ABSTRACT

SHELOW, GABRIELLA REMINGTON. Examining the Potential Impact for Interdisciplinary Co Teaching: An Action Research Study Exploring the Effects of Interdisciplinary Co-Teaching in Middle Grades English Language Arts and Social Studies. (Under the direction of Carl Young).

This study explores the effect on students when English Language Arts and Social Studies are co-taught using an interdisciplinary model. This study was conducted over the course of one school year and examines students' growth and overall student experience. By looking at multiple data sets including students' performance on standardized and teacher-made assessments, as well as students attitudes throughout the process, the teacher researcher was able to make conclusions about the effectiveness of the interdisciplinary co-teaching model.

Examining the Potential Impact for Interdisciplinary Co-Teaching: An Action Research Study Exploring the Effects of Interdisciplinary Co-Teaching in Middle Grades English Language Arts and Social Studies

by
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BIOGRAPHY

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CHAPTER 1

Introduction and Rationale

This action research project seeks to determine the impact on students in terms of growth and experience when English language arts (ELA) and social studies (SS) are co-taught with an interdisciplinary focus in a middle school context. This study will examine the effect on students at all achievement levels--specifically struggling students (low achievement), average students (medium achievement) and students who excel in the classroom (high achievement).

The initial reason for engaging in this study was the lack of time in our school's eight period schedule. Because our school is a gifted and talented magnet school, Martin Middle students take four core classes and three elective classes each day. This results in 46 minutes with each class, five days a week. A 46-minute class period tends to go by very quickly and often makes it difficult to engage the class in an in-depth lesson. Teachers at my school find themselves scrambling to fit in an entire lesson--trying to quickly move through the more basic concepts in order to get to activities which require students to think critically. More often than not, just as soon as students begin to get engaged or excited about something they are working on, the bell will ring and they have to leave. As a result, students will begin an in-depth lesson on day one and then return to it on day two, but this interruption can sometimes result in a lack of student engagement and enthusiasm. When talking to the social studies teacher across the hall in between classes one day, I realized that I was not the only teacher constantly fighting against the clock in my classroom. This conversation started a series of conversations, which resulted in our idea to co-teach ELA and SS. By co-teaching ELA and SS, we could have a 92 minute block to work with both subjects, which would allow for a deeper exploration of the content without losing momentum. And just like that, an action research study was born.

The concept of co-teaching is not new in education or even at the school where I work. However, what I have discovered about co-teaching, and what most educators will tell you, is that it has many different variations. Depending on who you're speaking to, co-teaching can either be a blessing or a curse. At its most basic, co-teaching is when two teachers take ownership of student learning in a given subject area. At my school, the most common co-teaching practice is a partnership between an ELA or math teacher and a special education teacher. Co-teaching an ELA and SS class was a new concept at my school, and we had to convince our principal that changing the schedule to accommodate for the co-teaching would be worthwhile, and that meant doing some research.

Prior to this study, I looked at several different co-teaching frameworks (which I will discuss in my review of literature) in order to determine a model that would work best for my co-teacher and me. When deciding on a co-teaching model, we took into account both the space we had in our classrooms and also the number of students in the co-teaching cohort. In early August, we found out that our cohort would be comprised of 54 students who were scheduled with ELA and SS back to back. Each student would travel with the same group within the cohort to both their ELA and SS classroom. My co-teacher and I had classrooms directly across the hall from each other; however, neither room was big enough for all students to be in the same room at one time. The only space in our school that was big enough to have all students together at the same time was the media center.

After taking all of this into consideration, we decided that in our model we would primarily be teaching half of the students at any given time in our respective rooms. On a few occasions, we went to the media center and both taught together at the same time in the same room. In doing so we quickly learned that the acoustics in the room made it hard for students to

hear us. After making this discovery, we decided to primarily teach in our own rooms. At times we taught identical lessons throughout the 92 minute block and the students stayed in one room. Other times we taught coordinated lessons that were different but flowed together and had the students switch classrooms at the 46 minute mark. Occasionally we taught unrelated lessons and the students would attend both classes.

During the 92-minute block, my co-teacher and I frequently came into each others' classrooms to see how things were going and to check in with the other half of the cohort. Neither one of us had any issue with the other teacher spontaneously popping in during a lesson, and occasionally my co-teacher and I decided to switch rooms and keep the students in the same location. Thus, the students had the impression that both teachers carried equal weight in both subjects. I was frequently asked "SS" questions and my co-teacher was frequently asked "ELA" questions. Additionally, my co-teacher and I made sure to have identical procedural policies. This helped the students to understand that, even though we were not in the same room at the same time, we were a united team and held the same expectations for our students.

As I mention above, the initial conversation to co-teach SS and ELA began over frustration about the short class periods. This shared frustration may have been coincidental, or it may have been due to the similarities between the 8th grade ELA and SS curriculums. In 8th grade, the ELA curriculum map explores many of the same topics as the SS curriculum, leading to an easy combination of the two subjects. Additionally, the skill focus in both ELA and SS is reading complex informational texts and answering text-based questions. The ease of combining the curriculums made the co-teaching of ELA and SS a natural fit. I hypothesized that by giving students more time with the two subjects, and by reinforcing ELA skills and social studies concepts in each classroom, it would increase student growth on both standardized and teacher-

made assessments when compared to students in traditional, non-teamed classrooms. Additionally, I believed that students in the co-teaching cohort would have a more positive ELA and SS experience due to the family environment created by the team-teaching approach.

When conducting my preliminary literary research for this study, I discovered there to be a gap in literature that exists discussing the effects of co-teaching on students. At the start of my study, I was trying to decide between looking at the effects of co-teaching on teachers or students. While there have been numerous research studies done on the subject of co-teaching SS and ELA, there have been no conclusive results on the effect that co-teaching has on students. Most studies have, instead, focused on the effect co-teaching has had on teachers, the factors that contribute to a successful co-teaching partnership, or how to successfully integrate two curriculums.

Given the gap in the research literature, I decided to study the effects of co-teaching on students. I realized that as a teacher-researcher, I have access to a large number of students on a daily basis that many researchers at the university level do not have. As a teacher, I have access to student growth scores on both standardized and teacher-made assessments. This information is not typically shared with the public due to student confidentiality. While I maintain student confidentiality throughout this study, I did have access to data that other researchers do not. This provided me with the opportunity to take a close look at not only overall growth averages, but growth averages for specific groups of students -low achievers, average students, and high achievers.

CHAPTER 2

Review of Relevant Literature

In my review of relevant literature on interdisciplinary co-teaching I found that the research predominantly refers to this type of co-teaching as an interdisciplinary team. Crow and Pounder (2000) state that interdisciplinary teacher teams "are designed to create work interdependence and increased self-management, increasing members responsibility for the group's performance and outcomes" (p. 217). While Crow and Pounder use the term "teacher teams" rather than co-teaching, this is the theory my partner and I subscribed to at the onset of the study to inform our efforts. We approached the combining of our subjects as an interdisciplinary team in which both teachers had a common goal of increased student growth on both standardized and teacher-made assessments. We also shared the goal of creating a family-like environment in which students would feel more comfortable in their learning. Having shared common goals filtered down into other aspects of our implementation which is discussed in more detail later in this paper.

Applebee, Adler, and Flihan (2007) proposed the idea that interdisciplinary instruction--or co-teaching with a teacher from a different discipline--exists along a continuum of engagement. They suggest that the continuum begins with correlated curriculums, in which each subject (English, social studies, math, science) is still taught as a distinct subject, but two or more subjects may decide follow a similar timeline, such as chronological. An example of a correlated curriculum would be an English class reading *Night* by Elie Wiesel, a book about a man's survival of the Holocaust, while World War Two is being studied in history class. In a correlated curriculum, these two topics are related however the instructors make no direct or overt connections between the materials. Second on the continuum is shared curriculums. In a shared

curriculum, “important concepts are are sometimes overtly shared across disciplinary fields, although discussions continue to be located within one or another of the independent disciplines” (p. 1006). An example of this would be studying the Civil War and talking about specific figures and assessing if they were risk takers in history class. Then, in English class, having the students write an argument essay on a Civil War figure that they believed was a risk taker. In the social studies class, students would discuss the content to be used in the paper, while in the English class students would discuss how to organize and craft the paper with both classes making purposeful connections to the shared topic. The last type of interdisciplinary curriculum on the continuum is the reconstructed curriculum, which is the most integrated. Reconstructed curriculums, “merge concepts and understandings across disciplines in order to create curricular conversations that go beyond disciplinary boundaries” (p. 1006). In other words, lines between distinct subjects are blurred and the curriculums are fully merged with each subject acting as a lens by which the student can view an over-arching issue. An example of this type of instruction would be to have students engage in a project-based learning activity in which they had to assess community needs and create a service project that addresses those needs. This activity would have components of the civics classroom and the English classroom embedded in it however, there is no distinct line between what is the civics part and which is the English part of the project.

Nikitina (2006) also discusses the different approaches teachers can take to interdisciplinary curricula. However, she goes a step further to suggest that different approaches are more suitable for different subject areas. The first approach is contextualization, which is defined as “embedding knowledge in history, culture, philosophical questions, and personal experience” (p. 256). This type of interdisciplinary approach is used mostly within the

humanities as a means of finding broad connections between curriculums. However, its drawback is that connections between curriculums are not based on "proof" but rather are "arbitrary and speculative" (p. 268). The second approach, conceptualizing, is an interdisciplinary practice geared more toward the sciences and maths, and is designed to look at "underlying concepts" of each discipline and how they relate to each other (p. 261). A strength of this approach is that the connections between the two disciplines are undisputable. However, a drawback is that the connections are not as broad as they are with contextualization. Instead they are limited to specific events (p. 261-263). Finally, problem-centering is an approach of looking at problem "as an axis of connection among disciplines" (p. 263). In other words, using two or more disciplines to approach and solve a real world problem. A strength of this strategy is that, like contextualization, problem-centering is also far reaching. However, a drawback is that often time pressures and urgency may make it difficult for students to have the time necessary to explore the breadth of these connections, since the goal of this type of interdisciplinary instruction is to produce a real-world solution to the problem.

Both Applebee, Adler, and Flihan (2007) and Nikitina (2006) provide a theoretical basis for how to begin constructing an interdisciplinary approach to curriculum. Both studies look at interdisciplinary instruction as a fluid and dynamic, suggesting that it may evolve over time as instructors become more familiar with each other and continue to redefine their expectations. While Applebee, Adler, and Flihan (2007) cite the instructor's mindset to be the main determining factor in how a curriculum will be structured, Nikitina (2006) suggests that the content of the course will drive the structure of the interdisciplinary approach.

In addition to looking into the theoretical approaches of interdisciplinary instruction, I was also able to review a case study in which an ELA and SS curriculum had been integrated.

Mosier and Wagner (2006) looked at the approach at the elementary level and found that to successfully integrate language arts and social studies curriculums it is important to first study the two curriculums separately and identify gaps in either that need to be filled. They then suggest identifying big ideas or core concepts that overlap with the two content areas. Finally, they suggest using the *Understanding by Design* framework suggested by McTighe and Wiggins (2004) as an important scaffold for creating units. In this framework, teachers develop units by first posing essential questions and determining the learning goals and assessments and then creating the accompanying lessons and activities.

At the middle school level, Turk, Klein, and Dickstien (2007) suggest integrating language arts and social studies curriculum primarily through studying historical literature. While this article is not a case study, but rather a theoretical approach to integration, the authors do present a rationale for using Shearman Alexie's *Reservation Blues* to integrate the language arts and social studies curriculum. Turk, Klein, and Dickstien (2007) suggest five strategies for integrating literature into the context of a history or social studies class including: era driven, theme based, essential questions, identity driven, and literature based strategies (p. 398-399). Era driven integration suggests using the factor of time to select a piece of literature. The authors say the term "era' may refer to the time period in which the piece of literature was written, the period about which a piece of literature deals, or the time period when the book might have been widely read" (p. 398). Theme based integration suggests using a theme, such as *immigration* as the basis for a novel selection, while the essential question approach suggests creating first, an essential question, and then selecting a novel that will help to answer that question. The identity driven approach suggests choosing a group of people to focus on, such as Native Americans, and then selecting literature that helps to illuminate that groups' identity.

Finally, a literature based approach suggests picking a novel based on its literary merits alone, however, Turk, Klein, and Dickstein (2007) do not explicitly explain how this would then relate back to the history curriculum.

While Turk, Klein, and Dickstien (2007) provide a good rationale for including literature in the history classroom, I found their approach to be rather limited in terms of creating an interdisciplinary curriculum. Including literature in the context of a history classroom is a strategy that can and should be a part of interdisciplinary teaching, however, it is merely one strategy that can be used. To fully integrate the curriculum, I found the big ideas approach suggested by Mosier and Wagner (2006) to be more comprehensive. By first identifying the big ideas -- or essential questions -- that connect the two curriculums, instructors can then decide how to go about addressing these questions or ideas, whether it be through a literature study or by using another approach such as project-based learning, paideia seminars, or any number of meaningful learning experiences.

Perhaps one of the most influential pieces in the creation of my own research was an action research study conducted by teacher-researchers Haring and Kelner (2016). In this study the two teachers discuss their implementation and experience with co-teaching ELA and SS in a 7th grade classroom. They cite the implementation of Common Core curriculum as the impetus for considering the co-teaching approach. In their co-teaching experience, Haring and Kelner (2016) focused on specific projects throughout the year that combined ELA and SS standards. What was particularly helpful to my own planning was the discussion of the successes and challenges that they faced with the co-teaching model. Haring and Kelner (2016) make recommendations for how to create a successful interdisciplinary co-teaching team, citing

creating a common language between the classrooms, combining class-time based on the project demands, and making time to plan together a priority (p. 71-72).

The recommendations provided by Haring and Kelner (2016), echo those suggested by Applebee, Adler, and Flihan (2007) after they conducted a series of case studies on eleven different c0-teaching teams. Namely, the authors suggest that for an interdisciplinary team to be successful the teachers involved must be willing and eager to participate in the co-teaching team because it takes a lot of time, flexibility, and planning to successfully implement a co-taught curriculum. In a related study, Crow and Pounder (2000), present a case study in which a school is in its first year of implementing a team teaching approach. They cite lack of time for planning, little to no leadership, scheduling considerations, and a disproportionate input of all team members as the main reasons why the interdisciplinary teams fail (p. 248).

One of the few studies that addresses the effect of interdisciplinary teaching on students is Ellerbrock (2012), who attempted to determine the effectiveness of interdisciplinary teaming in meeting the developmental needs of ninth-grade students. In her study, Ellerbrock looked at three large urban high schools that created a freshman academy team in order to better serve student populations, reduce the risk of dropout, and create a supportive environment for both students and teachers. Ellerbrock determined that teaming was very effective for teachers who felt a sense of support and community from the other teachers on their team (p. 56). However, because the teams weren't "pure," meaning the teamed teachers did not have all of the same students, most students did not even realize they were teamed. The study shows that while kids felt close to their teachers, and the data shows that students performed well when teamed, the students, themselves, didn't see a real difference between being on team or off team as most didn't even know there were freshman academy teams (pg. 59). The research--while intending

to determine the effect of team teaching on students--is inconclusive with regard to students. As can be seen from this review of literature, the impact of co-teaching on students is not conclusively addressed.

CHAPTER 3

Methodology

Research Purpose and Context

The purpose of this study is to determine how interdisciplinary co-teaching in an ELA and SS classroom would affect student experience and growth at all achievement levels: high, medium, and low. For the purpose of this study, student growth is defined as improvement on standardized assessments, as well as improvement on teacher-made assessments. I chose to use an action research approach because it is particularly suited to the teacher-researcher and is generally used by educators who are studying their own students. In action research, the primary role of the researcher is actually that of a teacher. This is in contrast to other research models in which the researcher's primary role is research.

As a framework for my study, I used the points of purpose for conducting action research as outlined by Koshy (2010). They are:

- Action research is a method used for improving educational practice. It involves action, evaluation and reflection and, based on gathered evidence, changes in practice are implemented.
- Action research is participative and collaborative; it is undertaken by individuals, with a common purpose.
- It is situation-based.
- It develops reflection based on the interpretations made by participants.
- Knowledge is created through action, and at the point of application.
- Action research can involve problem-solving, if the solution to the problem leads to the improvement of practice.

- In action research findings emerge as action develops, but they are not conclusive or absolute. (pp. 2-3)

This framework provided the best fit for my overall objectives for this study because I was able to modify and adjust my study as new information was collected. This allowed me to implement new strategies and techniques throughout the process, which resulted in a better educational experience for my students.

According to Koshy (2010), action research originated with Kurt Lewin's research in the mid-1940s and evolved throughout the 1970s in the United Kingdom with the research of Lawrence Stenhouse and others (p. 3). In the United States, action research came about primarily through the work of universities and classroom teachers who wanted to take a pedagogical approach to curriculum development (p. 4).

In undertaking an action research project, I first reviewed several action research models, all with the basic aspects of planning, implementing, revising, re-implementing, and reflecting. In my action research, I most closely followed the models presented by Kemmis and McTaggart (2000) and O'Leary (2004). Kemmis and McTaggart (2000) suggest a spiral model in which the actions of planning, acting and observing, reflecting, and revising repeat themselves infinitely as a spiral would (as cited in Koshy 2010, p. 4). O'Leary (2004) presents an action research model that is cyclical, and is very similar to Kemmis and McTaggart's spiral model, with the main difference being the division of action and observation, and the removal of the explicit revision step. Rather, they label this step "plan" and it is implied that this plan will include a revision of the previous plan. Koshy (2010) notes that O'Leary's (2004) cycles "converge towards better situation understanding and improved action implementation" (p. 7). In my action research, I continually revised my methods as I observed and collected new information. I relied primarily

on my own observations and reflections and those of my co-teacher to formulate new strategies and implement new plans.

Action research was particularly suited to my plan because it allowed for constant revision and improvement within the process and did not follow such a rigid research pattern. This allowed for my co-teacher and I to move from a what Applebee, Adler, and Flihan (2007) defined as a shared curriculum at the beginning of the year to a reconstructed curriculum at the end of the year. Additionally, the action research model was well-suited to this project due to its duration. It took an entire school year to track student growth. As any teacher can tell you, students change and develop throughout the year and what worked in September often needs to be modified in May. Approaching this project with a model that did not provide for revision would have been counter-productive.

For the many positive aspects that are present in the action research method, there are some drawbacks. First, as a teacher researching her own students, there is inherent bias present in the study. It is impossible for a teacher not to form some sort of relationship with students (whether positive or negative) throughout a school year. That relationship will affect how the researcher views results, makes adjustments in instruction, and can particularly affect the interpretation of qualitative data. As such, I made sure to incorporate both quantitative and qualitative data into my study. The purpose for doing this was to have data that gives some concrete numbers and percentages that can be analyzed with as little bias as possible.

School Demographics and Participant Sample

This study took place in one 8th grade ELA and one 8th grade SS classroom. The school is set up as a middle school, serving grades six through eight. According to the Wake County Public School System website, during the 2016-2017 school year Martin Middle school had

1,017 students enrolled with 347 in the eighth grade. The school had a 25.5% free and reduced lunch population and 4% Limited English Proficiency. In the eighth grade, 39% of students were identified as academically or intellectually gifted (AIG). The school is located in Raleigh, NC, inside the city limits and draws a majority of their student population from the surrounding neighborhood and a satellite base located in Southeast Raleigh. Additionally, the school has a Gifted and Talented Magnet program, which draws a small percentage of students from Cary, and the western half of North Raleigh. In the 2016-2017 school year, the school's demographic breakdown was as follows: 0.3% American Indian, 10.2% Asian, 16.2% Black, 12.3% Hispanic, 0.1% Pacific Islander, 3.4% two or more races, 57.4% White.

Sharrington Cohort: In total, 54 students were in the co-teaching cohort, with students moving between the ELA and SS classroom. This group of students became known as the Sharrington group, a name they gave themselves by combining the last names of me and my co-teacher. The schedule was set up so that students in the test group took SS and ELA back-to-back with a 46 minute lunch period in between. The students were "teamed" for ELA and SS only (math and science were not teamed). The total time of instruction was 92 minutes Monday-Friday. Depending on the day's agenda, students spent an entire 92 minutes in one classroom, or switched classes at the bell. Students were routinely switched between the two classes as different grouping combinations were used. For example, a student who began in 5th period ELA, may have -- at some point during the course of the year -- been put in a group and asked to attend 5th period SS and 7th period ELA for a short duration of time. Since the students were organized into cohorts, there was no risk of missed instruction when students switched classes.

In the Sharrinton cohort, eight students were in the low achievement group. This determination was made based on incoming EOG scores that determined the students were at

least two levels below grade level. These students continually scored at least two grades below grade level on three standardized benchmarks (iReady reading assessments) given throughout the year. Nineteen students in the cohort were determined to be AIG (academically and intellectually gifted) in ELA at either the strong or very strong level. This determination was made based off of four standardized assessments given to students in third grade. Those are the IOWA, CogAt, the Woodcock Johnson, and RIST 2. These four assessments determine if a student is academically or intellectually gifted and are usually only given once in a child's academic career. For the purposes of this study, these students made-up the high achievement group. Finally, twenty-seven students had no label, and have consistently tested on grade level on their EOG standardized assessments. These students were placed in the medium achievement group.

It is important to note that these groups were created for the purposes of data analysis only, and do not necessarily reflect the overall growth or potential of the student. This label is merely an assessment of the achievement level of the student when they entered eighth grade -- not their growth potential.

Control Group (un-teamed): The control group was comprised of students from my first and fourth period classes. Some of these students also had my co-teacher for social studies, but that number was very small. There were no cross-curricular assignments planned for this group, rather they followed the same curriculum as the rest of the grade level. At times, this meant that the control group and Sharrington cohort were doing different activities. The makeup of the control group was slightly different than the Sharrington cohort, namely because the control group contained my ICR (in class resource) class. This class caters to students with IEPs that require an in-class resource teacher and, as per county policy, no AIG identified students

may be placed in these classes. As such, there is a higher number of low achieving students and lower number of high achieving students in this control group. This group had a total of 51 students. Of those 51, thirteen were in the low achievement group, 30 in the medium achievement group, and eight in the high achievement group. In an effort to compare the two groups, percentages and averages have been used to analyze the data. This was done to account for the differences in numbers per achievement group in the control group and Sharrington cohort.

CHAPTER 4

Implementation

The planning for this research began in the summer of 2016. My co-teacher and I began our work by familiarizing ourselves with each other's curriculums and looking for areas of overlap. As suggested by Wagner and Mosier (2006), the curriculum mapping for interdisciplinary co-teaching should emphasize, "a focus on topics, activities, literatures and assessments all anchored by relevant big ideas and core concepts that overlap and transcend both content areas" (p. 9). My co-teacher and I sat down with our respective curriculum maps provided by Wake County (CMAPP) and our state standards (at the time of this study, the North Carolina Common Core State Standards for ELA and the North Carolina Standard Course of Study for SS). We identified areas of thematic overlap in the ELA and SS curriculum and determined that in ELA there were four themes apparent in the curriculum map provided: journeys, rights and responsibilities, risking it all, and social justice. We then filled in the SS content areas that corresponded with each theme in the ELA curriculum. We created the below table as a framework to guide our curriculum integration.

Table 1: Curriculum Map

ELA	SS
Journeys	Geography Native Americans Colonization
Rights and Responsibilities	American Revolution Government Westward Expansion Sectionalism
Risking it All	Civil War Industrial Revolution Roaring 20s Great Depression
Social Justice	WWII/Holocaust Cold War Civil Rights Movement Modern Day Injustice

We also identified our major goals for the upcoming year. First, we wanted to have students participate in a service learning project where they could give back to the school and community. Second, we wanted to focus on discussion skills and discussion based learning activities such as Paideia seminars. Third, we wanted to create a team or family like environment for our students. It was our belief that if students felt like their teachers cared and that they were part of a group of peers that cared for them they would perform at a higher level academically. Fourth, we wanted to focus on students' written ability to answer questions completely using evidence from the text to support their claims. Finally, we wanted to move toward a completely reconstructed curriculum.

Once the school year was underway and before starting any integrated curriculum assignments, we focused on team-building activities to help students form a team or family

identity. To do this, we used the 46 minute lunch period that broke up our 92 minute block. After eating lunch, students participated in a series of ice-breaker activities to help them get to know each other. During these activities, my co-teacher and I also participated. Our participation showed our students that we were also part of this group and allowed our students to get to know us as well. By sharing with students in this fun, low-pressure way we were able to begin creating an environment in which students felt comfortable with us. Taking this time to foster a sense of community within the cohort resulted in the students coming up with the Sharrington name for their group. Throughout the year, this gave them a sense of identity that was apparent not only to them but to other teachers and students in our building.

My co-teacher and I decided that we would stress a unifying academic concept at the start of the year in both classes. The concept we chose was the APE (answer, prove, explain) paragraph model. This addressed our fourth goal of improving students' written responses. Because students do a lot of writing and responding to text in both ELA and SS, we felt this unifying concept would provide some cohesiveness to our group as well as provide a good written-response model for students to follow. Additionally, this unifying academic concept directly related to both the ELA and SS curriculum. To implement this unifying academic concept in both classrooms, each teacher taught the concept in her respective classroom, students heard the term being used by both teachers, and the use of APE paragraphs was included in directions for assignments and on rubrics for both classes. Additionally, at the front of each classroom were posters explaining the APE acronym. These posters contained identical information and further reinforced the unification of the two classrooms.

One of our shared goals was to create a completely integrated or as Applebee, Adler, and Flihan (2007) would call it, reconstructed curriculum. However, we knew that we needed to start

small. Co-teaching was a new experience for us both, and while we had the same goals and objectives, our teaching styles were slightly different. We knew that, in addition to learning each other's curriculums, we would need to also learn more about each other's teaching styles. For our first co-taught activity, we had students engage in a discussion about food deserts. This related to the SS curriculum in terms of content, and the ELA curriculum in terms of skills. We decided to put the entire group of students together in the media center with both teachers present. My co-teacher and I thought that this would help us to better align our teaching styles to each other. We also asked the AIG teacher -- who had participated in a co-teaching classroom the year prior -- to assist us with this project. We thought that having her as a third co-teacher would help us to avoid some of the co-teaching pitfalls. As a class, we read and annotated an article about food deserts. Once this was completed we brainstormed norms for a good small group discussion. Finally, we broke into three small groups and had a co-teacher with each group. We then broke down our groups of 16 into four small groups of four and each co-teacher monitored these small groups as they discussed the food desert article.

It should be no surprise that this first co-teaching venture did not go smoothly. While there were some positive outcomes -- for example the establishment of group discussion norms -- there were even more areas for improvement. After reflecting with my co-teacher, we realized that the inclusion of a third teacher in the mix was too much. We quickly discovered that what had worked in another co-teaching relationship would not necessarily work for us. The inclusion of the third teacher brought in a new dynamic that made it hard for my co-teacher and I to figure out how to work together. Had we included this third teacher later in the year, after we had already established a rhythm and process, it might have worked better, however at that early stage it proved to be too many moving parts. My co-teacher and I came to the conclusion that

we needed to work on establishing a rhythm between the two of us before inviting others to collaborate with in the future.

A positive outcome of this first activity was that we established the process of requesting feedback from students about the activities that we did in the classroom. We used a feedback form (see appendix G) to get feedback from students about the first integrated project. Overwhelming the student feedback showed that having all 54 students together in one room was too much. Students felt that it was too easy to get distracted or off task and the acoustics in the room made it hard for all students to hear what the teachers were saying. Students reported that they had missed parts of the instructions that were given beforehand, and then were confused when it came to completing the discussion. Finally, students did not like the inclusion of the AIG teacher as they sensed that it threw off the rhythm that had started to be established between me and my co-teacher. The feedback that the students provided was similar to what my co-teacher and I had concluded in our own reflections.

My co-teacher and I used this first collaboration as a learning opportunity. We decided that if we were going to have all the students together in one room we needed to be more strategic. We also realized that it might be more beneficial to teach the same thing in each of our rooms -- situated across the hall from each other -- rather than try to both teach at the same time in one large room. We became comfortable with the fact that, while our teaching styles may be slightly different, our objectives were very similar, and we began to trust each other to deliver information for the other -- a crucial step in our development as co-teachers.

The next collaboration was a debate about Christopher Columbus. Again, this project integrated content from the SS curriculum with skills in the ELA curriculum. Students began by researching Christopher Columbus and his treatment of the Taino Indians. Students were asked

to debate who was to blame for the mass murder of the Tainos and if we should honor Christopher Columbus with Columbus Day. My co-teacher and I used the lessons we had learned in the first activity to make improvements to the setup of this debate. Debates were held in each classroom with both teachers monitoring the discussions and moving between classrooms. With the teachers moving between classrooms, it helped us to notice the differences between our two classrooms. What we noticed was that one classroom was very rigid and orderly. In this room, students were speaking one at a time but without a lot of passionate engagement. The other room was loud and chaotic, with students speaking frequently -- sometimes at the same time -- but in a very passionate and engaged way. At the halfway mark of the block, students switched classrooms and continued their debates. Again, the classrooms looked very different. This gave both the students and the teachers an opportunity to see the different styles of instruction.

After the debate, we collected feedback from students. The students had the advantage of being a part of both classrooms for an entire period and had observed the differences in the two debates. Overall, the feedback we got from students was that there were pros and cons to the environment in each classroom. This helped my co-teacher and I to identify areas of strength and improvement for each approach, and allowed us to begin modifying our teaching styles to more closely resemble each other. We also used the Columbus debate as our first opportunity for co-grading an assignment. We each took one class and graded the assignment. Afterword, we compared grades and looked at a few of the assignments together. Fortunately, with the help of a clear rubric, our grading on the assignment had been nearly identical. With that hurdle out of they way we were able to proceed with co-grading throughout the year.

As mentioned above, a goal we shared was to have the students engage in a service-learning project. We were fortunate in that we had the opportunity to complete two service learning projects during this study. The first was a Fall Festival that the students planned and hosted for students in the SPMD (severely/profoundly mentally disabled) program at our school. Prior to the festival, students underwent a training hosted by our SPMD teacher to help them know how to best assist our students and their various needs. During the festival, students in our cohort either ran one of the festival stations or signed up to be a buddy for a SPMD student, which meant ushering them around the festival and helping them with the activities.

After the festival, we used a discussion format to get student feedback about the event. The feedback was overwhelmingly positive. Students reported that they had gained an appreciation for giving back and helping those students who don't often get to do things outside of their contained classroom. Many students admitted that before the festival they had been afraid to speak with the SPMD students, but that they now felt more comfortable with these students and planned to visit the SPMD classroom when they could. Students also reported feeling a stronger sense of team identity after this project.

At the start of second quarter, we decided that our next collaboration would be a Paideia seminar that focused on the Bill of Rights. Again, this activity integrated content from the SS curriculum with skills from the ELA curriculum. For this activity, we decided that each teacher would teach the same thing at the same time but in her respective room. Students were first introduced to the Bill of Rights by analyzing the actual document itself using close reading skills (an ELA standard) and a graphic organizer to break down the amendments. Next, students completed research to prepare for their seminar. For the research day, we decided to have students spend the entire 92 minute block with one teacher instead of switching classes at the

bell. Finally, a seminar was conducted in each classroom with each co-teacher leading a seminar. For this seminar we decided to mix-up the students from their original classes to allow them to work with students from the other section of the cohort. This was the first time we did this and we weren't sure how it would go, but were pleasantly surprised to find that the students were very receptive to the mixing of the classes and doing so helped to enhance the conversations. During the seminar, students spent forty-six minutes in the inner circle, with outer circle participants observing a partner from the inner circle. Halfway through the seminar, there was a break for coaching where outer circle observers gave tips and helped to coach their inner circle partner. What was interesting about this process is that students chose partners very easily and did not necessarily pick someone they were friends with but instead partnered someone they could easily see from where they had chosen to sit. The coaching proved to be a valuable aspect of the seminar and most students greatly improved during the second half of the seminar. During the second forty-six minute block, the two circles switched and students switched classrooms. This ensured that all students had a turn in each circle, and also allowed them to experience a seminar in each classroom with each teacher.

After this experience, my co-teacher and I met to discuss how things had gone in the seminar. As hoped, we realized that we had become more unified in our teaching styles. To do this, each teacher had made a conscious effort to identify areas where we could each improve and where the other was strong. In turn, we each modified our practice to mimic the strengths of the other teacher. This practice is something we did throughout the year and doing so helped us both to become stronger teachers.

In November, we noticed that many students had mastered the APE paragraph format and were performing well on written assessments, however, there were eighteen students who

were still struggling with this written response format. Since mastering the APE response format was one of our shared instructional goals, we decided to host an APE writing workshop for those eighteen students. We held the remediation in one classroom, and provided an enrichment activity for the remaining students in the other classroom. This flexibility for remediation proved to be a big benefit to the Sharrington cohort model. After the remediation workshop, nearly every student who participated in the workshop significantly improved on their next APE writing assignment.

By December, my co-teacher and I had identified thirteen students that continued to struggle in our class. We decided to reach out to the parents of those students to set up mid-year conferences. We were able to set up conferences with eight of the students' parents. Of the parents that we met with, about two-thirds of those students showed great improvement after the meeting. For those students who continued to struggle, we had opened a line of communication with the parents, and had an easy time working with them throughout the rest of the year. A second attempt was made to schedule conferences with the parents we were not able to meet with, however, we were unsuccessful in doing so. For those students whose parents we met with, this helped to foster the sense of a family or team environment. Since we met with the parents together, and provided feedback based on the performance in both classes, this helped to firm-up the perception with parents that their child had a team of teachers.

After the winter break, we decided to do a seminar about the Standing Rock protests. Over the break, Standing Rock had become a big news story and we wanted to give our students a chance to interact with an issue that was current. We linked this activity with the SS curriculum since they were studying the Trail of Tears at that point in the year. As part of preparing for the seminar, we used an excerpt from Sherman Alexie's novel, *The Absolutely True*

Diary of a Part-Time Indian, which linked literature with history as suggested by Turk, Klein, and Dickstien (2007). Students spent time preparing for the seminar in both ELA and SS, but they completed different activities in each class. The SS activities had more of a historical focus, and the ELA activities had more of a literary and current event focus. I also did this seminar with my non-cohorted students, however, they did not get the preparation from their SS teacher that students in the Sharrington cohort received.

As with the previous seminar, each co-teacher held a discussion in her classroom for forty-six minutes with a break halfway through for coaching. During the second forty-six minute block, the students switched classrooms and the two circles switched to allow every student an opportunity to be in the inner circle and in each classroom. Again, the students were mixed up from their original class schedule to give the cohort a chance to discuss the topic with people they didn't see every day. I also held two, 46-minute discussions in my non-cohorted classes, and the discussions took place over two days. I made note in my research journal that students in the Sharrington cohort had much deeper discussions, and seemed more engaged in the process than students outside of the cohort.

In mid-February, we formally began our final service learning project which would culminate in a day of service for our students. We began by having students blog about issues in their community and brainstorming about how they could help with these issues. These blogs were short and intended to expose students to the many issues our community faced so that by mid-March students could select topics they were interested in for their service-learning projects. Once students selected their topics they were put into groups based on that selection. For the duration of this project, students were mixed between the two classes to allow for some flexibility in grouping. The group's first task was to write a research paper on their community

issue, and as a component of the paper, provide an action plan for a student-led service project that would help with this issue. Research and writing for these projects took place in both the SS and ELA classroom. After completing their research papers, students put together pitches based off of their action plans. These pitches were presented to the school administration. The goal of the pitch was to get administration to select their group's project as one of the Day of Service project options. As with the paper, planning and preparation for the pitches took place in both the SS and ELA classroom. After the administration team selected the service projects for the Day of Service, all students were given the opportunity to participate, and all but two students in the cohort chose to participate. Again, this project was also replicated in the non-cohorted class. Unfortunately, students in the non-cohorted class did not have the opportunity to pitch to the administration team, but instead pitched to the eighth grade teachers during a team meeting. A larger number of students outside of the cohort chose not to participate in a service project at the end of the year (even though two projects from the non-cohorted group were included as part of the Day of Service).

The final project that we embarked on as a cohort represented a completely reconstructed curriculum. Goals and outcomes for both ELA and SS were identical, and the work toward these goals was equally shared in each classroom. We called this unit Conflict post-1939 and in this unit we integrated the study of historical literature with major historical events from the end of WWI to current day. As suggested by Turk, Klein, and Dickstein (2007), "Literature is also a powerful tool for integrating and highlighting voices from the past - especially those of children, minorities, women, and the poor - that may not be those generally heard or read by students in their historical studies" (p. 397). For this unit, students were asked to select a historical fiction book to read that is set post-1939 (or after WWI). Students were then put into literature circle

groups based off of the book that they chose. This, again, required a mix-up of students from their original classes, but by this point in the year students had become very flexible and comfortable with changing their schedule during our class block. While students in each literature circle were not reading the same book, their books had related themes -- for example one literature circle had five students reading books about the Holocaust while another circle had books that focused on Cold War spies.

The book study was enhanced by a look into these topics or conflicts in SS. The selection of topics to cover in SS was strategic, and was based off of the books that students selected for their literature study. Students in each literature circle group were then responsible for facilitating a seminar for their peers. As with previous seminars, discussions were held for forty-six minutes with a break for coaching. At the end of the first forty-six minute block, the circles switched -- giving all students a chance to discuss the topic. Unlike the previous circles the teacher was silent during this activity, allowing the students to carry on the discussion and stepping in only if absolutely necessary. This unit was somewhat replicated in my non-cohorted classes. Unfortunately, these students did not receive the benefit of strategic SS instruction. The effect was noticeable, as students in these classes struggled in discussing more current day topics that had not been covered in their SS class such as 9/11 and the War on Terror. This unit closed out our year, with my co-teacher and I successfully reaching a point of teaching a reconstructed curriculum. We also met all of our goals set forth at the beginning of the year in terms of planning and implementation.

In addition to our planned activities, my co-teacher and I spoke constantly about upcoming projects, what we were doing in our classes, and students in the cohort. We had these discussions in the hallway in between classes, at lunch, via text message in the evening, in the

morning before school, or any free moment that we had. This was in addition to our planned meeting times. This constant flow of communication allowed us to make little connections to each other's classroom even when it wasn't formally planned. Students knew that if they did something in one class (good or bad) both teachers would know about it. Showing this awareness of what was going on in each others classroom further helped us to achieve a family/team environment.

CHAPTER 5

Data Collection

To assess student growth and experience I used four data points: EOG growth scores, students work, student survey results, and students interviews. The EOG growth scores and student work analysis gave me quantitative information about how students actually performed on assessment, while the student survey acted as a quantitative data point to assess students attitudes and experiences throughout the process. The student interviews supplemented the students survey data set as a qualitative measure of how students experienced the process. Having information about student perspective allowed me insight to the raw data collected from the EOG growth scores and student work samples. Additionally, I kept a teacher-researcher journal that I used to qualitatively reflect on the process.

Quantitative Data

I used EOG growth scores as a form of non-biased, standardized growth assessment. After students took the EOG and scores had been processed, teachers received a report that detailed the student's scale score, percentile rank, and achievement level. Student growth is measured by the percentile rank. The North Carolina Department of Public Instruction also puts together a report that predicts what a student's percentile score should be if they have shown growth in a given year. This projected score is determined by a confidential algorithm. Therefore growth scores can be positive or negative. When looking at average growth scores, +3 percentage points is considered a large improvement, and teachers with students whose average growth is greater than or equal to 3% are labeled as exceeding growth expectations. The converse is also true. Teachers whose students have greater than or equal to -3 percent average growth are labeled as not meeting growth. To determine student growth using EOG growth

scores, I compared the student's percentile score with their projected percentile score and came up with either a positive or negative percentile difference.

Analyzing average growth scores for each group provided me with some good quantitative data, however, it is worth noting that standardized tests do not give a complete picture of the students and that a variety of factors; including test anxiety, lack of sleep, or hunger; can affect a student's performance on the EOG. By using the growth score only, I was able to determine if, according to the test, students had made the growth expected in 8th grade.

The second data set I used was student scores on teacher-made assessments to analyze growth. To do this, I compared average scores from two assessments at the beginning with two similar assessments as the end of the year. The assessments were a paper and a Paideia seminar from the beginning of the year, and a paper and Paideia seminar from the end of the year. Both assessments had very similar rubrics, with the skills required being identical. The only differences in the rubrics was the content covered in each assessment.

When determining growth using student work, I first averaged the scores for each assessment, looking at both overall averages and sub-group averages (high achiever, medium achiever, and low achiever) (See appendix C). I then evaluated the overall average increase from the assessments at the beginning of the year to assessments at the end of the year. It is important to note that in factoring these averages, I did not count zeros recorded for students that did not turn in an assignment. I made this decision because turning in nothing doesn't reflect student growth (or lack thereof), but instead could be the result of various other factors unrelated to student growth or ability.

When comparing the average scores for each sub-group, I considered the overall increase or decrease in the averages and did not compare the numerical averages themselves. With the

focal point being growth and not proficiency, doing this helped to eliminate the concern over the different numbers of students in each sub group. There is always the argument of bias in using teacher-graded assessments to determine growth. However, since I graded each assessment that eliminates some of the teacher bias that could be present if multiple teachers were grading an assignment.

In addition to collecting data on student growth, I also collected data to discern student experience. I wanted to see if there was any difference in attitudes and perception between students in the Sharrington cohort and students in the control group. I evaluated student attitudes through an online survey given via Google Forms (see appendix D). The survey was anonymous and students used a Likert scale rating to show how much they agreed/disagreed with given statements. The survey was given three times throughout the year to determine any changes in student attitudes and perceptions.

The first survey was assigned for homework on Friday, September 9. Most students completed the survey over the weekend, however, a few completed it on the following Monday. A total of 55 students took the survey -- 30 students in the Sharrington cohort took the survey, and 25 students in the control group took the survey. The Mid-Year survey was given in class on February 17 to increase student participation. A total of 88 students took the mid year survey -- 44 students in the Sharrington cohort, and 44 students in the control group. The end of year survey was given in class on May 26. A total of 86 students took the end of year survey -- 45 students in the Sharrington cohort, and 41 students in the control group.

The analysis of the student survey concentrated solely on the statements that pertained to the students' thoughts and feelings towards their ELA and SS instruction. The survey results were tallied for each rating option as a percentage of the total survey responses. Those

percentages were categorized by cohort and were used as the basis for the analysis (see appendix E).

Qualitative Data

Finally, I conducted seven interviews with select students within the Sharrington cohort. For these interviews, I selected students representing each achievement group (high, medium, and low) and used an interview protocol to gain insights on their experience within the Sharrington cohort (see appendix F for a copy of the interview protocol). As the interviews were being conducted, I took notes and scripted what the students said. To analyze the students interviews, I followed Creswell's (2009) framework for qualitative data analysis and interpretation as it is presented in the Koshy (2010) *Action Research* text (p. 113). Creswell's (2009) framework is a six step process that includes first collecting raw data, then reading through the data and using coding to determine themes or descriptions. Creswell (2009) then suggests interrelating themes/descriptions with previous research or theory in order to interpret or make meaning of the themes and descriptions in the data.

Additionally, throughout the research process, I kept a research journal where I took notes, made plans, and recorded select observations. This journal was used for qualitative data on process, planning, initial thoughts, and observations as I compiled my research.

CHAPTER 6

Analysis of Data and Results

EOG Growth Score Analysis

The first piece of data analyzed was the EOG growth analysis. To analyze this data, I compared students' projected percentiles with their actual performance percentiles on the EOG. First, I determined the percent difference between the projected percentile and the actual performance percentile. I then averaged these differences first by cohort and second by achievement group. Appendix B shows the breakdown of growth based on EOG scores. The percentile in the table represents the average number of percentage points students achieved above or below their projected percentile.

As can be seen in appendix B, students in the Sharrington cohort overall had a positive student growth, while students in the control group had an overall negative student growth. It is important to remember that when looking at EOG scores an average growth of plus/minus three percent is considered to be significant. While it would be easy to conclude from this data that the interdisciplinary co-teaching positively impacted student growth, one must first examine the validity of the data. While the Sharrington cohort and the control group were both heterogeneously mixed classes, the number of high achieving students in the Sharrington cohort is much larger than in the control cohort. This is because one of the classes in the control cohort was an ICR (in-class resource) class. This means that students in this class have IEPs that require an in-class resource teacher. The result of this requirement is that many of our students with IEPs end up being tracked into this class. Additionally, it is against Wake County policy for students who are labeled AIG to be in this class. Therefore, in the control group there is only one class that had high achieving students versus two classes in the Sharrington cohort. This

matters because the DPI predictor score has a much higher accuracy rating for high achieving students than it does for low achieving students. What that means is that DPI is generally much more confident in their predictor percentiles for high and medium achieving students than they are for low achieving students. For example, a high achieving student, Student A, had a predicted percentile of 95% with a 99.9% probability that he would score in at least the 95th percentile. However, Student B, a member of the low achievement group, was predicted to score in the 15th percentile, with only a 23% probability of meeting that score. Since student growth is determined by comparing the predicted percentile to the actual percentile, it is possible that the predicted percentile is less accurate for low achieving students. With this in mind it is hard to make a conclusion that the Sharrington cohort positively affected student growth because there are other factors at play. Therefore, the data was broken down by sub-groups and further analyzed to make a more accurate determination.

The next step in this data analysis was to look at the growth averages by sub-group. As can be seen in Appendix B, students in the Sharrington cohort that were labeled high or medium achievers had positive student growth averages, while students in the control group that were labeled high or medium achievers had negative student growth averages. This data more strongly suggests that being a part of the interdisciplinary cohort does have a positive impact on student growth. As discussed above, predictor scores for high and medium achievers tend to be much more accurate. Therefore, by looking at the average growth at these two sub-groups alone, it gives a more clear picture of overall student growth. All students in the study had the same ELA teacher, and this test assesses growth in ELA. Since the primary difference between these two groups is the interdisciplinary co-teaching, it stands to reason that this does have a positive impact on student growth.

Finally, in both groups, students in the low achievers subgroup had negative growth. However, the negative growth was much smaller at -4.1% in the Sharrington cohort than in the control group, which was at -7.4%. As discussed above, the projected percentiles are much less accurate for the low achieving groups, however, there are two conclusions one can make from this data. As mentioned above, one of the classes in the control group was an ICR class. Due to rules set forth by the county, the ICR class had a high concentration of low achieving students, a small number of medium achieving students, and no students in the high achievement category. To determine if this homogeneous grouping of low achieving students skewed the control group data, I also looked at growth scores for my first period class only. This class was a completely heterogeneous group and more closely resembled the makeup of the two classes in the Sharrington cohort. In looking at the data from period 1 alone, it is nearly identical to the numbers for the control group data. Therefore, the conclusion can be drawn that interdisciplinary co-teaching did have a positive impact on student growth even at the low achievement level.

Student Work Analysis

The second piece of data analyzed for student growth was student work samples. For this analysis I looked at average scores by sub-group on four assignments: two papers and two seminars. As discussed above, these assignments were selected for analysis due to their similarity in rubrics, requirements, objectives, and time-frame during which they were assigned. I first determined averages for each assignment by sub-group, however, it is important to note that I did not include zeros in this analysis because zeros indicate that work was not turned in and is not a good measure of student growth. I broke down these averages not only by sub-group (high, medium, and low achievers) but also by class period and cohort (see appendix C).

I then compared average scores for each sub-group for the seminars. To do this, I calculated the percent change in average scores from the first seminar to the second seminar. I repeated this process for the papers (see appendix C). I decided to look at improvement of average scores from one assignment to the next rather than comparing scores because it gives a better indication of student growth. All students came into the year at a certain level and their scores on the first assignment reflect that level. By comparing the improvement between the first and second assignment I could determine growth. If I had simply compared average scores on each assignment I would have been looking at how talented a student was both coming into the class and leaving the class, but that doesn't tell me if the student grew over the course of the year.

In looking at the student work samples overall, one positive aspect is that all students in all subgroups showed growth in their average scores from the beginning of the year to the end of the year. Breaking down student growth by sub-group, students in the Sharrington high achievement sub-group improved by 2.6% on the seminar and 3.8% on the paper, while high achieving students in the control group grew by 4% and 5.8% respectively. Medium achievement students in the Sharrington cohort improved by 5.4% on the seminars and 4.1% on the papers, while medium achievement students in the control group improved by 4.3% on the seminars and 0.9% on the papers. Finally, low achieving students students in the Sharrington cohort improved by 33.5% on seminars and 27.5% on papers, while low achieving students in the control group improved by 0.2% on seminars and 27.7% on papers.

In looking at these numbers, a few things stuck out to me. First, the percent growth for low achieving students in seminars was vastly different -- with low achieving students in the Sharrington cohort improving significantly, while low achieving students in the control group

barely improved -- but relatively consistent improvement was made by low achieving students in both groups on the paper. This may be due to the skills involved in seminars versus writing a paper. In the seminar, students are required to speak with their classmates. The student is given more autonomy over their participation and must feel confident and comfortable in their skills. It is possible that students in the Sharrington cohort felt more comfortable with their peers in general and therefore were more likely to speak up and engage in conversations. At the start of the year, students in the low achievement group were hesitant to speak up in seminars for a variety of reasons, but mostly because it is intimidating to speak in front of the class, especially if a student is unsure of himself. However, the team/family environment that was created in the Sharrington cohort may have made low achievement students feel more comfortable speaking up in front of their peers. As this social bond was solidified throughout the year, these students became more confident and therefore engaged more in the seminars, which in turn resulted in grade improvement.

Another data point that jumps out is the improvement of medium achievement students on the papers. Students in the Sharrington cohort improved by 4.1%, while students in the control improved by 0.9%. Again, I believe the team dynamic fostered in the Sharrington cohort is the reason for this difference between the two sub-groups. While the first paper was written individually in each class, the second paper was a group-authored paper in both the Sharrington cohort and the control group. While writing and revising the paper, I noted in my research journal that students in the Sharrington cohort tended to have an easier time revising each other's work. They seemed less hesitant in offering feedback to their groupmates than did students in the control group. This is most likely due to the team/family environment that was fostered in the Sharrington cohort from the start. Because students were comfortable with each other, they

felt more at ease with offering revisions and edits on a section of the paper that was written by one of their classmates. This resulted in significant grade improvement among the medium achievement students in the Sharrington cohort.

At the high achievement level, there does not appear to be any significant difference in improvement between the Sharrington cohort and the control group. One reason for this may be that, on average, students in the Sharrington cohort and control group were already scoring in the 90s on their assignments at the start of the year. It would be difficult for there to be a huge improvement in terms of scores from the start to the year to the end of the year. Therefore, the ELA EOG data may be more relevant for growth analysis of the high achievement group. As mentioned above, both groups showed positive growth, meaning that based off of student work alone, there is no conclusive evidence that cohorting had a positive or negative impact on the high achievement sub-group.

Student Survey Analysis

The third data point analyzed was the student survey (see appendix D). This survey assessed students' attitudes toward their SS and ELA instruction and was used to gain insight on how students believed they were doing in comparison to their scores on assessments. The student survey was given three times throughout the year. As mentioned above, analysis of the student survey focused on those questions in the survey that gave the most insight into students thoughts about their instruction in ELA and SS (see appendix E).

In looking at the breakdown of students responses for the first statement, "I like finding connections between things I am learning in my classes," what's significant is the jump in the percentage of students that answered "strongly agree" from the beginning of the year to the middle of the year. Students in the Sharrington cohort jumped from 3% to 27% (a 24% increase)

while students in the control group went from 0 to 11%. At the beginning of the year, 30% of students in the Sharrington cohort answered agree or strongly agree to this statement and 36% of the control group answered agree. This jumped up at the mid-year to 56% of the Sharrington cohort responding agree or strongly agree and 52% of the control group answering agree or strongly agree. At the end of the year, these numbers stayed relatively consistent with 61% of the Sharrington cohort marking agree or strongly agree and 59% of the control group marking agree or strongly agree.

Since a significant focus was put on making connections between the ELA and SS curriculum by both teachers, it is not surprising that the percentages for Sharrington cohort jumped so significantly from the beginning of the year to the middle of the year. At the start of the year, most of the students had not been exposed to an integrated curriculum and most likely didn't care one way or the other if their curriculums were connected. However, by the time of the mid-year survey, students had participated in multiple integrated SS and ELA projects and had come to the realization that they enjoyed these types of projects.

What, then, might explain the similar jump in the percentages for the control group? Even though the students in the control group were not a part of the intentional integration of curriculum, all students that took the survey had me as their ELA teacher. I did make the effort in ELA to highlight connections to SS when they existed. The difference is that these connections were not necessarily reinforced for the control group in their SS classroom. However, it appears that regardless of whether or not the connection was intentionally planned or merely pointed out, the majority of students seem to enjoy seeing that there are connections between their classes.

The next significant finding from this student survey was students' response to the statement "I believe there is a connection between what we learn in social studies and what we learn in language arts." At the start of the year, 27% of students in the Sharrington cohort answered strongly agree, while only 8% of students in the control group responded with strongly agree. This may be because at the start of the year, my co-teacher and I had explained to our students that we were going to be teaching the two subjects together and had already engaged in a few collaborations and team building activities. In contrast, in the control group there had been very little connection to social studies at the start of the year. On the mid-year survey, the percentage of students answering strongly agree to this statement were more similar between the two groups -- 39% in the Sharrington cohort and 34% in the control group. This is most likely due to the fact that right before students took the mid-year survey, all had just completed an argument essay on Civil War Risk takers. As discussed above, more effort was made on behalf of the SS teacher to create a connection for our Sharrington students, but it was easy for students in the control group to see the connection between SS and ELA for this assignment even if their SS teachers were not directly pointing it out. On the end-of-year survey, the percentage of students who answered strongly agree stays relatively constant for the Sharrington cohort (40%), but drops in the control group to 24%. The last unit for both the Sharrington and control group was the same in ELA (Conflict post 1939), however, the Sharrington group had the benefit of the concepts in this unit being reinforced in their SS class while the control group did not. This indicates that, unless a direct connection is being intentionally made between the two subjects, students will not necessarily find the connection on their own. Thus, in order for interdisciplinary co-teaching to be apparent to the student, both teachers must communicate connections and shared expectations to the class.

For the statement, “I think I understand social studies better if there is a connection to language arts,” there was a significant jump in the Sharrington students that answered agree or strongly agree to this question from beginning of the year to the middle and end of the year. At the beginning of the year, 30% of students in the Sharrington cohort responded positively, and at the mid-year point 54.5% of students answered agree or strongly agree. That is a 24.5% jump. In contrast, there was only a 12% jump in positive responses from the control group. The same can be seen in the Sharrington cohort responses to the statement “I think I understand language arts better if there is a connection to social studies.” At the start of the year, 27% of students in the Sharrington cohort answered agree or strongly agree, but by mid-year that percentage jumped to 61%, a 34% increase. However, in the control group, there was only a 7.5% increase from the beginning of the year to the midpoint of the year.

This response shows that after having been exposed to the integrated curriculum activities, students in the Sharrington cohort actually believed that they were understanding the material better. This is supported by their student work samples and EOG scores. In other words, not only do the assessments show improvement, but the students themselves were aware of this improvement in their performance and understanding. Furthermore, the data suggests that students believed their improvement was related to the two subjects being taught in conjunction with each other.

Student Interview Analysis

The final piece of data analysed was the interviews of students in the Sharrington cohort. An interview protocol (see appendix F) was used to initiate conversation with all seven student interviewees, and interviews were analyzed for prominent themes and descriptions. A recurring theme that showed up in all of the interviews was the connections that students were making

with each other. Every student interviewed mentioned that they appreciated the connections they were making with their classmates. One student, Max, said that while he was very shy at the beginning of the year, he now felt more comfortable sharing his ideas with his classmates because he'd gotten to know them. Another student, Lucy, said that she felt more comfortable talking with people in the class about assignments because she'd gotten a chance to know them in both ELA and SS and had been given lots of opportunities in both classes to work with her peers.

Another common theme from the interviews was the students' appreciation of having two teachers that they could go to with questions about content, assignments, or anything else they were struggling with. Dana, a struggling student, said "I appreciate you guys helping me out and working together to help me out." Celine said that using the shared model of instruction had helped her to learn both subjects better because there was more explanation of material done by both teachers, which lead to a clearer understanding for her. One of our high achieving students, Octavia, said that having two teachers made the material stronger because we were able to go more in-depth in the topics and learning.

An interesting observation noted during the interview by Greg, one of our high achievement students, was that both teachers really got along. He thought that was the main reason for why the shared class was going so well. He observed that he couldn't imagine the co-teaching working well with every teacher. I found this observation to be extremely insightful because I also attribute much of the success of our co-teaching to the ability of my co-teacher and I to seamlessly work together. I agree with Greg that I couldn't have co-taught as successfully with just any teacher and that the dynamic created between my co-teacher and I was responsible for a large part of our success with the students.

From these interviews it can be concluded that students in the Sharrington cohort felt supported by the two teachers and found this to be beneficial to them in increasing their understanding of the content. Additionally, the team environment seemed to be a benefit to students in the cohort, as every single student interviewed said that they felt more comfortable with their peers in the class because they'd been given an opportunity to work with them so much. Students seemed to be aware that they were able to go more in-depth and get more support on topics being covered in both classes, which they believed gave them a stronger understanding of the content.

Research Journal

Throughout the research process I kept a teacher research journal that I used to collect my initial thoughts and observations. This journal was not analyzed, per-se, but was used as a source for which to obtain my initial reactions and thoughts on the process. Since the study was conducted over the course of the year having this snapshot to look back on was paramount in compiling my research and reflecting on the study. It allowed me to remember details from the start of the study and also how I felt about aspects of the study as it was underway.

CHAPTER 7

Conclusions and Discussion

After conducting a year-long study about the effectiveness of interdisciplinary co-teaching on student growth and analyzing multiple data points, I have concluded that interdisciplinary co-teaching had a positive effect on student growth and experience. All data analyzed seems to point to this conclusion. When looking at growth on standardized ELA EOG assessments, students in the Sharrington cohort had an overall positive growth percentage while students in the control group had an overall negative growth percentage. Since all students in both groups had the same ELA teacher, the main difference between the two groups was the co-teaching aspect. Not only did students in the Sharrington cohort have an overall positive growth percentage on their standardized EOG assessments, they also displayed a greater growth percentage on student work samples from the start of the year to the end of the year when compared to students in the control group. Additionally, the results of the student survey and the individual student interviews suggest that students in the Sharrington cohort also felt that they were doing better in their SS and ELA class as a result of the interdisciplinary co-teaching approach.

In addition to answering my main research question, the data analysis from this study generated a few other themes which are worth mentioning and may, perhaps, provide insights into questions to be answered in future studies on co-teaching. First, it cannot be ignored that students in the Sharrington cohort benefitted greatly from the team/family dynamic that was fostered at the beginning of the year. Every single student interviewed made mention of the fact that they felt more comfortable in the class because they knew the other students in the class so well. This comfort led to increased participation for some students and increased cooperation for

all students. Students also mentioned feeling more comfortable approaching both teachers with questions and concerns (both content-related and personal) due to this family environment. This finding addresses the question posed by Ellerbock (2012) in regards to creating a family-like environment in a ninth grade team. In Ellerbock's (2012) study, there was not enough purity of the teams and she reported that while teachers felt the benefits of a team, many of the students did not realize that they were on a team. In contrast, in my study, students in the Sharrington cohort knew that they were on a team and there was 100% purity of the team, thus addressing two of Ellerbock's (2012) concerns. Students seemed to believe that they benefitted from this teaming however, further analysis would be needed to determine whether or not the family-like environment improved student performance.

Finally, in my own observations and reflections, and in discussing this at length with my co-teacher and other teachers who have engaged in the co-teaching experience, the dynamic of the two teachers is paramount to the success of the process. In large part, this study was successful because my co-teacher and I were both committed to the process and made it a priority to work together on every aspect of the study. We went in to the study knowing that we had a shared teaching philosophy and compatible personalities and this proved to be our greatest asset time and time again. This easy working relationship did not go unnoticed by students, one of whom even made mention of the dynamic in his student interview. This conclusion is consistent with the findings in the case studies conducted by Applebee, Adler, and Flihan (2007). After studying three co-teaching teams, they conclude that, "To work well, such instruction requires a deep commitment from teachers as well as a mix of personalities that are willing to work together during an extended period of time" (p. 1037).

In the field of educational research, this study addresses an area of co-teaching that is not widely addressed in the existing studies--the impact of the approach on students. In most of the other studies focusing on interdisciplinary co-teaching researchers come from outside institutions and often have restricted access to the students involved in the study. However, as a teacher researcher, I had unrestricted access to the students involved in the study, and as a result, was better able to determine the effect of co-teaching on student growth and experience.

At the start of this study it was my hope that the the co-teaching and teaming model would be spread throughout our grade level. However, despite the evidence supporting our positive impact on student growth, the co-teaching and teaming of eighth grade ELA and SS was discontinued. Outside of this setback there are still opportunities for interdisciplinary co-teaching at my school even if not in my grade level. Sixth and seventh grade is already teamed for all core classes, but at this time very little cross-curricular co-teaching exists on these teams. However, the results of this study suggests that interdisciplinary co-teaching can have a positive impact on EOG scores. In today's standardized testing-driven environment I believe this data will help to spread interdisciplinary co-teaching in sixth and seventh grade.

Based on the findings of the study I plan to continue the integration of SS into my ELA classroom as I feel that it is a benefit to students. Additionally, I plan to incorporate more science topics into my ELA classroom as I feel there is great potential benefit to students. On a larger scale, however, this study shows that when the right circumstances are present, teaming and engaging in interdisciplinary co-teaching can be a great benefit to students not only in their academic growth but in their personal development as well. Even though I will not officially have a co-teacher in the foreseeable future, this process has stressed to me the importance of collaboration with colleagues even if they are outside of my professional learning community.

Throughout this study I grew more as a teacher than I had in my previous teaching years combined. This is due in large part to having a such a strong teacher with whom to collaborate. I plan to continue to seek out these collaborative partnerships, even if it is not within an official capacity.

In terms of data collection and methodology, there are a few limitations in my study. The first is the low participation on the student survey given at the beginning of the year. In reflecting on this first survey, had students completed that survey in class participation would have likely increased. Also, doing the surveys in class at the mid-year and end-of-the-year points made it easier for me to determine which class period a response came from due to the time stamp. I failed to ask students for their class period, thinking it would make them hesitant to answer honestly, and only had the determination of who a student's social studies teacher was as a means of breaking up the two cohorts for the first survey. This may have led to some inaccurate grouping on the first survey, as a few of the students in my control group also had my co-teacher for a SS class but were not in the Sharrington cohort.

Second, after looking through the data, I may have gained more insighted had I conducted more student interviews in the Sharrington cohort. Additionally, I should have also conducted interviews with students in the control group. This would have allowed for more comparison of student attitudes toward instruction. A lot of insight was gained from the interviews that were conducted and these interviews provided a qualitative data point that helped to interpret some of the quantitative data.

I believe this study opens the door for future teacher researchers to see if the results found from this study can be replicated and possibly expanded. This would help to legitimize the positive results of this study and provide more theoretical implications for interdisciplinary co-

teaching in education. Furthermore, I believe there is space for research into the impact of creating a team/family dynamic with students and analyzing how this affects student growth and development as well.

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APPENDICES

Appendix A

Table 2: Achievement Profiles (by class period and group)

Class/Group	High Achievement* (No. of students)	Medium Achievement (No. of students)	Low Achievement** (No. of students)
Sharrington Cohort	19	27	8
Pd. 5	12	11	3
Pd. 7	7	16	5
Control Group	8	30	13
Pd. 1	8	18	3
Pd. 4 (ICR)	0	12	10

* High Achievement students are determined as those students who were identified as AIG in ELA at a strong or very strong level. These determinations were made by a standardized assessment prior to the student entering 8th grade.

** Low Achievement students are determined as those students who came into 8th grade below grade level based on their 7th grade EOG scores. These students remained below grade level throughout the year based on iReady benchmark examinations given throughout the year.

Appendix B

Table 3: ELA EOG Student Growth Analysis

Overall Growth			
Sharrington Cohort		+1.6%*	
Control Group		-3.7%	
Group (Total # students taking exam)	High Achievers (Avg. Growth)	Medium Achievers (Avg. Growth)	Low Achievers (Avg. Growth)
Sharrington Cohort (48)	18 (+2%)	23 (+2.7%)	7 (-4.1%)
Control Group (47)	8 (-2.6%)	28 (-1.4%)	11 (-7.4%)
First period (27)	8 (-2.6%)	16 (-1.4%)	3 (-7.3%)

*Percentage represents the average increase or decrease in percentage points based on the student's projected state percentile and their actual percentile rank. An average of +/- 3% is considered significant in this type of testing and will result in a teacher being labeled as either exceeding growth expectations, or not meeting growth expectations.

Appendix C

Student Work Growth Analysis (Avg. Scores)*

Table 4: Human Rights Seminar (Beg. of Year)

Class/Grouping	Low Achievement	Medium Achievement	High Achievement
Sharrington	52.6%	86.7%	94.4%
Pd. 5	60%	90.6%	93.4%
Pd. 7	45.2%	82.7%	95.4%
Control	72%	87.7%	92.5%
Pd. 1	68.3%	90.2%	92.5%
Pd. 4	75.7%	85.1%	N/A

Table 5: Conflict Post 1939 Seminar (End of Year)

Class/Grouping	Low Achievement	Medium Achievement	High Achievement
Sharrington	86.1%	92.1%	97.0%
Pd. 5	91%	94.2%	94.7%
Pd. 7	81.3%	90.0%	99.0%
Control	72.2%	92.0%	96.5%
Pd. 1	75.0%	94.4%	96.5%
Pd. 4	69.4%	89.6%	N/A

Table 6: Civil War Risk Takers Paper (Beg. of Year)

Class/Grouping	Low Achievement	Medium Achievement	High Achievement
Sharrington	65.1%	85.0%	91.2%
Pd. 5	67.5%	82.8%	88.7%
Pd. 7	62.7%	87.1%	93.6%
Control	58.5%	85.8%	91.2%
Pd. 1	49.7%	83.3%	91.2%
Pd. 4	67.4%	88.4%	N/A

Table 7: Community Issues Research Paper (End of Year)

Class/Grouping	Low Achievement	Medium Achievement	High Achievement
Sharrington	92.6%	89.1%	95.0%
Pd. 5	90.0%	86.5%	95.2%
Pd. 7	95.2%	91.6%	94.8%
Control	86.2%	86.7%	97.0%
Pd. 1	96.0%	94.2%	97.0%
Pd. 4	76.4%	79.3%	N/A

Table 8: Average percentage growth on seminars by sub-group

Grouping	Low Achievement	Medium Achievement	High Achievement
Sharrington	+33.5%	+5.4%	+2.6%
Control	+0.2%	+4.3%	+4.0%

Table 9: Average percentage growth on papers by sub-group

Grouping	Low Achievement	Medium Achievement	High Achievement
Sharrington	+27.5%	+4.1%	+3.8%
Control	+27.7%	+0.9%	+5.8%

*Average scores were factored using scores for work turned in. Zeros were not factored into these averages.

Appendix D

Student Survey

For each statement below, select how much you agree with the statement.

* Required

I enjoy reading. *

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

I read for pleasure outside of class. *

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

I enjoy learning about things that have happened in the past *

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

I like finding connections between things I am learning in my classes. *

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

I like to write. *

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

I write for fun outside of class. *

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

I like to communicate with my classmates. *

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

I feel that I learn best when I can communicate with my classmates. *

Strongly Agree
Agree
Neutral

Disagree
Strongly Disagree

I find my language arts class to be challenging *

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

I find my SS class to be challenging *

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

I believe there is a connection between what we learn in social studies and what we learn in language arts. *

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

I think I understand social studies better if there is a connection to language arts. *

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

I think I understand language arts better if there is a connection to social studies. *

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

I learn a lot in language arts. *

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

I learn a lot in social studies. *

Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree

My social studies teacher is

Choose

Appendix E

Student Survey Data Analysis

The Beginning of Year Survey was assigned for homework on Friday, September 9. Most students completed over the weekend, a few completed on Monday, 9/12. A total of 55 students took the survey - 30 students in the Sharrington cohort took the survey, and 25 students in the control group (Non-Sharrington) took the survey.

The Mid-Year Survey was given in class on Feb. 17 to increase student participation. A total of 88 students took the mid year survey - 44 students in the Sharrington cohort, and 44 students in the control group (Non-Sharrington).

The End of Year Survey was given in class on May 26. A total of 86 students took the end of year survey, 45 students in the Sharrington cohort, and 41 students in the control group (Non-Sharrington).

Table 10: Statement - I like finding connections between things I am learning in my classes

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Beg. of Year Survey (Overall)	1.8%	32.7%	56.4%	5.5%	3.6%
Beg. of Year Survey (Sharrington)	3%	27%	60%	3%	7%
Beg. of Year Survey (Non-Sharrington)	0	36%	56%	8%	0
Mid-Year Survey (Overall)	20.6%	36.1%	36.1%	7.2%	0
Mid-Year Survey (Sharrington)	27%	29.5%	41%	2%	0
Mid-Year Survey (Non-Sharrington)	11%	41%	34%	13%	0
End of Year Survey (Overall)	14%	46.5%	31.4%	5.8%	2.3%
End of Year Survey (Sharrington)	17%	44%	27%	7%	4%
End of Year Survey (Non-Sharrington)	10%	49%	37%	5%	0

Table 11: Statement - I like to communicate with my classmates

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Beg. of Year Survey (Overall)	29.1%	40%	25.5%	3.6%	1.8%
Beg. of Year Survey (Sharrington)	37%	43%	17%	3%	0
Beg. of Year Survey (Non-Sharrington)	24%	40%	28%	4%	4%
Mid-Year Survey (Overall)	48.5%	40.2%	10.3%	1%	0
Mid-Year Survey (Sharrington)	41%	45%	11%	0	0
Mid-Year Survey (Non-Sharrington)	50%	39%	9%	2%	0
End of Year Survey (Overall)	46.5%	33.7%	14%	3.5%	2.3%
End of Year Survey (Sharrington)	40%	40%	20%	0	0
End of Year Survey (Non-Sharrington)	56%	27%	7%	7%	5%

Table 12: Statement - I feel that I learn best when I can communicate with my classmates

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Beg. of Year Survey (Overall)	21.8%	41.8%	29.1%	3.6%	3.6%
Beg. of Year Survey (Sharrington)	20%	47%	27%	3%	3%
Beg. of Year Survey (Non-Sharrington)	16%	40%	36%	4%	4%
Mid-Year Survey (Overall)	47.4%	30.9%	17.5%	4.1%	0
Mid-Year Survey (Sharrington)	41%	32%	18%	9%	0
Mid-Year Survey (Non-Sharrington)	50%	34%	16%	0	0
End of Year Survey (Overall)	34.9%	39.5%	22.1%	3.5%	0
End of Year Survey (Sharrington)	33%	42%	24%	0	0
End of Year Survey (Non-Sharrington)	37%	37%	20%	7%	0

Table 13: Statement - I believe there is a connection between what we learn in social studies and what we learn in language arts.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Beg. of Year Survey (Overall)	18.2%	47.3%	25.5%	7.3%	1.8%
Beg. of Year Survey (Sharrington)	27%	40%	30%	0	3%
Beg of Year Survey (Non-Sharrington)	8%	60%	20%	12%	0
Mid-Year Survey (Overall)	37.1%	40.2%	18.6%	2.1%	2.1%
Mid-Year Survey (Sharrington)	39%	32%	25%	2%	2%
Mid-Year Survey (Non-Sharrington)	34%	50%	13%	0	2%
End of Year Survey (Overall)	32.6%	53.5%	9.3%	2.3%	2.3%
End of Year Survey (Sharrington)	40%	47%	7%	4%	2%
End of Year Survey (Non-Sharrington)	24%	61%	12%	0	2%

Table 14: Statement - I think I understand social studies better if there is a connection to language arts.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Beg. of Year Survey (Overall)	3.6%	25.5%	49.1%	18.2%	3.6%
Beg. of Year Survey (Sharrington)	7%	23%	47%	17%	7%
Beg. of Year Survey (Non-Sharrington)	0	28%	56%	15%	0
Mid-Year Survey (Overall)	17.5%	29.9%	35.1%	14.4%	3.1%
Mid-Year Survey (Sharrington)	25%	29.5%	29.5%	11%	4.5%
Mid-Year Survey (Non-Sharrington)	11%	29.5%	32%	18%	2%
End of Year Survey (Overall)	17.4%	37.2%	30.2%	10.5%	4.7%
End of Year Survey (Sharrington)	22%	38%	24%	11%	4%
End of Year Survey (Non-Sharrington)	12%	36%	37%	10%	5%

Table 15: Statement - I think I understand language arts better if there is a connection to social studies.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Beg. of Year Survey (Overall)	12.7%	18.2%	47.3%	18.2%	3.6%
Beg. of Year Survey (Sharrington)	17%	10%	53%	17%	3%
Beg. of Year Survey (Non-Sharrington)	8%	28%	44%	15%	4%
Mid-Year Survey (Overall)	13.4%	37.1%	34%	11.3%	4.1%
Mid-Year Survey (Sharrington)	20%	41%	20%	14%	4.5%
Mid-Year Survey (Non-Sharrington)	4.5%	39%	43%	9%	4.5%
End of Year Survey (Overall)	20.9%	32.6%	32.6%	9.3%	4.7%
End of Year Survey (Sharrington)	27%	31%	27%	11%	4%
End of Year Survey (Non-Sharrington)	15%	32%	39%	7%	5%

Appendix F

Interview Protocol

1. What do you like about being in the shared class? Tell me what is working for you and what benefits you see to this type of class set-up.
2. Are their drawbacks to being in the combined class?
3. What specific activities have been beneficial to you?
4. Have you noticed any changes in yourself as a student?
5. What suggestions do you have for improvement?
6. Anything else you would like to add?

Appendix G

Student Feedback Form

Name: Date:

Directions: Using the chart below, let's reflection on our discussions from yesterday. What went well (**plus**) and what needs improvement (**delta**). You may use bullet points.

	Plus	**Delta**
Whole Group		
Individual		