choose to take music everyday beginning in 6th grade	6.2	13.3	31.6	48.8	547
Middle School students should be able to choose to take world language classes every day beginning in 6th grade	6.7	17.9	40.6	34.8	549
There are elective/exploratory courses currently not offered that would be highly engaging and challenging to middle school students	4.3	25.1	49.6	20.9	530

Note. Adapted from *Middle School Parent Survey*, by District B, 2018b, pp. 2-4. Retrieved from https://district.[redacted].org/DistrictInformation/FormsAndDocsMiddle/Survey-Results.pdf

[a]HD = highly disagree, [b]D = disagree, [c]A = agree, [d]HA = highly agree, and [e]N = neutral

Following the survey administration, two study groups were assembled to partner in the conversation around middle school instruction. One group consisted of middle school parents, and the other group consisted of middle school teachers and administrators (deputy superintendent, personal communication, August 10, 2017). During the 2017-2018 school year, the middle school study groups worked to create a revised instructional model and schedule for middle school students for the 2018-2019 school year (deputy superintendent, personal communication, August 10, 2017).

While the schedule stayed mostly the same at all middle schools in District B for the 2017-2018 year, some of the schools made changes that shifted instruction for

students (deputy superintendent, personal communication, August 10, 2017). At Middle School A, reading and social studies were integrated into a single course, entitled humanities. Rather than two 45-minute classes each day of reading and social studies, students attended a single 90-minute block of humanities. A reading and a social studies teacher co-taught this block (Middle School A principal, personal communication, August 5, 2017). The Middle School A leadership team believed that many of the skills taught in reading and social studies overlap. Rather than teach these skills in separate courses, the leadership team believed that students would benefit from learning how to apply skills across curricular areas (Middle School A principal, personal communication, August 5, 2017).

Through the integration of these classes into a single humanities course, students received instruction that was aligned with both reading and social studies standards. Common skills taught in both reading and social studies courses were emphasized in the integrated curriculum. The assumption was made that the reading and social studies teachers who co-taught the courses could combine their content knowledge to provide appropriate standards-based instruction to students (Middle School A principal, personal communication, August 5, 2017). The goal of combining these two courses was to increase the level of engagement for students in the humanities course, enhance teacher collaboration, and increase student growth on the Reading Measures of Academic Progress (MAP) assessment (Middle School A principal, personal communication, August 5, 2017).

Teacher and student survey data were collected at Middle School A in October – November 2017 and April – May 2018 by the school administration to gather feedback

on the implementation of the co-taught humanities course. The surveys were administered online to teachers and students as a Google Forms document. The surveys were administered to gather teacher and student views on a co-taught humanities course. All humanities teachers (sixth, seventh and eighth grade) were surveyed (Middle School A principal, personal communication, August 5, 2017). The survey gathered feedback on planning efficiencies, grading efficiencies, classroom management processes, levels of student engagement, and instructional efficiencies in a co-taught classroom environment (see Appendices A and B). Seventh and eighth-grade students were surveyed about their engagement in a co-taught humanities classroom as compared to a traditional classroom (see Appendices C and D).

Statement of the Problem

As the jobs and careers that students must be prepared for after graduation change, it is imperative that schools provide students with the tools and skills that might equip them to be future-ready. The *Vision for Education in Kansas* plan (Kansas State Department of Education [KSDE], 2017) defined the success of high school graduates as having "academic preparation, cognitive preparation, technical skills, employability skills, and civic engagement" (p. 3). While classrooms across curricular areas sustain a strong focus on the academic skills of students, fewer classrooms adequately address the other essential future-ready skill areas, particularly at the middle school level.

To better equip students with the future-ready skills that span across content areas, Middle School A piloted a humanities course. As was explained previously, the single co-taught, 90-minute block gave teachers more instructional time with the intent that they could go further in depth with their instruction and incorporate cross-curricular

skills into the classroom (Middle School A principal, personal communication, August 5, 2017). In addition to academic skills, the humanities curriculum was designed to incorporate non-academic skills such as collaboration, critical thinking, problem-solving, and student independence (Middle School A principal, personal communication, August 5, 2017).

The goal of implementing this curriculum was not only to maintain high levels of student growth on the Northwest Evaluation Association (NWEA) Reading MAP but also to foster higher levels of engagement in students and a deeper focus on future-ready skills in the classroom (Middle School A principal, personal communication, August 5, 2017). The surveys measured how the perceptions of the teachers and students changed over the first year of implementation of a humanities curriculum. The results of the survey and the NWEA MAP test growth scores were data points that helped Middle School A evaluate the effectiveness of the humanities curriculum and co-teaching instructional approach.

Interdisciplinary co-teaching is not a new phenomenon. This strategy has been implemented across curricular areas and at various instructional levels dating back to the 1960s (Friend, Cook, & Reising, 1993). While studies have shown the benefits of interdisciplinary co-teaching, they have also highlighted the difficulties that teachers face when forced to work collaboratively with a colleague on a combined curriculum. Several studies have focused specifically on the challenges that face interdisciplinary co-teaching at the college level (Horn, Stoller, & Robinson, 2008; Little & Hoel, 2011; Ruwe & Leve, 2001; Shibley, 2006). These studies include specific difficulties in co-planning, grading, and discipline, among others.

Although the authors of these studies discussed real challenges for interdisciplinary co-teaching at the college level, few studies have addressed the challenges of interdisciplinary teaching present at the middle level. Likewise, there is a lack of research on how interdisciplinary coursework affects levels of student engagement at the middle school level or student academic growth. There is limited experimental evidence available to show a substantial connection between interdisciplinary co-teaching and student achievement. While there have been some studies conducted on these topics, the research is limited, due to the scope of the studies conducted. Murawski and Swanson (2001) conducted a meta-analysis of student achievement in interdisciplinary courses. The findings included in Murawski and Swanson's (2001) study were limited as very few studies included in the meta-analysis had experimental evidence to support co-teaching as an effective instructional strategy. Since Middle School A's interdisciplinary humanities course was a year-long pilot for the 2017-2018 school year, it was essential to understand how perceptions of students and teachers changed over the school year, as well as the NWEA MAP Growth Reading scores, to determine where areas of improvement might be needed in the future.

Purpose of the Study

The first purpose of this study was to determine whether there is a difference in the perceptions of middle school humanities teachers of planning efficiencies, grading efficiencies, classroom management processes, levels of student engagement, and instructional efficiencies between first and second semester of the 2017-2018 school year. The second purpose of this study was to determine whether there is a difference in self-reported levels of seventh and eighth-grade student engagement in the humanities

classroom between fall semester of 2017 and spring semester of 2018. The final purpose of this study was to determine the extent there is a difference in the percentage of seventh and eighth-grade humanities students who met their projected MAP reading growth target in 2017-2018 and the percentage of those same students who met their projected MAP reading growth target the previous year in 2016-2017.

Significance of the Study

The current research provides additional information about the impact on middle school students and staff of a co-taught, interdisciplinary course, such as humanities. Using data from one mid-size middle school in a large, suburban, Midwestern school district, this instructional approach in practice is explored. The findings from the current study could add to the body of evidence on interdisciplinary, co-taught instruction. Due to the way that research has been conducted on this topic, there is abundant research available on co-teaching between a special education and general education teacher. Likewise, there is abundant research on interdisciplinary team teaching conducted with a team of three to four teachers. There has not been much research conducted on interdisciplinary co-teaching with two regular education teachers. Research from the current study might contribute to the body of research on this topic. The lack of experimental data in this area indicates a need for further research to be done on the impact of co-teaching on achievement.

As middle schools across the nation and in District A continue to search for ways to make learning more relevant, authentic, and engaging to students, a variety of approaches, such as the one used in the current study, are being implemented. As society changes and the future for which students must be prepared evolves, educational

approaches must also change to appropriately meet the needs of students and equip them with these skills. The results of the current study could potentially provide more information to other middle schools about whether this instructional approach was effective for middle school students.

Delimitations

Lunenburg and Irby (2008) defined delimitations as "self-imposed boundaries set by the researcher on the purpose and scope of the study" (p. 134). The following are delimitations used to narrow the focus of the research of the current study.

1. The current study was conducted at one middle school in a suburban Midwestern school district. The population of the current study included sixth, seventh, and eighth-grade humanities teachers and seventh and eighth-grade Humanities students at Middle School A during the 2017-2018 school year.
2. Student and teacher survey data were gathered during the 2017-2018 school year. Students and teachers were surveyed in late October or early November 2017 and late April or early May 2018.
3. NWEA MAP scores from the 2016-2017 and the 2017-2018 school years were used to examine levels of student achievement and growth.

Assumptions

Assumptions, as defined by Lunenburg and Irby (2008), are "postulates, premises, and propositions that are accepted as operational for purposes of the research [that] provide the basis for formulating research questions or stating hypotheses and for

interpreting data resulting from the study" (p. 135). The following assumptions were made while conducting the current study.

1. Humanities teachers implemented co-teaching in their classrooms.
2. Humanities teachers co-planned their daily instruction with fidelity.
3. Humanities teachers collaborated on grading practices in their co-taught classrooms with fidelity.
4. The participants understood the survey questions.
5. The participants answered the survey questions honestly.

Research Questions

The following research questions guided the current study, which examined humanities teachers' perceptions of co-teaching, student perceptions of co-teaching in humanities, and student achievement in co-taught humanities classes.

RQ1. To what extent is there a difference in middle school humanities teachers' perceptions about planning efficiencies with their co-teacher between first semester and second semester of the 2017-2018 school year?

RQ2. To what extent is there a difference in middle school humanities teachers' perceptions about grading efficiencies with their co-teacher between first semester and second semester of the 2017-2018 school year?

RQ3. To what extent is there a difference in middle school humanities teachers' perceptions about the development and implementation of classroom management processes with their co-teacher between first semester and second semester of the 2017-2018 school year?

RQ4. To what extent is there a difference in middle school humanities teachers' perceptions of levels of student engagement in the humanities classroom between first and second semester of the 2017-2018 school year?

RQ5. To what extent is there a difference in middle school humanities teachers' perceptions about instructional efficiencies with their co-teacher between first semester and second semester of the 2017-2018 school year?

RQ6. To what extent is there a difference in seventh and eighth-grade students' self-reported levels of engagement in the humanities classroom between first and second semester of the 2017-2018 school year?

RQ7. To what extent is there a difference in the percentage of seventh-grade humanities students who met their projected reading MAP growth target in the 2017-2018 school year and the percentage of those same students who met their projected MAP reading growth target the previous year on the sixth grade MAP in the 2016-2017 school year?

RQ8. To what extent is there a difference in the percentage of eighth-grade humanities students who met their projected reading MAP growth target in the 2017-2018 school year and the percentage of those same students who met their projected MAP reading growth target the previous year on the seventh grade MAP in the 2016-2017 school year?

Definition of Terms

For clarity in the study, the following key terms are defined for the reader.

Co-teaching. "The general definition of co-teaching involves two equally-qualified individuals who may or may not have the same area of expertise jointly delivering instruction to a group of students" (Curry School of Education, 2012, para. 1).

Humanities. As defined in the current study, humanities is a combined reading and social studies course. The class integrates reading and social studies curriculum and combines their content into a single course (Middle School A principal, personal communication, August 5, 2017).

Future-ready skills. KSDE (2016) defined future-ready skills as the "academic preparation, cognitive preparation, technical skills, employability skills, and civic engagement to be successful in postsecondary education, in the attainment of an industry-recognized certification or in the workforce, without the need for remediation" (slide 4).

NWEA Reading MAP assessment. NWEA (2014) defined the NWEA Reading MAP assessment as a nationally normed test designed to measure a student's reading level and inform teacher instruction, measure student growth, and compare student scores over a period

Projected NWEA MAP growth. A student's NWEA MAP growth is "Essential information about a student's continuum of learning and growth trajectory" (NWEA, 2014, p. 5). Projected student growth is a prediction of how much a student will grow over time and is computed by considering a student's starting score, grade level, and when in the school year the initial tests are administered (NWEA, 2016).

Rasch UniIT (RIT) score. NWEA (2014) defined a RIT score as a grade-independent score that a student receives on the NWEA Reading MAP Assessment. This score indicates the level of difficulty of a question that a student can answer correctly around 50% of the time.

Organization of the Study

The current study is presented in five chapters. Chapter 1 included the introduction, background of the study, statement of the problem, the purpose of the study, the significance of the study, delimitations, assumptions, research questions, and the definition of terms. Chapter 2 provides a comprehensive review of the literature that includes information about student perceptions of co-taught classrooms, teacher perceptions of co-teaching and team teaching, and student achievement levels in co-taught and team-taught classes. A description of the methodology utilized in the current study is provided in Chapter 3, which includes the research design, selection of participants, measurement, data collection procedures, data analysis and hypothesis testing, and limitations. Reported in Chapter 4 are the results of the hypothesis testing. Chapter 5 provides a summary of the study, the findings related to the literature, and the conclusions.

Chapter 2

Review of the Literature

This review of the literature explores the practice of co-teaching and its implementation. This chapter includes research on co-teaching between general education teachers and special education teachers, at the middle and high school levels, and between varying content areas. The research was reviewed on co-teaching and team teaching, teacher perceptions of co-teaching and team teaching, student perceptions of co-teaching and team-teaching, and student achievement in co-taught or team-taught classrooms. The essential characteristics of a co-taught or team-taught classroom environment are also explored in this literature review.

Co-Teaching and Team Teaching

The terms co-teaching and team teaching are sometimes utilized synonymously. The research, however, indicates some distinct differences between the two instructional approaches. Although originally the definition referred to any relationship where two teachers instructed the same group of students, co-teaching most commonly refers to a teaching partnership between a special education teacher and a general education teacher (Friend et al., 1993). In contrast, team teaching, as it is presented in the literature, refers to interdisciplinary teaching that occurs among a group of three or four teachers (Tompkins, 1969). The following section explores the literature on the history, rationale, models, benefits, and challenges of co-teaching and team teaching.

History of co-teaching and team teaching. Co-teaching, originally referred to as team teaching, dates to the 1950s. Throughout the research, however, there is a clear distinction made between these instructional approaches. Team teaching typically refers

to a collaboration between general education teachers with varying content specialties and co-teaching often refers to the collaboration between a general education and a special education teacher. Tompkins (1969) broadly defined team teaching as

> Giving two or more teachers joint responsibility for the education of a group of pupils larger than what is generally considered a normal class size. Inherent in this concept is the idea that there will be some type of differentiation in the functions of the various teachers, either as to subject matter specialization or methodology. (p. 73)

The identifying characteristic of team teaching is that it always involves more than one teacher and, often, integrates subjects.

Integrating subjects is a hallmark of team teaching. The integration of subjects is also commonly referred to in the literature as interdisciplinary teaching. The North Carolina State Department of Education (1987) identified subject into subject integration as a method of interdisciplinary teaching where two subjects are blended and presented to students in a block style period. The North Carolina Department of Education (1987) cited humanities as an example of this type of interdisciplinary content.

Although team teaching and co-teaching differ in their general approach, they share many benefits. Friend et al. (1993) identified two reasons behind the implementation of co-teaching: to give students more individualized learning experiences and teachers the opportunity to combine their content area expertise and provide professional support for one another. Since its inception, models of co-teaching have varied in their implementation. These variations include the amount of common planning

time given to teachers, utilization of a shared classroom space, and the extent that the content delivered is interdisciplinary (Friend et al., 1993).

Co-teaching has become a popular trend in the education of students with disabilities. Kohler-Evans (2006) cited the No Child Left Behind Act (NCLB) and the revised Individuals with Disabilities Education Act (IDEA) of 2004 as the impetus to utilize resources more effectively and creatively. NCLB and IDEA led to a greater level of inclusion of special education students in the general education setting. The lack of content area expertise by special education teachers and the lack of knowledge of how to meet the needs of students with learning disabilities by general education teachers precipitated a need for co-teaching as a collaborative strategy (Kohler-Evans, 2006).

Historically, team teaching has been most utilized at the middle school level as its basic design meets the developmental needs of middle school students (Eichhorn, 1983). The unique developmental stage of middle school students and the extreme diversity in maturation levels, according to Eichhorn (1983), necessitates the need for an instructional program that is different from elementary or high school. Toepfer (1992) identified grades five through nine as the period in schooling where students have the greatest range of physical, emotional, social, and intellectual development. This long range of development necessitates a more creative approach to the curriculum.

Across the literature, this collaborative approach to instruction has been referred to by many names. Whether used as a strategy for including special education students in the general education setting or a means of delivering interdisciplinary content, co-teaching and team teaching are instructional approaches that encourage collaboration among educators. These instructional styles allow educators to share one another's

expertise, enhance strengths, and minimize the impact of weaknesses on students (Davis, 1975).

Rationale for co-teaching and team teaching. The literature outlines a variety of reasons that co-teaching, team teaching, or interdisciplinary teaching should be utilized as instructional methods. St. Clair and Hough (1992) identified several rationales supporting the use of an interdisciplinary classroom approach. They asserted that the interdisciplinary method creates a positive classroom environment, offers students a more holistic view of the world, is more interactive, prepares students to be 21st-century learners, enhances problem-solving skills, and promotes teacher collaboration.

According to the Carnegie Council on Adolescent Development (1989), the benefits of an interdisciplinary team-teaching approach exist for both students and teachers. A team-teaching approach creates smaller learning environments within the school that better meet the developmental needs of middle school students than the traditional classroom approach (Carnegie Council on Adolescent Development, 1989). Likewise, it provides students with an additional teacher and added adult support in the classroom (King, 2010).

In addition to the support for students, an interdisciplinary team approach provides a support system for teachers and eliminates the feeling of isolation that can result from being departmentalized (Carnegie Council on Adolescent Development, 1989). The traditional classroom approach where each teacher has a classroom and a group of students creates feelings of isolation. Feiman-Nemser and Floden (1986) indicated that these feelings of isolation make teachers hesitant to discuss their challenges

with colleagues or ask for help when needed. The practice of co-teaching can help reduce the isolation of teachers because they are working closely with others.

Co-teaching increases levels of collaboration and collegiality by empowering teachers to openly discuss their concerns, ideas, and interests with their colleagues (Walther-Thomas, 1997). Also, co-teaching provides teachers with a collegial partnership that provides them an alternative perspective for looking at the curriculum (King, 2010). Cook (2004) claimed that co-teachers report one of the greatest advantages of co-teaching is the level of support that it offers. Teachers who co-teach in the same classroom can share great lessons, student successes, and challenging moments (Cook, 2004).

Co-teaching models. Teachers have utilized several models of co-teaching. Each model of co-teaching offers a unique teaching opportunity and can be used judiciously by teachers to meet the needs of students. Cook (2004) identified the following six models for co-teaching:

- One teach, one observe: Both teachers are in the room. One leads the instruction and the other observes students. The observations by the second teacher should be intentional and pre-planned.
- One teach, one drift: Both teachers are in the room. One leads the instruction while the other walks around and assists students.
- Station teaching: The teachers divide the content so that each one is responsible for delivering a part. Students visit each teacher station to learn that content.

- Parallel teaching: Teachers plan collaboratively, but each teacher delivers the instruction to half of the class.
- Alternative teaching: One teacher working with most of the class while the other teacher works with a small group to re-teach, pre-teach, enrich, or supplement the main instruction.
- Team teaching: Teachers both lead the classroom instruction and alternate delivering content and leading classroom activities. (p. 15)

Each of the co-teaching models serves a distinct purpose and has advantages and disadvantages. The model of co-teaching utilized in a classroom should be selected intentionally, based on the characteristics and needs of students, the characteristics and needs of teachers, the curriculum, desired instructional strategies, and the setting (Cook, 2004). One single co-teaching approach might not always work in all classroom settings. In co-teaching situations, responsibility for student learning and classroom leadership should be shared between both teachers. Co-teaching relationships are most effective when the teachers feel that they share equal instructional control in the classroom (Friend et al., 1993).

Regardless of the co-teaching model used, several characteristics are important for facilitating effective co-teaching. Adams, Cessna, and Friend (1993) identified a shared philosophy as "the cornerstone" for a successful co-teaching relationship. They went on to identify the following essential characteristics for co-teaching: the commitment of co-teachers to develop and maintain their professional relationship, open communication, respect, trust, defined roles and responsibilities, and administrator

support (Adams et al., 1993). When these characteristics are present, there is more likelihood that the co-teaching relationship might be successful for students and teachers.

Benefits of co-teaching and team teaching. The research identifies several benefits of co-teaching for both students and teachers. Walther-Thomas (1997) conducted a 3-year study of 18 elementary and seven middle schools, which utilized co-teaching as an instructional approach to support students with disabilities in mainstream classes. For this study, Walther-Thomas conducted classroom observations and semi-structured interviews with teachers and administrators, as well as reviewed relevant teacher and administrator documents. Walther-Thomas' research yielded several findings related to the benefits of co-teaching for students and teachers.

Walther-Thomas (1997) determined that co-taught classrooms offered a more inclusive and communal feel for students. Students who were enrolled in co-taught classes were offered a greater support system and reported having more "family-like feelings" and a "sense of community" in their classes (p. 401). Also, Walther-Thomas (1997) found that the co-teaching model increased teacher time and attention for students. By having two or more teachers in the classroom at one time, there was greater opportunity for students to receive direct teacher support. Co-teaching allowed teachers to conference individually with students, work with small groups, and offer opportunities for enrichment and differentiation (Walther-Thomas, 1997).

Walther-Thomas (1997) suggested several benefits for teachers, which included higher levels of professional satisfaction, professional growth, and personal support. Co-teachers reported high levels of professional satisfaction because their programs improved over time and they saw growth in their students (Walther-Thomas, 1997).

Many of the teachers who participated in co-teaching reported that it was one of the best professional growth opportunities of their career because they worked so closely with another teacher (Walther-Thomas, 1997). By working with another teacher in the same classroom, teachers could share knowledge and expand their professional repertoire of skills. Also, co-teaching eliminated the isolation and loneliness often associated with teaching. Having another adult in the classroom gave teachers the opportunity to share successes and find solutions to problems (Walther-Thomas, 1997).

Overall, co-teaching resulted in an increased level of collaboration among teachers (Walther-Thomas, 1997). Following the implementation of co-teaching, teachers were more interested in teamwork than they were previously. Principals reported that their teachers participated in more sharing with colleagues, including taking part in staff development sessions and conducting workshops for their colleagues (Walther-Thomas, 1997).

Shields (1997) conducted a study on team teaching in an elementary school. She asked participants to share their thoughts and feelings about team teaching during an interview. Teachers involved in Shield's study were part of grade level teams (upper-elementary) in the same school. Participants in the study were asked to share both the advantages and disadvantages of team teaching. There were no structured questions other than for participants to share their thoughts and feelings about team teaching.

Participants in Shields' (1997) study believed that the ability to share instructional ideas and experiences was a distinct advantage of team teaching. A team-teaching approach removed the competitiveness from the teacher relationships. Unlike a

traditional approach, team teaching made teachers less territorial because they were working together towards a common goal, rather than in isolation (Shields, 1997).

Above all else, the most cited advantage of team teaching in Shields' (1997) study was the personal and professional support that teachers received. Teachers in the study noted that they felt more of a personal connection with their colleagues. The feeling of connectedness contributed to the willingness of the staff to share and collaborate (Walther-Thomas, 1997). Similar to Walther-Thomas, Shields (1997) indicated that when teachers worked together, they felt more connected to one another and did not experience the feelings of isolation that are often associated with teaching. The principal at the school where Shields' (1997) study was conducted said she felt that the staff, because of team teaching, was more like a family and had concern for one another when personal events took place.

Challenges of co-teaching and team teaching. The research indicates that there are several disadvantages to co-teaching and team teaching. Walther-Thomas (1997) found that there was more of a consensus about the problems of co-teaching than there were about the benefits. The consistent problems indicated by Walther-Thomas (1997) were common planning time, student scheduling, administrative support, and staff development opportunities.

In the study, participants reported difficulty finding enough time for planning with co-teachers each week. Teachers reported the need for at least one hour of common planning time per week with each co-teacher to effectively plan for weekly lessons (Walther-Thomas, 1997). Fewer planning challenges were reported by teachers in the middle schools than teachers in the elementary schools who participated in the study.

Walther-Thomas (1997) asserted that the middle school schedule naturally lent itself to facilitate more common planning time for teachers. Walther-Thomas (1997) found that planning with a co-teacher became easier over time. As the co-teachers developed a relationship and learned each other's working styles, they were able to work more efficiently together (Walther-Thomas, 1997). When co-teaching partners did not work well together, they often attributed it to "differences in philosophy" (Walther-Thomas, 1997, p. 402).

Another common challenge indicated by Walther-Thomas (1997) was student scheduling. Student scheduling for co-taught classes was more time consuming and complicated for school personnel. Assigning appropriate student placements and managing co-teaching schedules required input from special education and general education teachers, as well as counselors and administrators. Assigning students to appropriate classes required significant attention by counselors and often necessitated hand scheduling for a high number of students (Walther-Thomas, 1997). In addition, co-taught classes can also create a tracking effect of placing students into certain classes. To offer appropriate in-class supports to students, there are often high numbers of students with disabilities in all the same classes (Walther-Thomas, 1997).

Administrator support is an essential element for the success of co-teaching. When building administrators are supportive of co-teaching efforts, there is greater success (Walther-Thomas, 1997). Participants in Walter-Thomas' study (1997) described the role of the administrator as "advocate," "promoter," "advisor," "team leader," and "head cheerleader" (p. 404). When administrators are not intentional about their support

of co-teaching, the co-teaching can be a huge challenge for those teachers involved (Walter-Thomas, 1997).

Staff development is a significant challenge of co-teaching. Walther-Thomas (1997) found that most teachers did not receive adequate training in the concept of co-teaching before or during implementation. Most teachers interviewed indicated they had very few opportunities for professional development on co-teaching and felt that, despite their participation in co-teaching for several years, they had serious gaps in their knowledge (Walther-Thomas, 1997).

Shields (1997) also found challenges for team teaching. One challenge of team teaching is when team members possess traits that lead to a division amongst the team. Participants in Shields' (1997) study indicated that team members who lacked communication skills or displayed egotistical behavior could cause serious problems for the rest of their teaching team. The principal should strategically choose teams of teachers rather than simply placing teachers together at random. Erb and Doda (1989) asserted that a principal mandated teaming effort would not be effective. Rather, to ensure that the most productive teams are formed, a principal should utilize some type of personality or leadership test when hiring teachers and making team decisions (Erb & Doda, 1989). Also, Erb and Doda (1989) noted that team teaching would not thrive without adequate staff development before and during implementation.

Team teaching requires a greater level of compromise than traditional teaching. When making decisions about daily lessons, units, and overall class instruction, participants indicated that team teaching offered less spontaneity and flexibility (Shields, 1997). When co-teaching, decisions about instructional adjustments required conferring

with another teacher, rather than the ability of a teacher to make the decision independently and implement a change immediately (Shields, 1997). Participants in Shields' study (1997) reported feeling a loss of independence when team teaching.

Regarding planning, Shields (1997) found that teachers felt they spent more time planning when co-teaching than they would spend otherwise. Although this was not the case for all teachers, several of the participants who indicated they spent an increased amount of time planning were also the team leaders. The team leaders reported accepting additional tasks for the team that increased the amount of time they spent planning, overall (Shields, 1997).

The challenge of leadership on a teaching team is discussed throughout the literature. Borg (1966) studied the interactions between members of a teaching team. Results of the research were that team teaching was most productive when there was not one official team leader, but rather one individual who leads team meetings but has no authority over the rest of the team. Teacher teams prefer to act as a group of peers and operate more effectively when they are all on the same level (Borg, 1966). When teachers on a team are expected to take on the role of team leader, it adds significantly to their responsibilities as a teacher and requires them to be an authority over peers (Ehman, 1995).

A final challenge of team teaching found by Shields (1997) was physical space. Certain classroom arrangements did not lend themselves well to team-teaching. According to participants, the ideal arrangement for team teaching was two single classrooms that can be converted into a larger classroom, allowing for a door to be closed when a quieter activity takes place (Shields, 1997).

Teacher Perceptions of Co-Teaching and Team Teaching

The way that teachers perceive their experience co-teaching and team teaching can have an impact on its implementation. The perceptions of teachers who have participated in a co-teaching or team-teaching relationship have been explored. Discussions about teacher perceptions of co-planning, instructional efficiencies, management, and grading are found in the next sections.

Perceptions of co-planning. A large amount of the research available on co-teaching and team teaching provided a discussion of teacher perceptions of co-planning. To ensure success in any co-teaching relationship, Friend and Cook (2009) recommended that co-teachers begin by discussing their basic beliefs about teaching, for example how to create a positive classroom environment and how to approach classroom management. Discussing their basic beliefs could help the co-teachers better understand the philosophy of their fellow teacher and work together more productively.

Conderman (2011) suggested that an essential element of co-planning is that both teachers should be actively involved with planning instructional methods, finding instructional materials, creating assessments, and modifying instruction to best match the needs of students. Conderman (2011) highlighted two co-teachers who had just completed their first year of co-teaching language arts and social studies. The teacher's reflections from the year were gathered through interviews. The co-teachers had success during their first year due to several key factors identified by Conderman (2011).

The first factor that contributed to their success was the advanced communication prior to the start of the year. The co-teachers had intentional conversations about their skills, philosophies, teaching styles, communication styles, grading practices, and

classroom management prior to starting the year (Conderman, 2011). Also, they scheduled specific planning times each week and agreed to confront one another if they had any problems (Conderman, 2011).

While planning, the co-teachers came prepared in advance with an outline of the standard to be addressed in the lesson, the learning goal, and ideas for daily activities. This method helped the co-teachers facilitate efficient planning meetings and divide responsibilities for the lesson (Conderman, 2011). The advanced preparation for the meetings helped save time during the actual meetings and ensured that critical issues could be addressed during co-planning times (Conderman, 2011).

The final factor that greatly contributed to the team's success was their collective responsibility for the class and students. The co-teachers considered all students in the classroom to be the responsibility of both teachers (Conderman, 2011). Both teachers shared the classroom space, were viewed as teaching equals by the students, instructed students, graded assignments, and administered discipline. Conderman (2011) indicated that all the factors contributed to the creation of an overall positive co-teaching relationship.

In addition to the conditions outlined in Conderman's (2011) study, Dieker and Murawski (2003) identified a common planning time as an essential element of success in a co-teaching relationship. Co-teachers must have a regular time scheduled, at least weekly, if not daily, where they can co-plan and co-grade assignments. A lack of a common planning time between co-teachers can limit the co-teaching relationship (Dieker & Murawski, 2003).

Solis, Vaughn, Swanson, and McCulley (2012) conducted a meta-analysis of research that included studies about co-teaching and inclusion, studies that were either quantitative or qualitative, and studies that had been peer-reviewed. The research included in the meta-analysis had been conducted from 1990 to 2010 and included 146 different studies. The results of the meta-analysis indicated a strong need for co-teachers to have a structured plan time with their colleagues, training to strengthen their co-teaching skills, and appropriate resources for co-teaching (Solis et al., 2012). Throughout the literature, these components were identified as essential needs for co-teaching success and contributed positively to a co-teaching relationship.

Perceptions of grading. Determining how to collaborate on grading can pose a challenge for co-teachers. McKinley and Warrence (1996) discussed the co-taught, interdisciplinary humanities courses offered at Raritan Valley Community College in Somerville, New Jersey. Three professors co-taught the course. The participants included 25 students who responded to a 15-question questionnaire about the humanities course followed by extensive one-on-one interviews with 10 randomly chosen participants (McKinley & Warrence, 1996).

One area specifically noted by students was grading. In the co-taught course, teachers shared responsibility for grading papers. Two different readers read each paper. The grades were averaged together to assign a final grade to the paper if the grades varied by one letter grade or less. If the grades varied by more than one letter grade, the third reader would read the paper to help assign a final grade to the paper. The papers were graded randomly, but the process ensured that in a given semester, each professor read at least one paper written by each student (McKinley & Warrence, 1996). The study

participants viewed co-grading favorably. They enjoyed receiving input from several professors and believed that it positively impacted their writing (McKinley & Warrence, 1996).

Linz, Heater, and Howard (2008) provided additional insight regarding grading in a co-teaching relationship in a high school science classroom. In Linz et al.'s (2008) study, a co-teaching team explained one approach that was successful for their team. This teacher team graded student work and assessments by assigning the grading to the person who created the assessment or assignment. The teachers divided the responsibility for creating assessments and assignments evenly and thus, shared equal responsibility for grading as well. Before administering the assessments to students, both teachers would take the assessment to ensure that the test was understandable. The teacher team utilized assessment results to identify areas of individual and whole class remediation (Linz et al., 2008).

Perceptions of management. Conderman (2011) noted the importance of co-teachers discussing their management styles and preferences before co-instructing. Conderman (2011) suggested that the conversation between co-teachers should include a discussion of pet peeves in the classroom. This discussion can help the co-teachers determine the classroom norms that could be satisfactory for both teachers and beneficial for the students (Conderman, 2011).

Salend et al. (1997) conducted a study on co-teaching to investigate the impact of co-teaching on teachers. This research was conducted by reviewing journals kept by two teachers during their initial co-teaching experiences as well as conducting follow-up interviews with the teachers. The results of this study indicated that an integral

component of management in the co-taught classroom was to foster a sense of community (Salend et al., 1997). The co-teachers noted how close they became with one another throughout the year and how that helped the students become a community rather than just a group of students in the same classroom (Salend et al., 1997). To help foster the sense of community and togetherness, the teachers used language such as "we," "our," and "us" about their classroom, which allowed students to view the class as one entity and not separate (Salend et al., 1997, p. 7).

Mastropieri et al. (2005) reviewed case study information for co-teaching at the secondary level. They reviewed co-teaching in a variety of settings and different content areas. In the middle school case study completed in a social studies classroom, several classroom management approaches were discussed. This case study featured two teachers with differing instructional and management approaches. One teacher had a relaxed and casual approach with the students while the other teacher was very formal and structured (Mastropieri et al., 2005). The case study indicated that the difference in style was complimentary at first, but the co-teachers indicated that the sharp difference in philosophy contributed to the deterioration of their relationship, over time (Mastropieri et al., 2005). In the case study, the teachers did not create any specific rules for behaviors in their co-taught classroom. Rather, they indicated that the general school rules applied to their classroom (Mastropieri et al., 2005).

Perceptions of instructional efficiencies. Downey (2016) completed a study on the co-teaching relationship between two general education teachers in an English language arts classroom at the middle school level. Downey (2016) included eight teachers who participated in co-teaching at a New Jersey middle school. Co-teaching

was in its first year of implementation in the middle school at the time that the study was conducted. The study was qualitative and included interviews with each participant to gather their perceptions of the newly implemented co-teaching approach. The following questions helped to guide data collection in Downey's (2016) study, "How do teachers adjust to sharing the role in the classroom? How do teachers work together to incorporate the co-teaching models without having much experience in co-teaching?" (p. 22). Through the interview process, the themes of classroom responsibility, co-planning, and the co-teaching relationship emerged.

Downey (2016) found that five of the eight participants utilized the one teach, one assist model of co-teaching in their classrooms. The five teachers mentioned that they experienced issues with control in the classroom and believed that there was not an equal share of responsibility between the two teachers. In this model, one teacher was responsible for most of the teaching while the other teacher acted as an assistant (Downey, 2016). In nearly every interview, teachers indicated there was an apparent lack of communication between the co-teachers that contributed to an unequal share of responsibility between them (Downey, 2016). Additionally, teachers indicated that they were hesitant to give up the lead teaching role in the classroom to another teacher, regardless of content knowledge or curriculum expertise (Downey, 2016). Teachers with extensive content expertise were hesitant to give up classroom control to someone with less expertise. Likewise, teachers with less expertise were tentative to take the initiative in the classroom and often deferred control to their more experienced co-teacher (Downey, 2016).

Throughout the interviews, a lack of co-planning time allotted to teachers was discussed. The absence of common planning time during the day contributed to feelings of inequity in the classroom as one of the teachers shouldered the responsibility for most of the instructional planning (Downey, 2016). To plan together, teachers were forced to collaborate during their personal time outside of the school day (Downey, 2016).

The third major theme that Downey (2016) found was the co-teaching relationship. The relationship between the two teachers who co-taught was paramount to the success of co-teaching. Inappropriate pairings led to negative feelings about co-teaching (Downey, 2016). In the study, teachers were assigned a co-teaching partner by the administration without their input. Throughout the interviews, it was clear that teachers believed that pairings of co-teachers should be made intentionally to ensure that their strengths and skills complement one another and bring the greatest benefit to students in the classroom (Downey, 2016).

Also, differing personalities were identified as an area that contributed to inappropriate teacher pairings. Teachers in Downey's (2016) study said they believed that if teachers had differing views on how to instruct students, it could hinder the overall instruction in the co-taught classroom. Each of these issues led to the ultimate need for trust and respect in a co-teaching relationship. Participants identified these two things as essential for co-teaching success (Downey, 2016).

Student Perceptions of Co-Teaching and Team Teaching

How students perceive co-teaching and team teaching plays an important role in its effectiveness. A student's individual experience with co-teaching may influence the perception of the practice and its effectiveness. The limited research available about

student perceptions of co-teaching indicates that there are discrepancies in how students perceive and respond to co-teaching.

Conderman (2011) collected feedback from students in co-taught classes. Students were administered a short survey at the end of the school year designed to gather their feedback on their perceptions of co-teaching. The survey contained 10 items that students were asked to rate their level of agreement from 1 (*strongly disagree*) to 5 (*strongly agree*) and were asked three open-ended questions. In the open-ended questions, students were asked to indicate their favorite part of having two teachers, their least favorite part of having two teachers, and what they wished the teachers would do in class. The survey was completed by 97 students (Conderman, 2011).

The survey results were favorable towards co-teaching. In 9 of 10 Likert-type items, over 50% of participants either agreed or strongly agreed with the statements about co-teaching (Conderman, 2011). The question with the lowest level of agreement was "Did you enjoy coming to this class more than typical non-co-taught classes?" (Conderman, 2011, p. 30). Only 49% of participants agreed or strongly agreed with this. Conderman (2011) attributed this result to the fact that the co-taught classes were more rigorous than some other of the participants' classes.

The highest item on the survey was "Did you feel you could ask the teachers questions more than in typical non-co-taught classes?" (Conderman, 2011, p. 30). Of the participants, 75% agreed or strongly agreed with that question. Another question on the survey was related to whether students learned more in their co-taught classes than non-co-taught classes. Of the study participants, 68% agreed or strongly agreed that they learned more in co-taught classes (Conderman, 2011).

On the open-ended questions on the survey, the most commonly identified aspect of co-teaching was the amount of help they received in a co-taught classroom as compared with a traditional classroom (Conderman, 2011). The second most common response by participants was that they learned more and had a better understanding of content in a co-taught classroom (Conderman, 2011). The negative aspect of co-teaching most identified by participants was that there was more discipline in the class since there were two teachers (Conderman, 2011). The participants in Conderman's (2011) study said they looked favorably upon co-teaching.

Embury and Kroeger (2012) conducted a study at a public, suburban middle school. Three seventh-grade students and four eighth-grade students participated in individual interviews. All participants were enrolled in a language arts class that was co-taught by a general education teacher and a special education teacher. The seventh-grade co-teaching team utilized the one teach, one assist model exclusively in their classroom. The general education teacher always led the instruction while the special education teacher occupied the assist role. In contrast, the eighth-grade team used a variety of co-teaching strategies, and the teacher roles were interchangeable between the general education teacher and the special education teacher (Embury & Kroeger, 2012).

In the student interviews, the participants were asked to describe the roles of both the general education and special education teachers, based on the jobs they performed in the classroom. Participants identified tasks in five areas: teach, re-teach, discipline, organize, and support (Embury & Kroeger, 2012). Overall, students mostly described the teach and re-teach roles as exhibited by the general education teacher and the discipline,

organize, and support roles as exhibited by the special education teacher (Embury & Kroeger, 2012).

The student interviews yielded a marked difference in perceptions between the seventh-grade and eighth-grade students. When the seventh-grade students described the co-teaching dynamic in their classrooms, they described the general education teacher as being the "real or regular teacher" and the special education teacher as being "not real or not valid as a teacher" (Embury & Kroeger, 2012, p. 107). One of the seventh-grade students interviewed described the general education teacher as "the head teacher, and she gets everything prepared and together" (Embury & Kroeger, 2012, p. 107). Another student described the special education teacher by saying "she's like a helper and she helps out on the *Daily Sponge* and things and people who need help" (Embury & Kroeger, 2012, p. 107). The seventh-grade teachers exclusively utilized the one teach, one assist model of co-teaching.

In contrast, the eighth-grade teachers varied their methods of co-teaching. Three of the four eighth-grade students interviewed described the special education teacher and the general education teacher as having the same job. All the eighth-grade students identified that the roles between the two teachers in the classroom were interchangeable (Embury & Kroeger, 2012). Although there was a difference in the perceptions of the teacher roles between the two grades, students from both grade levels indicated that they liked having two teachers in the classroom because it increased the level of assistance available to them during class (Embury & Kroeger, 2012).

Keeley, Brown, and Knapp (2017) evaluated the student experience in co-taught classrooms. Keeley et al. (2017) collected high school student feedback on all five co-

teaching methods. Co-teaching between a general education and a special education teacher was conducted over six weeks. The teacher teams implemented a different co-teaching method each week of the study for at least two 54-minute class periods. Students and teachers completed a survey that asked for their perceptions of classroom management, teaching model, teacher confidence, behavior, learning, student confidence, and teacher authority. The surveys were completed at the end of each week (Keeley et al., 2017). The participants in the study included 122 students and nine teachers (Keeley et al., 2017).

Overall, the survey results indicated that students did not recognize a change in classroom structure except when the teachers utilized the station teaching method. This method was clear to students because the structure was vastly different to students than the traditional structure of a secondary classroom (Keeley et al., 2017). The analysis for the interaction data between the students and the teachers indicated that the student responses remained consistent across the surveys while the teacher responses fluctuated. One teach, one assist was consistently ranked the highest by the students in all areas and ranked lowest by the teachers (Keeley et al., 2017). Student responses indicated that they felt the one teach, one assist model was beneficial to their learning and confidence in the classroom (Keeley et al., 2017).

In a review of the survey data, Keeley et al. (2017) indicated that the co-teaching model utilized may not be the reason for co-teaching problems. Many factors can contribute to unsuccessful co-teaching experiences, such as the structure of the classroom, perceived issues by the co-teachers, and not varying co-teaching models (Keeley et al., 2017). The student perspective, as shown through the survey data,

suggested that all co-teaching models have beneficial components and should be varied in their use in the classroom. A variation in the application of co-teaching models can enhance student experiences and yield positive outcomes (Keeley et al., 2017).

Student Achievement in Co-Taught and Team-Taught Classrooms

Co-teaching and team teaching change classroom instruction for students. One way to judge the effectiveness of these teaching methods is how they impact student achievement. The following literature explores the connection between co-teaching, team teaching, and student achievement.

Cotton (1982) conducted a research synthesis to examine the impact of interdisciplinary team teaching on student achievement. Her synthesis included 13 studies and three large-scale reviews conducted with students in intermediate grades and junior high. All studies involved team teaching between two teachers from different content areas. The results of the synthesis yielded mixed results. While some studies showed a significant difference in achievement levels between team-taught and traditional classrooms, an equal number of studies did not show a significant difference in achievement. Cotton's (1982) findings suggest that increased student achievement should not be the major driving force behind the implementation of team teaching.

A meta-analysis of student achievement and co-teaching was conducted by Murawski and Swanson (2001). Each of the studies included in the meta-analysis met the following criteria: co-teaching between a general education and special education teacher occurred, the teachers co-taught in the same physical space, co-planning took place between the teachers, student groups consisted of both general education and special education students, and the interventions lasted more than two weeks (Murawski

& Swanson, 2001). The studies included in Murawski and Swanson's (2001) meta-analysis included students enrolled in kindergarten through third grade, third through sixth grade, and ninth through twelfth grade.

Overall, Murawski and Swanson's study (2001) yielded an effect size of 0.40 suggesting that co-teaching has a moderately positive impact on achievement. However, Murawski and Swanson (2001) suggested that these results be cautiously interpreted because very few studies that tout co-teaching as an effective instructional model have experimental data to support this. Murawski and Swanson's (2001) meta-analysis included experimental data but had variability in what was measured and reported. Indicators of achievement levels utilized include math assessments, curriculum-based measurements, and standardized reading and math assessments.

The limited data from these measurements indicate that co-teaching does have a positive effect on student achievement. The largest impact of co-teaching was on reading and language arts with an effect size of 1.59, followed by math with an effect size of 0.45 (Murawski & Swanson, 2001). Despite the positive results shown in this study, the lack of experimental data in this area indicates a need for further research to be done on the impact of co-teaching on achievement.

A study conducted by Witcher and Feng (2010) involved a comparison of the effects of traditional solo teaching and co-teaching on math achievement in two fifth grade classrooms. The solo-taught classroom contained only general education students of varying abilities. The co-taught classroom contained both general education and special education students with varying abilities. The various ability levels in both classrooms were comparable. Witcher and Feng (2010) collected classroom pre-test and

post-test data from three-unit tests, standardized math test data, and a 120-day test for comparison. Data was collected from one school year.

Witcher and Feng (2010) hypothesized that students in the co-taught classroom would have higher levels of academic performance than students in the solo-taught classroom. Results showed that there was not a significant difference between the two groups (Witcher & Feng, 2010). However, the overall means for the group in the co-taught class were higher than the means in the solo-taught classroom. In nine out of ten scores, the co-taught group had a higher mean score. The only test in which the solo-taught group scored higher was the 120-day test (Witcher & Feng, 2010).

Although there was not a significant difference between the two groups, Witcher and Feng (2010) indicated several benefits of co-teaching. In the co-taught classroom, the special education teacher assisted students with keeping focused, taking notes, and answering questions. Students in the co-taught class benefited from the presence of two teachers with different teaching styles. The divergent teaching styles appealed to the various learning styles of students. Both special education and general education students benefited from the presence of a second teacher in the classroom (Witcher & Feng, 2010).

Summary

In Chapter 2, the histories of co-teaching and team teaching were discussed. The chapter explored the origins of both approaches, the rationale for their uses, and delineated the differences between co-teaching and team teaching. Both the benefits and challenges of co-teaching and team teaching were identified and discussed. Teacher perceptions and student perceptions of co-teaching and team teaching were presented in

the chapter. Finally, student achievement results for co-taught and team-taught classrooms were presented. This chapter included information from a variety of articles and studies.

The literature indicated that co-teaching and team teaching could be effective instructional methods under certain circumstances and with a variety of conditions met. There are several approaches to co-teaching or team teaching that can be implemented successfully. The research revealed that teachers and students perceive co-teaching and team teaching to have many positive benefits, overall. In contrast, however, the research did not suggest that co-teaching or team teaching have a significant positive or negative impact on student achievement. Chapter 3 includes the methods utilized in the current study.

Chapter 3

Methods

The first purpose of this study was to determine whether there is a difference in middle school humanities teachers' perceptions of planning efficiencies, grading efficiencies, classroom management processes, levels of student engagement, and instructional efficiencies between first and second semester of the 2017-2018 school year. The second purpose of this study was to determine whether there is a difference in self-reported levels of seventh and eighth-grade student engagement in the humanities classroom between first and second semesters of the 2017-2018 year. The final purpose of this study was to determine the extent to which there is a difference in the percentage of seventh and eighth-grade humanities students who met their projected MAP reading growth target and the percentage of those same students who met their projected MAP reading growth target the previous year. The following chapter includes the methodology used to address the research questions in the current study. This chapter is organized into the following sections: research design, selection of participants, measurement, data collection procedures, data analysis and hypothesis testing, and limitations.

Research Design

The current study was a quantitative, descriptive study. The independent variable measured in the current study was time of the year (first semester, second semester). The dependent variables measured were teacher perceptions of co-planning efficiencies, grading efficiencies, classroom management, instructional efficiencies; student perceptions of engagement; and the ability of students to attain their Reading MAP growth targets.

Selection of Participants

The population contained three subsamples: surveyed teachers, surveyed students, and students with NWEA MAP Growth Reading scores. Purposive sampling was utilized in the current study. Lunenburg and Irby (2008) defined purposive sampling as "selecting a sample based on the researcher's experience or knowledge of the group to be sampled" (p. 175).

The teachers surveyed in the current study included reading and social studies teachers who co-taught in a humanities classroom during the 2017-2018 year. Humanities teachers were included whether they taught at Middle School A during the 2016-2017 school year or were employed elsewhere. All humanities teachers had previous teaching experience before working at Middle School A and could compare their prior experiences to their experience with co-teaching a humanities course, which allowed teachers to compare their varying teaching experiences.

The surveyed students were the seventh and eighth-grade students from the 2017-2018 school year. These students were included in the current study because they had experienced separate reading and social studies courses during the previous school year, as well as the co-taught humanities course during the 2017-2018 year. The choice to include students who had experienced both course structures was intentional so that students could compare their experiences.

Students with reading scores from fall and spring 2016-2017 and fall and spring 2017-2018 were included in the data set. It was essential that participants had two years of Reading MAP data to ensure that scores could be compared from the separate reading and social studies instruction and the co-taught humanities instruction. Only seventh-

and eighth-grade students were included because sixth-grade students had not experienced separate reading and social studies instruction at the middle school level.

Measurement

The current study involved the use of two building-designed teacher surveys, two building-designed student surveys, and the NWEA MAP Growth Reading assessment. Building staff designed the surveys to gather feedback at the end of the first and second semesters the first year that the interdisciplinary humanities course was taught. The NWEA MAP Growth Reading assessment is a standardized, nationally normed assessment that measures student growth from fall to spring.

Teacher survey. The teacher survey contained 20 items (see Appendices A & B) and involved the use of Likert-type scales. Appendix A contains the teacher survey from the fall semester, and Appendix B contains the teacher survey from the spring semester. Fifteen of the twenty items were utilized in the current study. Survey items 10, 12, 13, 14, and 16 were not utilized for the current study. Survey items 2, 3, 6, and 18 measured teacher perceptions of planning efficiencies with a co-teacher. Item 2 instructed teachers to select a percentage of time spent co-planning during the Humanities PLC time. Item 3 instructed teachers to indicate a percentage of time that they can accomplish their goals during meetings. Both items 2 and 3 gave participants the following options: 0%-25%, 26%-50%, 51%-75%, and 76%-100%. Items 6 and 18 instructed teachers to indicate the level of agreement about whether they had adequate planning time with co-teachers during the week and whether co-teaching allowed teachers to draw upon one another's expertise. The options were *strongly disagree*, *disagree*, *agree*, and *strongly agree*.

Table 3 includes the survey item topics and the survey items, research questions, and hypotheses that are associated with each.

Items 7, 8, and 9 on the teacher survey addressed grading efficiencies and utilized a Likert-type scale of *strongly disagree* to *strongly agree*. The options were *strongly disagree, disagree, agree*, and *strongly agree*. Teachers were instructed to indicate whether they graded assignments as a team, if the team had a common grading method, and whether the team agreed on grades given to students. Item 19 addressed classroom management and was measured on a Likert-type scale of *strongly disagree, disagree, agree*, and *strongly agree*. This item instructed teachers to indicate whether co-teaching allowed them to draw upon the expertise of their co-teachers during the planning and implementation of classroom management processes.

Item 11 on the teacher survey involved the use of a Likert-type scale of *strongly disagree, disagree, agree*, and *strongly agree*. This item instructed teachers to indicate whether they noticed students are more engaged during student-centered lessons than teacher-centered lessons. Items 4, 5, 15, 17, and 20 addressed instructional efficiencies. These items utilized a Likert-type scale of *strongly disagree, disagree, agree*, and *strongly agree*. Item 4 instructed participants to indicate whether they felt their team accurately taught the Social Studies curriculum. Item 5 instructed participants to indicate whether they felt their team accurately taught the reading curriculum. Item 15 instructed participants to indicate if their team adjusted instruction based on student learning. Item 17 instructed participants to indicate whether co-teaching was an effective and efficient instructional strategy. Item 20 instructed participants to indicate whether their daily classroom instruction changed due to the Humanities approach and co-teaching.

Table 3

Teacher Survey Items Aligned with Research Questions and Hypotheses

Topic	Survey Items	Research Question	Hypotheses
Planning efficiencies	2, 3, 6, 18	1	1-4
Grading efficiencies	7, 8, 9	2	5-7
Classroom management	19	3	8
Student engagement	11	4	9
Instructional efficiencies	4, 5, 15, 17, 20	5	10-14

Student survey. The student survey contained nine items (see Appendices C & D). Appendix C contains the student survey administered in the fall semester, and Appendix D contains the student survey administered in the spring semester. Five of the nine items were utilized in the current study. Items 5, 6, 8, and 9 were not included in the current study. Each of the items used was measured on a Likert-type scale and addressed levels of student engagement in the humanities classroom. Item 1 asked participants to indicate the frequency they were interested in what they learned in Humanities. Item 2 asked participants to indicate the frequency they looked forward to attending humanities class, from *never* to *always*. Item 3 asked participants to indicate the frequency they paid attention in humanities class, from *never* to *always*. The options for each of these items were *never*, *some of the time*, *most of the time*, and *always*.

The remaining survey items used a Likert-type scale. Participants were instructed to indicate the level of agreement from *strongly disagree*, *disagree*, *agree*, and *strongly agree*. Item 4 instructed participants to indicate whether having two teachers and an open classroom kept their interest in humanities class. Item 7 instructed participants to

indicate whether they enjoyed the work in humanities class more than other classes when they collaborated with other students.

Table 4

Student Survey Items Aligned with Research Questions and Hypotheses

Topic	Survey Item	Research Question	Hypothesis
Interest in learning in humanities	1	6	15
Frequency students look forward to going to humanities	2	6	16
Frequency students pay attention in humanities	3	6	17
Indicate where two teachers and an open classroom kept student interest in humanities	4	6	18
Whether students enjoyed humanities class more than other classes, when collaborating with other students	7	6	19

To establish the content and construct validity for the surveys, an external panel was utilized since the surveys were created internally at Middle School A. The panel consisted of teachers and administrators from another middle school within the same district. The surveys were screened to ensure that the wording of the survey accurately represented what was being asked of participants. This panel was utilized because they did not participate in the study. The middle school from which this panel was chosen did not utilize the humanities model and, therefore, the panel offered an outside perspective on the survey questions. The panel recommended that an open-ended question be added to the teacher and student surveys in the spring semester to gather additional insight about

co-teaching. Based on this recommendation, an open-ended question was added to the surveys by Middle School A.

A reliability analysis was not needed because a scale was not constructed from the survey items. The researcher used single-item measurement.

> Most commonly used single-item measures can be divided into two categories: (a) those measuring self-reported facts . . . and (b) those measuring psychological constructs, e.g., aspects of personality . . . measuring the former with single items is common practice. However, using a single-item measure for the latter is considered to be a "fatal error" in research. If the construct being measured is sufficiently narrow or is unambiguous to the respondent, a single item may suffice. (Sackett & Larson, 1990, p. 631)

The individual items used in this research were self-reported facts that were sufficiently narrow and unambiguous. Therefore, reliability was not an issue for the measurement using this survey instrument.

NWEA MAP Growth Reading assessment. The NWEA MAP Growth Reading assessment is a nationally normed test designed to measure student growth in reading during one school year. The NWEA MAP Growth Reading assessment uses 2015 RIT Scale Norms that allow teachers to compare their students' test scores to other students' test scores who are in the same grade at a comparable stage of the school year (NWEA, 2015). Students are tested twice per year, fall and spring, in reading. The reading assessment measures students' ability to read and interpret informational texts, their knowledge of foundational skills and vocabulary, and literature comprehension. The assessment is computer-based and adjusts to each student individually, based on

performance. Students are asked a series of questions. Based on the accuracy of their response, the test automatically adjusts the degree of difficulty of the next question. Upon completion of the test, each student is assigned a RIT score. The RIT score is the measurement used to describe student performance on The MAP Reading assessment. RIT scores can range from 140 to 300 (NWEA, 2015).

The RIT score is nationally normed based on the scores of similarly aged students participating in the assessment around the country. Each item on the MAP Reading assessment has a RIT value associated with it. The RIT scores assigned to students have the same meaning in terms of ability (NWEA, 2004). RIT scores are measured on a continuum across grade levels, allowing teachers to track student progress over time. Based on a student's RIT score, a growth goal is assigned. This goal indicates how much a student should grow in reading in each school year (NWEA, 2004). The current study measured the variable reading growth status for seventh and eighth-grade students. Reading growth status has two categories, met goal and did not meet goal. It is constructed by comparing each student's observed score to his or her goal score and determining the frequency of students who met their projected growth target.

A study conducted by NWEA to establish the validity and reliability of the NWEA MAP assessment was published in 2004. The study indicated that the analysis of NWEA assessment results provided evidence of acceptable concurrent validity. The concurrent validity was measured by a Pearson's correlation. The number indicates how well a student's score on the Reading MAP assessment corresponds to a score on another established assessment that utilizes a different scoring scale (NWEA, 2004). Strong concurrent validity is indicated by a correlation of .8 or higher. The NWEA MAP was

compared to state assessments from several states to establish concurrent validity, as indicated in Table 5 (NWEA, 2004). The results of the comparison provide moderate to strong evidence that the assessment is valid.

Table 5

NWEA Reading MAP Concurrent Validity

Assessment	Coefficient	Grade 6	Grade 7	Grade 8
Colorado Student Assessment Program (CSAP)	*r*	.87	.85	.86
	N	7,388	7,119	7,150
Palmetto Achievement Challenge Tests (PACT)	*r*	.77	.78	.81
	N	1,832	2,040	1,968
Stanford Achievement Test, 9th Edition (SAT9)	*r*	.86	.87	.87
	N	3,832	3,885	3,557

Note. Adapted from *Reliability and Validity Estimates* by NWEA, 2004, http://www.nmsa.org/AboutNMSA/PositionStatements/CurriculumIntegration/tabid/282/Default.aspx

The NWEA MAP Growth Reading assessment shows evidence of acceptable reliability. The internal consistency of the assessment was tested using a marginal reliability coefficient (NWEA, 2004). The test-retest reliability for the NWEA Reading MAP assessment was high. In 2002 when the NWEA Norms Test Study was completed, all coefficients for test-retest reliability fell between .85 and .9. Also, the number of subjects included in the sample was large. See Table 6 for specific information.

Table 6

NWEA Reading MAP Test-Retest Reliability

Time period	Coefficient	Grade 6	Grade 7	Grade 8
Fall to Spring	*r*	.91	.91	.91
	N	52,257	52,804	46,925
Spring to Spring	*r*	.91	.90	.89
	N	54,207	44,580	10,684

Note. Adapted from *Reliability and Validity Estimates* by NWEA, 2004, http://www.nmsa.org/AboutNMSA/PositionStatements/CurriculumIntegration/tabid/282/Default.aspx

Data Collection Procedures

The data utilized in the current study was archival data from Middle School A. A request to utilize district data and conduct research within the district was submitted to the director of professional learning. District B approved the use of the archival data on September 26, 2018 (see Appendix E). A request to conduct the study was sent to the Baker University Institutional Review Board (IRB). The study was approved by Baker University on November 12, 2018 (see Appendix F). The data was collected.

NWEA MAP Growth Reading data was utilized from fall 2016, spring 2017, fall 2017, and spring 2018. Once permission to utilize the archived data was obtained from District B and Baker University, the researcher sorted the MAP scores to ensure that only students with reading scores from fall and spring 2016-2017 and fall and spring 2017-2018 were included in the data set. This data is stored online through NWEA databases and is archived with District B. To prepare for the analysis of the data collected from District B, the survey data and MAP scores were entered as separate data files into IBM

SPSS Statistics Faculty Pack 25 for Windows for analysis. The following section, data analysis and hypothesis testing, includes the specific details of the hypothesis testing.

Data Analysis and Hypothesis Testing

Two-sample *t* tests and chi-square tests for differences among proportions were conducted to test the differences in teacher and student perceptions of co-teaching between first and second semester. Chi-square tests of differences among proportions were conducted to test whether a statistically significant number of students met their projected Reading MAP growth target. Below are the research questions, the hypotheses for each, and the associated hypothesis testing for each.

RQ1. To what extent is there a difference in middle school humanities teachers' perceptions about planning efficiencies with their co-teacher between first semester and second semester of the 2017-2018 school year?

H1. There is a statistically significant difference in the amount of time middle school humanities teachers perceive their ideas are listened to by co-workers during PLC meetings between first and second semester of the 2017-2018 school year.

A chi-square test for differences among proportions was conducted to test H1. The observed frequencies were compared to the frequencies expected by chance. The level of significance was set at .05.

H2. There is a statistically significant difference in the amount of time that middle school humanities teachers perceive that their PLC can follow an agenda and accomplish goals between first and second semester of the 2017-2018 school year.

A chi-square test for differences among proportions was conducted to test H2. The observed frequencies were compared to the frequencies expected by chance. The level of significance was set at .05.

H3. There is a statistically significant difference in the perception of middle school humanities teachers about whether there is an adequate amount of time to plan as a team each week between first and second semester of the 2017-2018 school year.

H4. There is a statistically significant difference in the belief of middle school humanities teachers that co-teaching allows teachers to draw upon one another's expertise while planning between first and second semester of the 2017-2018 school year.

To test H3 and H4, two two-sample *t* tests were conducted. For each hypothesis test, the two sample means, first-semester teacher perceptions and second-semester teacher perceptions, were compared. The level of significance was set at .05.

RQ2. To what extent is there a difference in middle school Humanities teachers' perceptions about grading efficiencies with their co-teacher between first semester and second semester of the 2017-2018 school year?

H5. There is a statistically significant difference in middle school Humanities teachers' perceptions about whether their humanities team grades assignments together between first semester and second semester of the 2017-2018 school year.

H6. There is a statistically significant difference in middle school humanities teachers' perceptions about whether their humanities team has a common method for grading assignments between first and second semester of the 2017-2018 school year.

H7. There is a statistically significant difference in middle school humanities teachers' perceptions about whether their humanities team agrees on the grades given to students between first and second semester of the 2017-2018 school year.

To test H5-H7, three two-sample *t* tests were conducted. For each hypothesis test, the two sample means, first-semester teacher perceptions and second-semester teacher perceptions, were compared. The level of significance was set at .05.

RQ3. To what extent is there a difference in middle school Humanities teachers' perceptions about the development and implementation of classroom management processes with their co-teacher between first semester and second semester of the 2017-2018 school year?

H8. There is a statistically significant difference in middle school humanities teachers' perceptions about the ability to draw upon their co-teacher's expertise of planning and implementation of classroom management processes between first and second semester of the 2017-2018 school year.

A two-sample *t* test was conducted to test H8. The two sample means, teacher perceptions first semester and second semester, were compared. The level of significance was set at .05.

RQ4. To what extent is there a difference in middle school humanities teachers' perceptions of levels of student engagement in the humanities classroom between first and second semester of the 2017-2018 school year?

H9. There is a statistically significant difference in middle school humanities teachers' perceptions of levels of student engagement in student-centered lessons versus teacher-directed lessons between first and second semester of the 2017-2018 school year.

A two-sample *t* test was conducted to test H9. The two sample means, teacher perceptions first and second semester, were compared. The level of significance was set at .05.

RQ5. To what extent is there a difference in middle school humanities teachers' perceptions about instructional efficiencies with their co-teacher between first semester and second semester of the 2017-2018 school year?

H10. There is a statistically significant difference in middle school humanities teacher's perceptions about whether they were accurately teaching the social studies curriculum between first semester and second semester of the 2017-2018 school year.

H11. There is a statistically significant difference in middle school humanities teacher's perceptions about whether they were accurately teaching the reading curriculum between first semester and second semester of the 2017-2018 school year.

H12. There is a statistically significant difference in middle school humanities teacher's perceptions about whether their team adjusts instruction based upon student learning between first semester and second semester of the 2017-2018 school year.

H13. There is a statistically significant difference in middle school humanities teacher's perceptions about whether co-teaching is an effective and efficient instructional approach between first semester and second semester of the 2017-2018 school year.

H14. There is a statistically significant difference in middle school humanities teacher's perceptions about whether their daily classroom instructional approach has changed due to the humanities approach and co-teaching between first and second semester of the 2017-2018 school year.

To test H10-H14, five two-sample *t* tests were conducted. For each hypothesis test, the two sample means, first-semester teacher perceptions and second-semester teacher perceptions, were compared. The level of significance was set at .05.

RQ6. To what extent is there a difference in seventh and eighth-grade students' self-reported levels of engagement in the humanities classroom between first and second semester of the 2017-2018 school year?

H15. There is a statistically significant difference in student levels of interest in what was learned in humanities class between first and second semester of the 2017-2018 school year.

A chi-square test for differences among proportions was conducted to test H15. The observed frequencies were compared to the frequencies expected by chance. The level of significance was set at .05.

H16. There is a statistically significant difference in the amount of time students report looking forward to going to humanities class between first and second semester of the 2017-2018 school year.

A chi-square test for differences among proportions was conducted to test H16. The observed frequencies were compared to the frequencies expected by chance. The level of significance was set at .05.

H17. There is a statistically significant difference in the amount of time that students indicate they pay attention in humanities class between first and second semester of the 2017-2018 school year.

A chi-square test for differences among proportions was conducted to test H17. The observed frequencies were compared to the frequencies expected by chance. The level of significance was set at .05.

H18. There is a statistically significant difference in whether students agree that having two teachers and an open classroom in humanities keeps their interest between first and second semester of the 2017-2018 school year.

H19. There is a statistically significant difference in the level that students agree that they enjoy humanities more than other classes when they collaborate with other students between first and second semester of the 2017-2018 school year.

To test H18 and H19, 2 two-sample *t* tests were conducted. The two sample means, levels of student engagement first and second semester, were compared. The level of significance was set at .05.

RQ7. To what extent is there a difference in the percentage of seventh-grade humanities students who met their projected reading MAP growth target in the 2017-2018 school year and the percentage of those same students who met their projected MAP reading growth target the previous year on the sixth grade MAP in the 2016-2017 school year?

H20. There is a statistically significant difference in the percentage of seventh-grade students who met their projected reading MAP growth target in the 2017-2018 school year and the percentage of the same students who met their projected MAP reading growth target the previous year on the sixth grade MAP in the 2016-2017 school year.

A chi-square test for differences among proportions was conducted to test H20. The observed frequencies were compared to those expected by chance. The level of significance was set at .05.

RQ8. To what extent is there a difference in the percentage of eighth-grade Humanities students who met their projected reading MAP growth target in the 2017-2018 school year and the percentage of those same students who met their projected MAP reading growth target the previous year on the seventh grade MAP in the 2016-2017 school year?

H21. There is a statistically significant difference in the percentage of eighth-grade students who met their projected reading MAP growth target in the 2017-2018 school year and the percentage of the same students who met their projected MAP reading growth target the previous year on the seventh grade MAP in the 2016-2017 school year.

A chi-square test for differences among proportions was conducted to test H21. The observed frequencies were compared to those expected by chance. The level of significance was set at .05.

Limitations

Lunenburg and Irby (2008) defined limitations as "factors that may influence the interpretation of the findings or the generalizability of the results…and are not under the control of the researcher" (p. 133). The following were the limitations of the current study.

1. Not all eligible teachers and students at Middle School A elected to complete the survey. Feedback was only gathered from individuals who opted to complete the survey.
2. A number of factors can affect student performance on the NWEA MAP assessment that are outside the control of the researcher. These factors include prior knowledge, the students' effort level on the assessment, and the setting and time of day in which the assessment was administered to students.
3. The co-taught humanities course included in the current study was in its first year of implementation at the time that the data were collected. Therefore, only one year of survey data is included in the data set.

Summary

In Chapter 3, the research design for the current study was described. The selection of participants was described. Detailed information on the forms of measurement used in the current study and data collection procedures were presented in chapter three. The methodology for testing and data analysis was explained, and the chapter concluded with a listing of the study's limitations. In Chapter 4, the results of the current study are included.

Chapter 4

Results

The first purpose of this study was to determine whether there was a difference in the perceptions of middle school humanities teachers of planning efficiencies, grading efficiencies, classroom management processes, and levels of student engagement between first and second semester of the 2017-2018 school year. The second purpose of this study was to determine whether there was a difference in self-reported levels of seventh and eighth-grade student engagement in the humanities classroom between first and second semesters. The final purpose of this study was to determine the extent to which there was a difference in the percentage of seventh and eighth-grade humanities students who met their projected MAP reading growth target and the percentage of those same students who met their projected MAP reading growth target the previous year. Included in the previous chapters were the background, literature review, research questions and hypotheses, and research design and methodologies. Presented in this chapter are the results of the hypothesis testing.

Hypothesis Testing

In the hypothesis testing, chi-square tests for differences among proportions were conducted to test for differences in the frequency of responses on the student and teacher surveys, as well as the frequency with which students met their projected growth goal on the NWEA Reading MAP assessment. Two-sample *t* tests were conducted to compare student and teacher survey responses from first and second semester. Each research question is stated, followed by the related hypothesis or hypotheses, and the results of the hypothesis testing.

RQ1. To what extent is there a difference in middle school humanities teachers' perceptions about planning efficiencies with their co-teacher between first semester and second semester of the 2017-2018 school year?

H1. There is a statistically significant difference in the amount of time middle school humanities teachers perceive their ideas are listened to by co-workers during PLC meetings between first and second semester of the 2017-2018 school year.

A chi-square test for differences among proportions was conducted to test H1. The observed frequencies were compared to the frequencies expected by chance. The level of significance was set at .05.

The results of the chi-square test for differences among proportions indicated there were no statistically significant differences, $\chi^2 = 4.345$, $df = 3$, $p = .227$. See Table 7 for the observed and expected frequencies. There is no evidence for a difference in the amount of time middle school humanities teachers perceive their ideas are listened to by co-workers during PLC meetings between first and second semester. H1 is not supported.

Table 7

Observed and Expected Frequencies for H1

Semester	Amount of Time (%)	Observed	Expected
First			
	0-25	0	0.6
	26-50	2	2.3
	51-75	6	4.0
	76+	5	6.2
Second			
	0-25	1	0.4
	26-50	2	1.7
	51-75	1	3.0
	76+	6	4.8

H2. There is a statistically significant difference in the amount of time that middle school humanities teachers perceive that their PLC can follow an agenda and accomplish goals between first and second semester of the 2017-2018 school year.

A chi-square test for differences among proportions was conducted to test H2. The observed frequencies were compared to the frequencies expected by chance. The level of significance was set at .05.

The results of the chi-square test for differences among proportions indicated there were no statistically significant differences, $\chi^2 = 0.969$, $df = 3$, $p = .809$. See Table 8 for the observed and expected frequencies. There is no evidence for a difference in the

amount of time middle school humanities teachers perceive that their PLC can follow an agenda and accomplish goals between first and second semester. H2 is not supported.

Table 8

Observed and Expected Frequencies for H2

Semester	Amount of Time (%)	Observed	Expected
First			
	0-25	1	0.5
	26-50	4	3.8
	51-75	4	4.4
	76+	3	3.3
Second			
	0-25	0	0.5
	26-50	3	3.2
	51-75	4	3.6
	76+	3	2.7

H3. There is a statistically significant difference in the perception of middle school humanities teachers about whether there is an adequate amount of time to plan as a team each week between first and second semester of the 2017-2018 school year.

To test H3, a two-sample *t* test was conducted. The two sample means, first-semester teacher perceptions and second-semester teacher perceptions, were compared. The level of significance was set at .05.

The results of the analysis indicated there was not a statistically significant difference between the two means, $t = -0.477$, $df = 21$, $p = .638$. See Table 9 for the

descriptive statistics for this analysis. There is no evidence for a difference in the perception of middle school humanities teachers about whether there is an adequate amount of time to plan as a team each week between first and second semester. H3 was not supported.

Table 9

Descriptive Statistics for the Hypothesis Testing of H3

Semester	*N*	*M*	*SD*
First	13	2.308	0.855
Second	10	2.500	1.080

H4. There is a statistically significant difference in the belief of middle school humanities teachers that co-teaching allows teachers to draw upon one another's expertise while planning between first and second semester of the 2017-2018 school year.

To test H4, a two-sample *t* test was conducted. The two sample means, teacher perceptions first semester and second semester, were compared. The level of significance was set at .05.

The results of the analysis indicated there was not a statistically significant difference between the two means, $t = 1.535$, $df = 21$, $p = .140$. See Table 10 for the descriptive statistics for this analysis. There is no evidence for a difference in the belief of middle school humanities teachers that co-teaching allows teachers to draw upon one another's expertise while planning between first and second semester. H4 was not supported.

Table 10

Descriptive Statistics for the Hypothesis Testing of H4

Semester	*N*	*M*	*SD*
First	13	3.615	0.650
Second	10	3.000	1.247

RQ2. To what extent is there a difference in middle school Humanities teachers' perceptions about grading efficiencies with their co-teacher between first semester and second semester of the 2017-2018 school year?

H5. There is a statistically significant difference in middle school Humanities teachers' perceptions about whether their humanities team grades assignments together between first semester and second semester of the 2017-2018 school year.

To test H5, a two-sample *t* test was conducted. The two sample means, teacher perceptions first semester and second semester, were compared. The level of significance was set at .05.

The results of the analysis indicated there was not a statistically significant difference between the two means, $t = 0.819$, $df = 21$, $p = .422$. See Table 11 for the descriptive statistics for this analysis. There is no evidence for a difference in the belief of middle school humanities about whether their humanities team grades assignments together between first and second semester. H5 was not supported.

Table 11

Descriptive Statistics for the Hypothesis Testing of H5

Semester	*N*	*M*	*SD*
First	13	2.308	0.947
Second	10	2.000	0.817

H6. There is a statistically significant difference in middle school humanities teachers' perceptions about whether their humanities team has a common method for grading assignments between first and second semester of the 2017-2018 school year.

To test H6, a two-sample *t* test was conducted. The two sample means, teacher perceptions first semester and second semester, were compared. The level of significance was set at .05.

The results of the analysis indicated there was not a statistically significant difference between the two means, $t = 0.490$, $df = 21$, $p = .629$. See Table 12 for the descriptive statistics for this analysis. There is no evidence for a difference in the perception of middle school humanities teachers about whether their humanities team has a common method for grading assignments between first and second semester. H6 was not supported.

Table 12

Descriptive Statistics for the Hypothesis Testing of H6

Semester	*N*	*M*	*SD*
First	13	3.077	0.494
Second	10	3.000	0.000

H7. There is a statistically significant difference in middle school humanities teachers' perceptions about whether their humanities team agrees on the grades given to students between first and second semester of the 2017-2018 school year.

To test H7, a two-sample *t* test was conducted. The two sample means, teacher perceptions first semester and second semester, were compared. The level of significance was set at .05.

The results of the analysis indicated there was not a statistically significant difference between the two means, $t = 1.291$, $df = 21$, $p = .211$. See Table 13 for the descriptive statistics for this analysis. There is no evidence for a difference in the middle school humanities teachers' perceptions about whether their humanities team agrees on the grades given to students between first and second semester. H7 was not supported.

Table 13

Descriptive Statistics for the Hypothesis Testing of H7

Semester	*N*	*M*	*SD*
First	13	3.154	0.555
Second	10	2.900	0.316

RQ3. To what extent is there a difference in middle school Humanities teachers' perceptions about the development and implementation of classroom management processes with their co-teacher between first semester and second semester of the 2017-2018 school year?

H8. There is a statistically significant difference in middle school humanities teachers' perceptions about the ability to draw upon their co-teacher's expertise of

planning and implementation of classroom management processes between first and second semester.

A two-sample *t* test was conducted to test H8. The two sample means, teacher perceptions first semester and second semester, were compared. The level of significance was set at .05.

The results of the analysis indicated there was not a statistically significant difference between the two means, $t = 1.405$, $df = 21$, $p = .175$. See Table 14 for the descriptive statistics for this analysis. There is no evidence of a difference in the middle school humanities teachers' perceptions about the ability to draw upon their co-teacher's expertise of planning and implementation of classroom management processes between first and second semester. H8 was not supported.

Table 14

Descriptive Statistics for the Hypothesis Testing of H8

Semester	*N*	*M*	*SD*
First	13	3.615	0.650
Second	10	3.100	1.100

RQ4. To what extent is there a difference in middle school humanities teachers' perceptions of levels of student engagement in the Humanities classroom between first and second semester of the 2017-2018 school year?

H9. There is a statistically significant difference in middle school humanities teachers' perceptions of levels of student engagement in student-centered lessons versus teacher-directed lessons between first and second semester.

A two-sample *t* test was conducted to test H9. The two sample means, teacher perceptions first and second semester, were compared. The level of significance was set at .05.

The results of the analysis indicated there was not a statistically significant difference between the two means, $t = 1.401$, $df = 21$, $p = .176$. See Table 15 for the descriptive statistics for this analysis. There is no evidence for a difference in the middle school humanities teachers' perceptions of levels of student engagement in student-centered lessons versus teacher-directed lessons in the humanities classroom between first and second semester. H9 was not supported.

Table 15

Descriptive Statistics for the Hypothesis Testing of H9

Semester	*N*	*M*	*SD*
First	13	3.385	0.180
Second	10	2.800	1.317

RQ5. To what extent is there a difference in middle school humanities teachers' perceptions about instructional efficiencies with their co-teacher between first semester and second semester of the 2017-2018 school year?

H10. There is a statistically significant difference in middle school humanities teacher's perceptions about whether they were accurately teaching the social studies curriculum between first semester and second semester of the 2017-2018 school year.

A two-sample *t* test was conducted to test H10. The two sample means, teacher perceptions first and second semester, were compared. The level of significance was set at .05.

The results of the analysis indicated there was not a statistically significant difference between the two means, $t = 1.068$, $df = 20$, $p = .298$. See Table 16 for the descriptive statistics for this analysis. There is no evidence for a difference in the middle school humanities teachers' perceptions about whether they were accurately teaching the social studies curriculum between first semester and second semester. H10 was not supported.

Table 16

Descriptive Statistics for the Hypothesis Testing of H10

Semester	*N*	*M*	*SD*
First	12	3.500	0.522
Second	10	3.200	0.789

H11. There is a statistically significant difference in middle school humanities teacher's perceptions about whether they were accurately teaching the reading curriculum between first semester and second semester of the 2017-2018 school year.

A two-sample *t* test was conducted to test H11. The two sample means, teacher perceptions first and second semester, were compared. The level of significance was set at .05.

The results of the analysis indicated there was not a statistically significant difference between the two means, $t = 1.271$, $df = 21$, $p = .218$. See Table 17 for the descriptive statistics for this analysis. There is no evidence for a difference in the middle school humanities teachers' perceptions about whether they were accurately teaching the reading curriculum between first semester and second semester. H11 was not supported.

Table 17

Descriptive Statistics for the Hypothesis Testing of H11

Semester	*N*	*M*	*SD*
First	13	2.539	0.776
Second	10	2.100	0.876

H12. There is a statistically significant difference in middle school humanities teacher's perceptions about whether their team adjusts instruction based upon student learning between first semester and second semester of the 2017-2018 school year.

A two-sample *t* test was conducted to test H12. The two sample means, teacher perceptions first and second semester, were compared. The level of significance was set at .05.

The results of the analysis indicated there was not a statistically significant difference between the two means, $t = 0.457$, $df = 21$, $p = .653$. See Table 18 for the descriptive statistics for this analysis. There is no evidence for a difference in the middle school humanities teachers' perceptions about whether their team adjusts instruction based upon student learning between first semester and second semester. H12 was not supported.

Table 18

Descriptive Statistics for the Hypothesis Testing of H12

Semester	*N*	*M*	*SD*
First	13	3.615	0.506
Second	10	3.500	0.707

H13. There is a statistically significant difference in middle school humanities teacher's perceptions about whether co-teaching is an effective and efficient instructional approach between first semester and second semester of the 2017-2018 school year.

A two-sample *t* test was conducted to test H13. The two sample means, teacher perceptions first and second semester, were compared. The level of significance was set at .05.

The results of the analysis indicated there was not a statistically significant difference between the two means, $t = 1.550$, $df = 21$, $p = .136$. See Table 19 for the descriptive statistics for this analysis. There is no evidence for a difference in the middle school humanities teachers' perceptions about whether co-teaching is an effective and efficient instructional approach between first semester and second semester. H13 was not supported.

Table 19

Descriptive Statistics for the Hypothesis Testing of H13

Semester	*N*	*M*	*SD*
First	13	3.539	0.776
Second	10	2.900	1.197

H14. There is a statistically significant difference in middle school humanities teacher's perceptions about whether their daily classroom instructional approach has changed due to the humanities approach and co-teaching between first and second semester of the 2017-2018 school year.

A two-sample *t* test was conducted to test H14. The two sample means, teacher perceptions first and second semester, were compared. The level of significance was set at .05.

The results of the analysis indicated there was not a statistically significant difference between the two means, $t = -0.930$, $df = 21$, $p = .363$. See Table 20 for the descriptive statistics for this analysis. There is no evidence for a difference in the middle school humanities teachers' perceptions about whether their daily classroom instructional approach has changed due to the humanities approach and co-teaching between first and second semester. H14 was not supported.

Table 20

Descriptive Statistics for the Hypothesis Testing of H14

Semester	*N*	*M*	*SD*
First	13	3.615	0.506
Second	10	3.800	0.422

RQ6. To what extent is there a difference in seventh and eighth-grade students' self-reported levels of engagement in the humanities classroom between first and second semester of the 2017-2018 school year?

H15. There is a statistically significant difference in student levels of interest in what was learned in humanities class between first and second semester of the 2017-2018 school year.

A chi-square test for differences among proportions was conducted to test H15. The observed frequencies were compared to the frequencies expected by chance. The level of significance was set at .05.

The results of the analysis indicated a statistically significant difference, $\chi^2 = 44.120$, $df = 3$, $p = .000$. On the first semester survey, students tended to respond *always* ($n = 31$) more than expected by chance ($n = 23.4$) and *most of the time* ($n = 140$) more than expected by chance ($n = 113.4$). On the second semester, survey students tended to respond *some of the time* ($n = 109$) more than expected by chance ($n = 84.4$) and *never* ($n = 25$) more than expected by chance ($n = 15.4$). There is a difference in student levels of interest in what was learned in humanities class between first and second semester. H15 was supported. The effect size for this analysis, as evidenced by Cramer's V = .303, indicated that approximately 30% of the variability in student responses can be attributed to the semester the survey was administered. According to Cohen (1988), this provides evidence for a large effect of semester on student levels of interest of what was learned in humanities class.

Table 21

Observed and Expected Frequencies for H15

Semester	Amount of Time Interested	Observed	Expected
First			
	Always	31	23.4
	Most of the Time	140	113.4
	Some of the Time	111	135.6
	Never	15	24.6
Second			
	Always	7	14.6
	Most of the Time	44	70.6
	Some of the Time	109	84.4
	Never	25	15.4

H16. There is a statistically significant difference in the amount of time students report looking forward to going to humanities class between first and second semester of the 2017-2018 school year.

A chi-square test for differences among proportions was conducted to test H16. The observed frequencies were compared to the frequencies expected by chance. The level of significance was set at .05.

The results of the analysis indicated a statistically significant difference, $\chi^2 = 24.671$, $df = 3$, $p = .000$. On the first semester survey, students tended to respond *always* ($n = 40$) more than expected by chance ($n = 31.4$) and *most of the time* ($n = 104$) more than expected by chance ($n = 90.6$). On the second semester survey, students

tended to respond *some of the time* (*n* = 95) more than expected by chance (*n* = 86.0) and *never* (*n* = 36) more than expected by chance (*n* = 23.0). There is a difference in the amount of time students report looking forward to going to humanities class between first and second semester. H16 was supported. The effect size for this analysis, as evidenced by Cramer's V = .226, indicated that approximately 23% of the variability in student responses can be attributed to the semester the survey was administered. According to Cohen (1988), this provides evidence for a medium to large effect of semester on the amount of time students look forward to going to humanities class.

Table 22

Observed and Expected Frequencies for H16

Semester	Variable 2	Observed	Expected
First			
	Always	40	31.4
	Most of the Time	104	90.6
	Some of the Time	129	138.0
	Never	24	37.0
Second			
	Always	11	19.6
	Most of the Time	43	56.4
	Some of the Time	95	86.0
	Never	36	23.0

H17. There is a statistically significant difference in the amount of time that students indicate they pay attention in humanities class between first and second semester of the 2017-2018 school year.

A chi-square test for differences among proportions was conducted to test H17. The observed frequencies were compared to the frequencies expected by chance. The level of significance was set at .05.

The results of the analysis indicated a statistically significant difference, $\chi^2 = 22.347$, $df = 3$, $p = .000$. On the first semester survey, students tended to respond *always* ($n = 100$) more than expected by chance ($n = 81.3$). On the second semester survey, students tended to respond *most of the time* ($n = 107$) more than expected by chance ($n = 98.3$) and *some of the time* ($n = 39$) more than expected by chance ($n = 33.0$) and *never* ($n = 7$) more than expected by chance ($n = 3.1$). There is a difference in the amount of time that students indicate they pay attention in humanities class between first and second semester. H17 was supported. The effect size for this analysis, as evidenced by Cramer's V = .215, indicated that approximately 22% of the variability in student responses can be attributed to the semester the survey was administered. According to Cohen (1988), this provides evidence for a medium to large effect of semester on the amount of time that students indicate they pay attention in humanities class.

Table 23

Observed and Expected Frequencies for H17

Semester	Time Attention Paid in Class	Observed	Expected
First			
	Always	100	81.3
	Most of the Time	149	157.7
	Some of the Time	47	53.0
	Never	1	4.9
Second			
	Always	32	50.7
	Most of the Time	107	98.3
	Some of the Time	39	33.0
	Never	7	3.1

H18. There is a statistically significant difference in whether students agree that having two teachers and an open classroom in humanities keeps their interest between first and second semester of the 2017-2018 school year.

To test H18, a two-sample *t* test was conducted. The two sample means were compared. The level of significance was set at .05.

The results of the analysis indicated a statistically significant difference between the means, $t = 4.294$, $df = 480$, $p = .000$. See Table 24 for the descriptive statistics for this analysis. There is a difference in whether students agree that having two teachers and an open classroom in humanities keeps their interest between first and second semester. Students' average agreement first semester ($M = 2.805$) was higher than their average

agreement second semester (*M* = 3.138). H18 was supported. The effect size for this comparison, as measured by Cohen's *d*, indicated the two means were .16 standard deviations apart. According to Cohen (1988), this provides evidence for a small effect of semester on whether students agree that having two teachers and an open classroom keeps their interest in humanities class.

Table 24

Descriptive Statistics for the Hypothesis Testing of H18

Semester	*N*	*M*	*SD*
First	297	2.805	0.759
Second	185	2.481	0.873

H19. There is a statistically significant difference in the level that students agree that they enjoy humanities more than other classes when they collaborate with other students between first and second semester of the 2017-2018 school year.

To test H19, a two-sample *t* test was conducted. The two sample means were compared. The level of significance was set at .05.

The results of the analysis indicated a statistically significant difference between the means, $t = 4.066$, $df = 480$, $p = .000$. See Table 25 for the descriptive statistics for this analysis. There is a difference in whether students agree that they enjoy humanities more than other classes when they collaborate with other students between first and second semester. Students' average agreement first semester (*M* = 3.138) was higher than their average agreement second semester (*M* = 2.832). H19 was supported. The effect size for this comparison, as measured by Cohen's *d*, indicated the two means were .16 standard deviations apart. According to Cohen (1988), this provides evidence for a

small effect of semester on whether students agree that they enjoy humanities class more than other classes when they collaborate with other students.

Table 25

Descriptive Statistics for the Hypothesis Testing of H19

Semester	*N*	*M*	*SD*
First	297	3.138	0.804
Second	185	2.832	0.800

RQ7. To what extent is there a difference in the percentage of seventh-grade humanities students who met their projected reading MAP growth target in the 2017-2018 school year and the percentage of those same students who met their projected MAP reading growth target the previous year on the sixth grade MAP in the 2016-2017 school year?

H20. There is a statistically significant difference in the percentage of seventh-grade students who met their projected reading MAP growth target in the 2017-2018 school year and the percentage of the same students who met their projected MAP reading growth target the previous year on the sixth grade MAP in the 2016-2017 school year.

A chi-square test for differences among proportions was conducted to test H20. The observed frequencies were compared to those expected by chance. The level of significance was set at .05.

The results of the chi-square test for differences among proportions indicated there were no statistically significant differences, $\chi^2 = 0.326$, $df = 1$, $p = .568$. See Table 26 for the observed and expected frequencies. There is no evidence for a difference in

the percentage of seventh-grade students who met their projected Reading MAP growth target and the percentage of the same students who met their projected MAP reading growth target the previous year on the sixth grade MAP. H20 is not supported.

Table 26

Observed and Expected Frequencies for H20

School Year	6th to 7th Growth Goal	Observed	Expected
2016-17			
	Met	64	78
	Did not meet	62.4	79.6
2017-18			
	Met	16	24
	Did not meet	17.6	22.4

RQ8. To what extent is there a difference in the percentage of eighth-grade Humanities students who met their projected reading MAP growth target in the 2017-2018 school year and the percentage of those same students who met their projected MAP reading growth target the previous year on the seventh grade MAP in the 2016-2017 school year?

H21. There is a statistically significant difference in the percentage of eighth-grade students who met their projected reading MAP growth target in the 2017-2018 school year and the percentage of the same students who met their projected MAP reading growth target the previous year on the seventh grade MAP in the 2016-2017 school year.

A chi-square test for differences among proportions was conducted to test H21. The observed frequencies were compared to those expected by chance. The level of significance was set at .05.

The results of the chi-square test for differences among proportions indicated there were no statistically significant differences, $\chi^2 = 1.133$, $df = 1$, $p = .287$. See Table 27 for the observed and expected frequencies. There is no evidence for a difference in the percentage of eighth-grade students who met their projected Reading MAP growth target and the percentage of the same students who met their projected MAP reading growth target the previous year on the seventh grade MAP. H21 is not supported.

Table 27

Observed and Expected Frequencies for H21

School Year	7th to 8th Growth Goal	Observed	Expected
2016-17			
	Met	56	44
	Did not meet	59.6	40.4
2017-18			
	Met	56	32
	Did not meet	52.4	35.6

Summary

The results of the data analysis for each of the eight research questions of the study were presented in this chapter. Review and analysis of the eight research questions followed. Chapter 5 includes a study summary, findings related to the literature, and the conclusions.

Chapter 5

Interpretation and Recommendations

The purpose of this study was to determine if there was a difference in teacher perceptions of co-teaching between first and second semester of the 2017-2018 school year, if there was a difference in student perceptions of co-teaching between first and second semester of the 2017-2018 school year, and whether students met their reading MAP growth goal in 2016-2017 and 2017-2018. Chapter 5 summarizes the information in chapters 1 through 4 of the current study. This chapter includes a study summary, findings related to the literature, and conclusions.

Study Summary

There are numerous instructional approaches utilized in classrooms at the middle school level. Of the instructional approaches, the use of an interdisciplinary curriculum has been cited to help middle school students develop future-ready skills (Beane, 1991). Interdisciplinary instruction is often delivered in the form of co-teaching or team teaching. This approach allows teachers to draw upon the strengths of their fellow teachers and best meet the needs of all students (Cotton, 1982). In the current study, Middle School A implemented an interdisciplinary, co-taught humanities course to increase student engagement and enhance NWEA Reading MAP scores. This section provides an overview of the problem, the purpose statement and research questions, a review of the methodology, and the major findings of the study.

Overview of the problem. As the world changes and the opportunities available to students after high school evolve, the way that teachers approach instruction in the classroom must also evolve. An increased focus on future-ready skills, such as

collaboration, critical thinking, problem-solving, and student independence is essential to ensure that students are prepared to enter the workforce when they complete their formal education. To determine how to better equip students with future-ready skills, District B administered a survey to students, teachers, and parents about the middle school model in place at the time. In response to the survey, District B assembled a task force to create a middle school model that would address the community responses and better equip students with future-ready skills.

Although the task force was unable to put together a final schedule for the 2017-2018 school year, Middle School A piloted a co-taught humanities course. This course was not taught at the other eight middle schools in the district. Through the implementation of a co-taught humanities course, Middle School A aimed to develop a curriculum that had a greater focus on ensuring that students developed future-ready skills such as collaboration, critical thinking, and problem-solving, as well as to increase student engagement, and enhance NWEA MAP Growth Reading scores. Since the co-taught humanities class was a pilot, it was unknown what the outcome of the change would be. The information from Middle School A's experience was used, in part, to determine whether this model could be expanded to the other middle schools in the district.

Purpose statement and research questions. The first purpose of this study was to determine whether there was a difference in the perceptions of middle school humanities teachers of planning efficiencies, grading efficiencies, classroom management processes, and levels of student engagement between first and second semester of the 2017-2018 school year. The second purpose of this study was to determine whether there

was a difference in self-reported levels of seventh and eighth-grade student engagement in the humanities classroom between first and second semesters. The final purpose of this study was to determine the extent of the difference in the percentage of seventh and eighth-grade humanities students who met their projected MAP reading growth target and the percentage of those same students who met their projected MAP reading growth target the previous year. Eight research questions were developed, and 21 hypotheses were tested to address the purposes of the current study.

Review of the methodology. The current study was a quantitative, descriptive study. The independent variable measured in the current study was time of the year (first semester, second semester). The dependent variables measured were teacher perceptions of co-planning efficiencies, grading efficiencies, classroom management, instructional efficiencies; student perceptions of engagement; and student attainment of their Reading MAP growth targets. There were three subsamples of participants in the current study: surveyed teachers, surveyed students, and students who had NWEA Reading MAP scores in 2016-2017 and 2017-2018. The measurements used were a building-designed teacher survey, a building-designed student survey, and the NWEA Reading MAP assessment. All data utilized in the current study was archival data from Middle School A. To test the hypotheses, two-sample *t* tests and chi-square tests for differences among proportions were conducted.

Major findings. The results of the study indicated there were no significant findings from the teacher survey. There was no evidence of a difference between first and second semester in the amount of time middle school humanities teachers perceive their ideas are listened to by co-workers during PLC meetings or the amount of time

middle school humanities teachers perceive that their PLC can follow an agenda and accomplish goals between first and second semester. No evidence was found of a difference between first and second-semester teacher perceptions in the areas of planning efficiencies including whether there is an adequate amount of time to plan as a team each week and if co-teaching allows teachers to draw upon one another's expertise while planning. There was no evidence of a difference between semesters in the area of grading efficiencies including whether their humanities team grades assignments together, whether their humanities team has a common method for grading assignments, and whether their humanities team agrees on the grades given to students, teachers' ability to draw upon their co-teacher's expertise of planning and implementation of classroom management processes between semesters, teacher's perceptions of levels of student engagement in student-centered lessons versus teacher-directed lessons in the humanities classroom, and teachers' perceptions of instructional efficiencies including the following: whether they were accurately teaching the social studies curriculum, whether they were accurately teaching the reading curriculum, whether their team adjusts instruction based upon student learning, whether co-teaching is an effective and efficient instructional approach, and whether their daily classroom instructional approach has changed due to the humanities approach and co-teaching.

The results from the analysis of the data from the student survey yielded several significant findings. There was evidence of a difference between semesters in student levels of interest in what was learned in humanities class, the amount of time students report looking forward to going to humanities class, the amount of time that students indicate they pay attention in humanities class, whether students agree that having two

teachers and an open classroom in humanities keeps their interest, and whether students agree that they enjoy humanities more than other classes when they collaborate with other students. Based on the students' self-reported levels of engagement, there were higher levels of engagement during the first semester than in second semester.

The results of the hypotheses testing related to the NWEA Reading MAP did not yield significant findings. There was no evidence of a difference in the percentage of seventh-grade students who met their projected Reading MAP growth target and the percentage of the same students who met their projected Reading MAP growth target the previous year on the sixth grade MAP. There was also no evidence of a difference in the percentage of eighth-grade students who met their projected Reading MAP growth target and the percentage of the same students who met their projected Reading MAP growth target the previous year on the seventh grade MAP.

Findings Related to the Literature

The findings in this section are organized in the order of the research questions. The link between the findings in the current study and the findings in previous studies are presented and explained. Explored in this section are the findings and literature in the areas of co-planning efficiencies, grading efficiencies, management efficiencies, instructional efficiencies, student engagement, and student achievement.

In the current study, no statistically significant difference was found between teacher perceptions of planning efficiencies between first and second semester. The findings in the current study do not support the findings in several studies about co-planning. Conderman (2011) indicated that adequate planning time, conversations about skills, philosophies, teaching styles, and grading contributed positively to co-planning.

Although the findings in the current study differ from those in Conderman's (2011) study, both studies were conducted at the middle school level. Conderman (2011), however, focused only on one co-teaching partnership whereas the current study utilized a larger sampling. Dieker and Murawski's (2003) study indicated that a common plan time was an essential element of success and the lack of a common plan time could be a limit to success. Dieker and Murawski (2003) focused on the entire secondary level, not solely on the middle school level. Solis et al. (2012) conducted a meta-analysis that also indicated a strong need for co-teachers to have a structured plan time with colleagues. Unlike the current study, Solis et al. (2012) included studies across elementary, middle, and high schools.

In contrast to the studies mentioned above, the study conducted by Walther-Thomas (1997) did not support co-teaching. His study identified that common planning was a significant challenge presented by co-teaching. In his study, Walther-Thomas (1997) found that, over time, co-planning between teachers grew easier. The results of the current study do not support this as the surveys indicated more favorable views of co-planning in the first semester than in the second.

In the current study, no statistically significant difference was found in grading efficiencies between first and second semester. These findings do not support the findings in the literature. McKinley and Warrence (1996) found that students and instructors responded positively to co-grading and that students enjoyed receiving feedback from multiple instructors. In contrast to the current study, McKinley and Warrence's (1996) study was conducted at the college level. Linz et al. (2008) found that co-teachers viewed grading efficiencies with a co-teacher positively, given certain

circumstances. The co-teachers found grading to be most efficient when it was divided by the person who created the assignment. As a team, they would utilize the results to plan for instruction. Linz et al.'s (2008) study was conducted in one high school science classroom.

No statistically significant difference was found in classroom management efficiencies between first and second semester in the current study. This finding does not support Conderman (2011), Salend et al. (1997), or Mastropieri et al. (2005). Conderman (2011) found that co-teachers had success with class management if they discussed management styles prior to co-teaching. Salend et al. (1997) also discussed classroom management in co-taught classrooms favorably. Salend et al. (1997) noted that co-teachers become close with other another, which helped students to become a community rather than just a group of students in the same classroom. Mastropieri et al. (2005), found that a difference in management styles between co-teachers deteriorated their teaching relationship, and ultimately their ability to co-manage a classroom, over time. Although the current study did not indicate a strong positive or negative difference in management efficiencies between semesters, it did not show a deterioration in management efficiencies, over time either.

In the current study, no statistically significant difference was found in instructional efficiencies between first and second semester. The results indicated that, over time, there was not a change in instructional efficiencies with a co-teacher, which supports Downey's (2016) findings. Downey (2016) reported that teachers in the study indicated there was a lack of communication between co-teachers, an unequal share of responsibility, and that teachers were hesitant to give up classroom control.

The current study yielded statistically significant differences in student perceptions of engagement between first and second semester. These findings support Conderman (2011) and Embury and Kroeger (2012). In Conderman (2011), students looked favorably upon co-teaching and reported positive aspects of co-teaching over traditional teaching. Embury and Kroeger's (2012) study was conducted in seventh- and eighth-grade classrooms. The results of their study were split by grade, based on the model of co-teaching utilized in each grade. Although results were positive in eighth grade, students in both grades indicated that they preferred two teachers because more classroom assistance was available to them.

The findings in the current study about student perceptions of engagement do not support Keeley et al. (2017), who found that there was no change in student perception of co-teaching or engagement, except when teachers use one teach, one assist approach. The results of their study indicated that students had many issues with co-teaching. In the current study, there was a statistically significant difference in student perceptions of engagement between semesters. However, the results indicated that there were higher levels of engagement in first semester than in second semester. The variance in these findings could be attributed to the fact that Keeley et al.'s (2017) study was conducted at the high school level, not the middle school level. Additionally, in Keeley et al.'s (2017) study, students compared two kinds of classrooms whereas the current study only considered a co-taught classroom.

In the current study, no statistically significant difference in growth scores on the NWEA MAP Growth Reading assessment for students from sixth to seventh grade or seventh to eighth grade was indicated. Students in the current study were in separate

reading and social studies classes during the 2016-2017 school year and a combined humanities class during the 2017-2018 school year. The findings from the current study, to some extent, support Cotton (1982) and Witcher and Feng (2010). Cotton's (1982) meta-analysis showed mixed results. Some studies showed an increased level of achievement in co-taught classrooms, and an equal number of studies did not. Cotton concluded that her research indicates that achievement should not be the driving factor behind co-teaching implementation. Witcher and Feng (2010) found that there was no significant difference between achievement levels in co-taught and non-co-taught classes throughout the school year. Their results, however, did show that the assessment means for co-teaching were higher than those of the non-co-taught classes.

The findings in the current study about growth on the NWEA MAP Growth Reading assessment did not support Murawski and Swanson (2001). The meta-analysis indicated that co-teaching has a moderately positive impact on achievement. The studies included in the meta-analysis were conducted across elementary, middle, and high schools and included a variety of assessments such as math assessments, curriculum-based measurements, and standardized reading and math assessments.

Conclusions

The following section includes conclusions made from the current study on teacher perceptions, student perceptions and student achievement in a co-taught humanities course. The study yielded mixed results. Implications for action and recommendations for future research are discussed in the following sections, followed by concluding remarks.

Implications for action. The results of the current study may have implications for future action at Middle School A. Walther-Thomas (1997) noted that there was a significant need for teachers to receive adequate professional development prior to the implementation of co-teaching. The results of the current study suggest that teachers at Middle School A could potentially benefit from additional professional development about co-teaching. Professional development on co-teaching could give teachers a better understanding of the various co-teaching approaches and help them determine the approaches that would work best in their classrooms.

Erb and Doda (1989) suggested that a positive relationship between co-teachers is paramount to their success. Erb and Doda's (1989) study recommended that teachers should choose their co-teaching partner and that co-teacher partnerships should stay consistent from year to year. At Middle School A, the administration assigned co-teaching partners based on scheduling (Middle School A principal, personal communication, August 5, 2017). In the future, teacher input on co-teacher assignments might help ensure that co-teachers have a positive relationship. Once co-teaching partnerships are established, it would be most effective to keep the partnerships consistent from year to year, to the greatest extent possible. Consistent partnerships would help the teachers learn their partner's working style and build a rhythm together in the classroom. A positive relationship amongst the teachers may yield a more positive perception of co-teaching from the teachers.

As Salend et al. (1997) found, when co-teachers have a positive relationship, it creates a community atmosphere for students. The relationship between the adults in the classroom has a direct impact on the students. A community atmosphere could lead to a

more positive perception of co-teaching by students and higher levels of student engagement.

Solis et al.'s (2012) meta-analysis identified a strong need for co-teachers to have a structured, common planning time every day. To help ensure that co-teachers have adequate opportunity to plan for instruction and grade, the principal should ensure that all co-teaching teams share a common plan time every day. Co-teachers would best utilize this time if there is an agenda set in advance and tasks are divided so that each teacher has specific tasks and responsibilities to complete (Conderman, 2011).

Recommendations for future research. The results of the current study are limited. This research could be conducted again, with some modifications, to learn more about student and teacher perceptions of co-teaching and its impact on student achievement. In future research, the sample sizes for the students and teachers should be increased. Rather than use only one middle school in the district, the research could be expanded to include all nine middle schools. Utilizing multiple middle schools would create a much larger sample of teachers and students.

The current study only included one year of data. The research could be extended to include multiple years of data. The inclusion of multiple years of data would allow the researcher to compare the results from year to year and determine whether co-teaching becomes more effective the longer that it is implemented.

In future research, the survey administered to the teachers and students could be modified. The surveys could be designed to ask more explicit questions comparing teacher and student experiences with co-teaching and traditional teaching. The surveys utilized in the current study did not ask for a direct comparison between the different

teaching styles. To make the surveys more robust and yield additional anecdotal information, a qualitative component could be added to the study. Adding a qualitative component to the survey would create the opportunity for survey participants to indicate which aspects of co-teaching work well and do not work well, utilizing an open-ended question. To gather more detailed feedback and reflections about co-teaching, interviews could be conducted with teacher and student participants.

The use of the NWEA MAP Growth Reading assessment in the current study allows provides only one sample of student achievement. In future research, additional measurements of achievement should be utilized to study the impact of co-teaching on student achievement. These additional measurements could include the state assessment and classroom assessments. This approach would allow the researcher to have several points of data and determine whether co-teaching has a true, overall impact on student achievement.

Concluding remarks. In the current study, the differences in teacher perceptions, student perceptions, and student achievement in co-taught humanities classrooms were explored. The short length of the current study and the small sample sizes make the results limited. The results of the current study indicate that more research needs to be done in the area of co-teaching to determine its effectiveness.

Middle School A's initial purpose for implementing a co-taught humanities course was to enhance student engagement and better equip students with future-ready skills (Middle School A principal, personal communication, August 5, 2017). As the humanities course evolves, a greater emphasis should be placed on defining student engagement and future-ready skills. A more precise understanding of student

engagement and future-ready skills would allow teachers to address these more thoroughly in their classrooms. Information from future studies could help teachers understand various instructional approaches that would meet the needs of and prepare students in an ever-changing society.

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Appendices

Appendix A: PRMS Humanities Teacher Survey

Fall 2017 Survey

1. My wall is open _____ of the time during Humanities

    a. 0-25% b. 26-50% c. 51-75% d. 76% or higher

2. During my Humanities PLC planning time, I feel my co-workers listen to my ideas _____ of the time.

    a. 0-25% b. 26-50% c. 51-75% d. 76% or higher

3. During my Humanities PLC planning time, we are able to follow an agenda and accomplish our goals _____ of the time.

    a. 0-25% b. 26-50% c. 51-75% d. 76% or higher

4. I believe that we are accurately and efficiently teaching the social studies curriculum

    a. Strongly Disagree b. Disagree c. Agree d. Strongly Agree

5. I believe that we are accurately and efficiently teaching the reading curriculum

    a. Strongly Disagree b. Disagree c. Agree d. Strongly Agree

6. I feel like my team has adequate time each week to plan for teaching humanities

    a. Strongly Disagree b. Disagree c. Agree d. Strongly Agree

7. My Humanities team grades assignments together

    a. Strongly Disagree b. Disagree c. Agree d. Strongly Agree

8. My Humanities team has a common method for grading assignments

    a. Strongly Disagree b. Disagree c. Agree d. Strongly Agree

9. My Humanities team agrees on the grades we give to students

    a. Strongly Disagree b. Disagree c. Agree d. Strongly Agree

10. I utilize more student-centered lessons in Humanities than I have previously

    a. Strongly Disagree b. Disagree c. Agree d. Strongly Agree

11. I've noticed that the students are more engaged during student-centered lessons vs. teacher-directed lessons

    a. Strongly Disagree b. Disagree c. Agree d. Strongly Agree

12. I see students making interdisciplinary connections

    a. Strongly Disagree b. Disagree c. Agree d. Strongly Agree

13. I notice students using future ready skills in my Humanities classroom

    a. Strongly Disagree b. Disagree c. Agree d. Strongly Agree

14. My team takes time to reflect and debrief on our lessons ___ times per week

    a. 0 b. 1 c. 2 d. 3 or more

15. My team adjusts instruction based on student learning.

    a. Strongly Disagree b. Disagree c. Agree d. Strongly Agree

16. I believe in the merit of teaching humanities

    a. Strongly Disagree b. Disagree c. Agree d. Strongly Agree

17. I believe co-teaching is an effective and efficient instructional approach

    a. Strongly Disagree b. Disagree c. Agree d. Strongly Agree

18. I believe co-teaching allows teachers to draw upon each other's expertise during planning of instruction

    a. Strongly Disagree b. Disagree c. Agree d. Strongly Agree

19. I believe co-teaching allows teachers to draw upon each other's expertise during planning and implementation of classroom management processes

    a. Strongly Disagree b. Disagree c. Agree d. Strongly Agree

20. My daily classroom instruction has changed due to the humanities approach and co-teaching

    a. Strongly Disagree b. Disagree c. Agree d. Strongly Agree

Appendix B: PRMS Humanities Teacher Survey

Spring 2017 Survey

1. My wall is open _____ of the time during Humanities

    a. 0-25% b. 26-50% c. 51-75% d. 76% or higher

2. During my Humanities PLC planning time, I feel my co-workers listen to my ideas _____ of the time.

    a. 0-25% b. 26-50% c. 51-75% d. 76% or higher

3. During my Humanities PLC planning time, we are able to follow an agenda and accomplish our goals _____ of the time.

    a. 0-25% b. 26-50% c. 51-75% d. 76% or higher

4. I believe that we are accurately and efficiently teaching the social studies curriculum

    b. Strongly Disagree b. Disagree c. Agree d. Strongly Agree

5. I believe that we are accurately and efficiently teaching the reading curriculum

    a. Strongly Disagree b. Disagree c. Agree d. Strongly Agree

6. I feel like my team has adequate time each week to plan for teaching humanities

    a. Strongly Disagree b. Disagree c. Agree d. Strongly Agree

7. My Humanities team grades assignments together

    a. Strongly Disagree b. Disagree c. Agree d. Strongly Agree

8. My Humanities team has a common method for grading assignments

    a. Strongly Disagree b. Disagree c. Agree d. Strongly Agree

9. My Humanities team agrees on the grades we give to students

    a. Strongly Disagree b. Disagree c. Agree d. Strongly Agree

10. I utilize more student-centered lessons in Humanities than I have previously

    a. Strongly Disagree b. Disagree c. Agree d. Strongly Agree

11. I've noticed that the students are more engaged during student-centered lessons vs. teacher-directed lessons

    a. Strongly Disagree b. Disagree c. Agree d. Strongly Agree

12. I see students making interdisciplinary connections

    a. Strongly Disagree b. Disagree c. Agree d. Strongly Agree

13. I notice students using future ready skills in my Humanities classroom

    a. Strongly Disagree b. Disagree c. Agree d. Strongly Agree

14. My team takes time to reflect and debrief on our lessons ___ times per week

    a. 0 b. 1 c. 2 d. 3 or more

15. My team adjusts instruction based on student learning.

    a. Strongly Disagree b. Disagree c. Agree d. Strongly Agree

16. I believe in the merit of teaching humanities

    a. Strongly Disagree b. Disagree c. Agree d. Strongly Agree

17. I believe co-teaching is an effective and efficient instructional approach

    a. Strongly Disagree b. Disagree c. Agree d. Strongly Agree

18. I believe co-teaching allows teachers to draw upon each other's expertise during planning of instruction

    a. Strongly Disagree b. Disagree c. Agree d. Strongly Agree

19. I believe co-teaching allows teachers to draw upon each other's expertise during planning and implementation of classroom management processes

    b. Strongly Disagree b. Disagree c. Agree d. Strongly Agree

20. My daily classroom instruction has changed due to the humanities approach and co-teaching

    a. Strongly Disagree b. Disagree c. Agree d. Strongly Agree

21. Compared to previous years, do you prefer the co-teaching model to teaching on your own? Please explain your answer.

Appendix C: Humanities Student Survey

Fall 2017 Survey

1. I am interested in what we learn in Humanities class

    a. Never b. Some of the time c. Most of the time d. Always

2. I look forward to coming to Humanities class

    a. Never b. Some of the time c. Most of the time d. Always

3. I pay attention in Humanities class

    a. Never b. Some of the time c. Most of the time d. Always

4. Having two teachers and an open classroom keeps my interest in Humanities class

    a. Strongly Disagree b. Disagree c. Agree d. Strongly Agree

5. I can relate what I learn in Humanities to my life outside of school

    a. Strongly Disagree b. Disagree c. Agree d. Strongly Agree

6. I see the connection between reading and social studies

    a. Strongly Disagree b. Disagree c. Agree d. Strongly Agree

7. When I collaborate with other students in Humanities, I enjoy the work more than in my other classes

    a. Strongly Disagree b. Disagree c. Agree d. Strongly Agree

8. I am forced to think more critically in Humanities than in my other classes

    a. Strongly Disagree b. Disagree c. Agree d. Strongly Agree

9. I am given more responsibility in Humanities than in my other classes

    a. Never b. Some of the time c. Most of the time d. Always

Appendix D: Humanities Student Survey

Spring 2018 Survey

1. I am interested in what we learn in Humanities class

    a. Never b. Some of the time c. Most of the time d. Always

2. I look forward to coming to Humanities class

    a. Never b. Some of the time c. Most of the time d. Always

3. I pay attention in Humanities class

    a. Never b. Some of the time c. Most of the time d. Always

4. Having two teachers and an open classroom keeps my interest in Humanities class

    a. Strongly Disagree b. Disagree c. Agree d. Strongly Agree

5. I can relate what I learn in Humanities to my life outside of school

    a. Strongly Disagree b. Disagree c. Agree d. Strongly Agree

6. I see the connection between reading and social studies

    a. Strongly Disagree b. Disagree c. Agree d. Strongly Agree

7. When I collaborate with other students in Humanities, I enjoy the work more than in my other classes

    a. Strongly Disagree b. Disagree c. Agree d. Strongly Agree

8. I am forced to think more critically in Humanities than in my other classes

    a. Strongly Disagree b. Disagree c. Agree d. Strongly Agree

9. I am given more responsibility in Humanities than in my other classes

    a. Never b. Some of the time c. Most of the time d. Always

10. Do you prefer to have one Humanities class or separate Reading and Social Studies classes? Why?

11. Do you like having two teachers in Humanities or do you prefer having only one teacher? Why?

Appendix E: District B Approval

September 26, 2018

Hi, Lisa-

The [redacted] Research Review Board has reviewed your request to conduct research [redacted]. Your request has been approved.

Please read the information below for some key information and feedback.

The Research Review Board wrestled with the use of the archival data because parental/subject consent is typically given prior to data collection.

- As it relates to MAP scores, there is an umbrella of consent because we are using the data for instruction in the school/district. Therefore, consent would not need to be directly obtained as long as the information was being utilized by staff members who were working with the student or on the student's behalf.
- However, the "survey" that was used with the staff members caused some questions. *Who designed the survey? Was it designed specifically for this research study? Was participation voluntary? If not, how was consent obtained?* Ultimately, the review board decided to trust you, as a colleague, knowing that the survey information that will be utilized was collected in an ethical manner after valued relationships were likely in place at the building-level. (You do not need to respond with the answers.)

A few follow-up items:

1. As you move forward, please do not use the district's name, school name, or any identifiable information about any participant in the report of your findings.
2. We will need a copy of Baker's IRB approval letter for our records. Please scan and send it our way when you receive it.
3. We are excited to hear your results as co-teaching is a very "hot" topic in Blue Valley right now! Please send a copy of your results to this office within 30 days of the conclusion of your research.

Best wishes for your upcoming research,

[redacted]

[redacted]
Director of Academic Achievement & Accountability
[redacted]

Appendix F: IRB Approval

Baker University Institutional Review Board

November 12th, 2018

Dear Lisa Stolper and Susan Rogers,

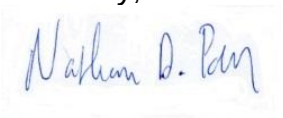
The Baker University IRB has reviewed your project application and approved this project under Exempt Status Review. As described, the project complies with all the requirements and policies established by the University for protection of human subjects in research. Unless renewed, approval lapses one year after approval date.

Please be aware of the following:

1. Any significant change in the research protocol as described should be reviewed by this Committee prior to altering the project.
2. Notify the IRB about any new investigators not named in original application.
3. When signed consent documents are required, the primary investigator must retain the signed consent documents of the research activity.
4. If this is a funded project, keep a copy of this approval letter with your proposal/grant file.
5. If the results of the research are used to prepare papers for publication or oral presentation at professional conferences, manuscripts or abstracts are requested for IRB as part of the project record.

Please inform this Committee or myself when this project is terminated or completed. As noted above, you must also provide IRB with an annual status report and receive approval for maintaining your status. If you have any questions, please contact me at npoell@bakeru.edu or 785.594.4582.

Sincerely,



Nathan Poell, MA
Chair, Baker University IRB

Baker University IRB Committee
Scott Crenshaw
Erin Morris, PhD
Jamin Perry, PhD
Susan Rogers, PhD