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The big picture : the perception of teachers, counselors, and administrators on interdisciplinary instruction

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ABSTRACT

THE BIG PICTURE: THE PERCEPTION OF TEACHERS, COUNSELORS, AND
ADMINISTRATORS ON INTERDISCIPLINARY INSTRUCTION

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This study examined the perspectives of teachers, counselors, and administrators with

a focus on interdisciplinary instruction. Minimal research exists that examines the various

stakeholders' perspectives on the value and implementation of interdisciplinary instruction.

While many case studies have been researched from teachers' perspectives on

interdisciplinary instruction, there has been minimal research on the various stakeholders'

perspectives responsible for the implementation of the framework.

Questions addressed by this study involve how teachers, counselors, and

administrators perceive the framework of interdisciplinarity. Additionally, background

experiences, curriculum and instruction insight, and educational viewpoints were discussed.

The study involved a three-part interview series to explore experiences and

perceptions of interdisciplinarity. This case study was conducted on three teachers, three

counselors, and three administrators who have been in the educational field for over five years

and identified as instrumental in the implementation and sustainability of interdisciplinary

instruction. The setting is a highly successful suburban high school that has an informed

disciplinary curriculum and has applied interdisciplinary teaching to the curriculum.

Through these interviews, themes emerged between participants, and seven emergent themes were identified. The findings revealed important factors that contribute to the implementation of interdisciplinary instruction and the importance of an aligned informed disciplinary curriculum. Findings further indicate a need for policy infrastructures to support an informed disciplinary curriculum and the implementation of interdisciplinary instruction.

The study also outlined several recommendations that address the greater implication for the field and includes issues surrounding leadership, educational change, and curriculum and instruction.

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THE BIG PICTURE: THE PERCEPTION OF TEACHERS, COUNSELORS, AND

ADMINISTRATORS ON INTERDISCIPLINARY INSTRUCTION

BY

Panagiota Merris Grow

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FOUNDATIONS

Doctoral Director:
    Joseph Flynn

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DEDICATION

To my mom, you are the smartest person I have ever met; I aspire to be just like you, always

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CHAPTER 1

INTRODUCTION

Background and Overview

> The structural and historical conditions that govern schools tend to steer away from something like interdisciplinary instruction or any form of purposeful structure or operations that are goal directed at all because high schools don't do that. High schools gather kids, they staff the school with teachers who are defined by subjects and leaders attempt to make people get along as best they can, as if the goal is the harmony of the adults and not the learning of the students. (Dr. Victor Charleston, participant interview)

Inter is a Latin prefix that means "between" or "among," while the term *discipline*

refers to a particular branch of learning or body of knowledge (Repko, 2008). When the term

interdisciplinary is searched in the *Oxford English Dictionary* (2016), it is defined as "relating

to more than one branch of knowledge." The rationale for searching the term on the Internet is

to understand what the more readily circulated definition might be. Aside from

interdisciplinary instruction, cross-disciplinary, integrated curriculum, integrative,

multidisciplinary, teaming or team teaching, and trans-disciplinary are some of the terms used

in literature that have been closely correlated to the term *interdisciplinary*. The various terms

associated with interdisciplinarity can sometimes be confused for one another; therefore, in

order to fully understand how this term can be misconstrued, each term needs to be defined in

relation to interdisciplinarity.

The multiple terms used within literature suggest that the concept of interdisciplinary continues to evolve and is somewhat ambiguous. The lack of clarity might be because "different definitions of interdisciplinary studies reflect different conceptions of interdisciplinary studies, which result in different curricular and pedagogical decisions, which result in different intellectual activities that have different learning outcomes" (Newell, 2007, p. 2). Regardless of skills, concepts, content, points of view, or methods, interdisciplinarity involves bringing together two or more disciplines into one classroom. Interdisciplinarity is planned in a focused and conscientious manner by at least two content area teachers who have agreed to teach two subjects together by exploring a general theme through various discipline-based activities (McDonald & Czerniak, 1994).

Since interdisciplinarity has been vastly defined and grounded in different existing disciplinary perspectives, there is a lack of clarity for various stakeholders within education. Much confusion exists with an interdisciplinary approach since "no clear formula for implementation exists, and no one definition describes the many variations found in practice" (Drake & Burns, 2004, p. 18). The term interdisciplinary "appears across a remarkably broad plane, giving the underlying concept of interdisciplinarity a universality and complexity that seem to defy definition" (Klein, 1990, p. 11). It has also been described as:

> The capacity to integrate knowledge and modes of thinking drawn from two or more disciplines to produce a cognitive advancement or example, explaining a phenomenon, solving a problem, creating a product, or raising a new question – in ways that would have been unlikely through single disciplinary means. (Mansilla & Duraisingh, 2007, p. 219)

The term interdisciplinary has also been described as "the capacity to integrate knowledge and modes of thinking drawn from two or more disciplines to produce a cognitive advancement or example, explaining a phenomenon, solving a problem, creating a product, or raising a new question – in ways that would have been unlikely through single disciplinary means" (Mansilla & Duraisingh, 2007, p. 219). The integrated approach, according to Reid (2005), should be seen as a more effective means of presenting material. An integrated curriculum enables students to see the big picture, to understand the topic's relevance and real-life context, and to engage in higher-order thinking skills (Drake, 1998). Reid (2005) emphasizes how students gain a broader view and benefit from connecting seemingly disjointed disciplines through a central theme.

While most definitions have similar meanings, according to Klein (1990,) the term "interdisciplinary" is often misused and misunderstood. There is an overall general uncertainty of the term due to the undetermined and various emergences of the approach. The interdisciplinary approach first emerged "in the United States during the World War I and II eras, there was no consensus on theory, methodology, or pedagogy" (Klein, 1990, p. 12). While a clearer definition of interdisciplinary emerged in the 1970s, it seems as though there is still an uncertainty of the term in the 21st century. Therefore, identifying the various definitions associated with interdisciplinary instruction is necessary.

Definition of Terms

Interdisciplinary instruction – While the theory of interdisciplinary instruction is broadly defined, the research conducted in this study explored the various terms used and

modified the definition based on the research. Interdisciplinary has been defined as "a knowledge view and curriculum approach that consciously applies methodology and language from more than one discipline to examine a central theme, issue, problem, topic, or experience" (Jacobs, 1989, p. 8).

Cross-disciplinary – Involves two or more academic disciplines. This concept works across the disciplines but differs from interdisciplinarity because the goal of cross-disciplinary does not integrate the insights from the disciplines and does not create new context for understanding issues or solving problems (Augsburg, 2005; Vess & Linkon, 2002).

Integrated curriculum – The assimilation of knowledge between different disciplines (Klein, 1990). This integration or synthesis of themes and issues is a defining characteristic of interdisciplinarity. Integrationist interdisciplinarians believe "that integration should be the goal of the interdisciplinary work because integration addresses the challenge of complexity" (Repko, 2008, p. 4).

Multidisciplinary – Teachers who share instructional responsibilities for particular content as a team but take responsibilities and work from their disciplinary specialty (Spraker, 2003). Multidisciplinarity entails the juxtaposition, not integration, of disciplinary insights, and "the most basic distinction" (Klein, 2005, p. 55) among terms of interdisciplinarity is the difference between multidisciplinarity and interdisciplinarity.

Partnering – Two staff members who partner together for instructional collaboration. "Co-teaching is a term used when a special education or an ELL specialist joins a mainstream teacher within a classroom fulltime or for ongoing portions of time to provide instruction that includes all students" (Spraker, 2003, p. 8).

Teaming – A team can be defined as "two or more teachers [who] share a common planning time, as well as students, a common teaching schedule and an area of the school building" (Erb, 1997, p. 309). Team teaching is a group of two or more teachers who share students, planning time, and curriculum (Hwang & Hernandez, 2002; Wenger & Hornyak, 1999).

Trans-disciplinary – This is "a comprehensive framework that transcends the narrow scope of disciplinary worldviews through an overarching synthesis" (Klein, 2005, p. 59). Klein (1990) compares interdisciplinarity with trans-disciplinarity as a "far more comprehensive in scope and vision" (p. 65), and the goal of trans-disciplinary is to create "a common ethical and political language" (p. 100).

Although interdisciplinarity has multiple terms affiliated with the approach, the foundation of the concept is the integration of existing disciplinary perspectives. Lattuca, Voight, & Fath (2004) categorize four forms of interdisciplinarity based on the questions and issues that motivate interdisciplinary research and teaching as follows:

1. Informed disciplinarity allows an instructor to focus on instruction pertaining to a single discipline, but the instructor may call "upon other disciplines to illuminate course content" (p. 25).

2. Synthetic interdisciplinarity combines instructors' "theories, concepts, and perhaps even research methods from different disciplines; but the contributing disciplines remain clearly identifiable, revealing relatively bounded content areas and perhaps distinctive methods of inquiry" (p. 25).

3. Trans-disciplinarity applies disciplinary sources of theories and methods "across disciplines so that they are no longer associated with a single discipline or field" (p. 25).

4. Conceptual interdisciplinarity lacks a compelling disciplinary basis, but accommodates "post-structural, postmodern, and feminist forms of inquiry, which explicitly critique the disciplines and may contend that all questions require interdisciplinary answers (p. 25).

The numerous definitions associated with interdisciplinarity may contribute to an uncertainty of how to approach the framework confounded further by the lack of implementation in the high school setting. Even though the framework of interdisciplinary instruction has been around for almost a century and has proven to be effective qualitatively within various studies, it has not been fully adopted and integrated in all high schools across the country. Most high schools in the United States are still organized by subject or discipline, thus encouraging an isolated and independent approach to teaching and learning (Corcoran & Silander, 2009). Participant Victor Charleston echoes Corcoran and Silander (2009) that the discipline-isolated schedule is common in most areas, which has resulted in no need for educators to adopt an interdisciplinary approach.

There is hope, however, for teachers who want to explore this method of teaching. Pate, Homestead, and McGinnis (1997) state that educators and administrators do not need to fear this method because it does not have to be "all or nothing" (p. 139). This method can be implemented in a unit before an entire curriculum is restructured. According to Fullan (2007), educational change can start with just the teacher, "By changing this situation, teachers make

a difference" (p. 180). Teachers who acknowledge that they need to "grow and change and evolve too" can help the implementation process (Fullan, 2007, p. 180). While Fullan (2007) identifies teachers assisting in the change process, this study will also discuss how counselors and administrators can also make a difference in the implementation of interdisciplinary instruction.

<div align="center">Conceptual Framework</div>

The purpose of the study was to further understand various stakeholders' perceptions of the interdisciplinary approach to instruction. The conceptual framework for this study was influenced by theories from multiple theorists and disciplines; however, this study was most closely correlated with the theoretical framework and ideas of Golin and Ducanis' (1981) and Drake and Burns's (2004) work on interdisciplinarity and Ely's (1990), Fullan's (1991), Havelock and Zlotolow's (1995), and Zaltman and Duncan's (1977) ideas on educational change.

This study's ideas are parallel to the studies conducted by Golin and Ducanis (1981) in middle and junior high schools because the structure of the high school is almost identical. The framework outlined by Golin and Ducanis (1981) in *The Interdisciplinary Team* presented issues and controversies relating to the implementation of interdisciplinary teaming in the past, and they seem to still be prevalent today. Golin and Ducanis (1981) structured their theories on interdisciplinary teaming implementation on the assumption that interdisciplinary teaming should "bring together diverse skills and expertise providing more effective, higher quality services for children" (p. 1). The necessary concepts that Golin and

Ducanis (1981) identified as essential when implementing interdisciplinary teams include composition, function, and task. They go on to define the interdisciplinary team as "a functioning unit composed of individuals with varied and specialized training who coordinate their activities to provide services to children" (p. 2).

According to Golin and Ducanis (1981) composition, function, and task are characteristics that further conceptualized the idea of whether teams should categorize themselves as interdisciplinary or not. Composition is when teams consist of two or more individuals. Most interdisciplinary teams consist of professionals, though nonprofessionals and paraprofessionals may also be team members. One teacher, or professional, needs to be involved to be considered a team. Central to the composition of a team is communication, which may be direct and face-to-face or indirect. Teams should meet regularly with direct and immediate communication. An identifiable leader of the team is necessary in order for some sort of contact and accountability (Golin & Ducanis, 1981). Function takes place when teams can be characterized by their functions and methods of operation. The teams can function both within and between organizational settings. Teams can function from inside the classroom, to within a school, to outside of school. The roles of participants are defined even though teams differ in the extent to which roles overlap and conflict. Teams are collaborative with the incorporation of diverse skills and expertise combined for the betterment of instruction. Each team develops protocols, certain rules of operation, to proceed with accomplishing a goal. The protocol of operations is identifiable. Finally, task is a child-centered approach, with the whole child in mind. The team is task-orientated with the main focus on the task to be

completed rather than other aspects of the team functioning. Whitehouse (1951) addressed the issue of the whole-child approach when he identified three assumptions in teamwork:

- The human organism is dynamic and is an interacting, integrated whole.

- Treatment must be dynamic and fluid to keep pace with changing person and must consider all that person's needs.

- Teamwork, an interacting partnership of professionals specializing in these needs and dealing with the person as a while, is a valid method for meeting these requirements. (p. 45-46)

The underlying idea of the notion of "the whole child" reflects the concept that the problems "presented by the child are interrelated and cannot be adequately treated in isolation" (Golin & Ducanis, 1981, p. 4.) According to Golin and Ducanis (1981), an interdisciplinary team approach provides a way to integrate the skills and knowledge of several specialists to better address sets of integrated skills. Developing and maintaining an interdisciplinary team is based on the composition, function, and task according to Golin and Ducanis (1981), and their perception of the interdisciplinary process provides flexibility for my study.

While Golin and Ducanis (1981) explore the fundamentals of establishing an interdisciplinary team, Drake and Burns (2004) explore the planning process of interdisciplinary teaching through the backward design process adapted from ideas featured by Wiggins and McTighe (1998) in *Understanding by Design* known as the KNOW/DO/BE framework (see Figure 1). This framework serves as a bridge that connects disciplines and acts as an overarching umbrella to connect them (Drake & Burns, 2004). The KNOW/DO/BE framework requires teachers to ask themselves:

- What is most important for students to KNOW?

- What is most important for students to be able to DO?

- What kind of person do we want students to BE?

BE

Character: Values/beliefs/attitudes/actions

DO

Interdisciplinary skills: Lower-level skills

KNOW

Enduring understandings and generalizations, interdisciplinary concepts, topics, facts
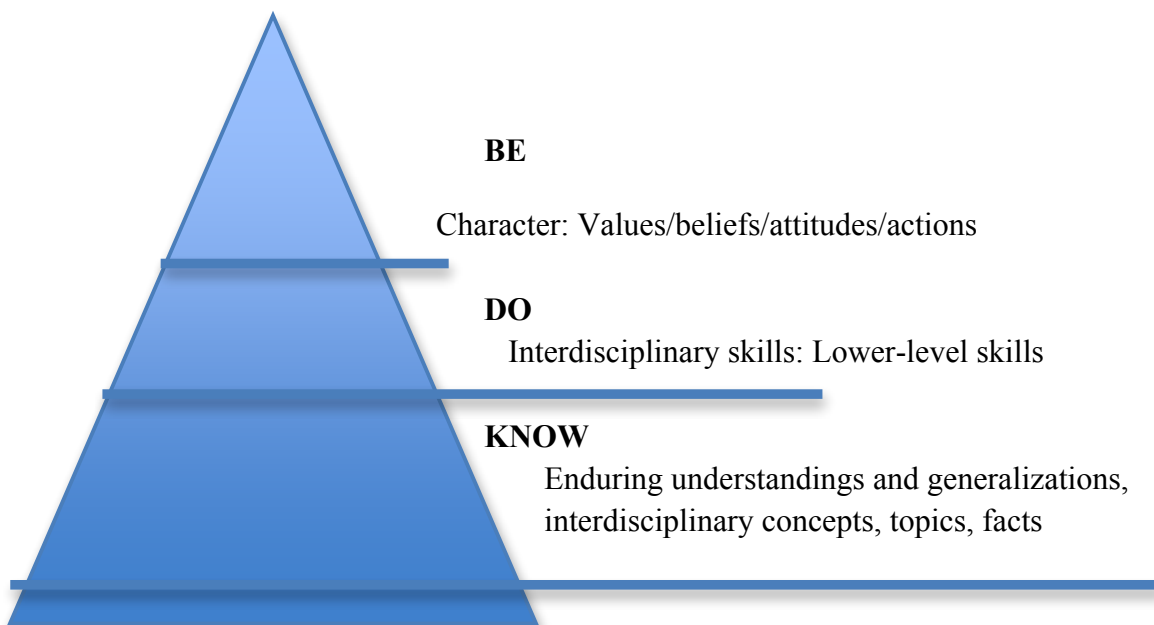
Figure 1. KNOW/DO/BE Framework.

The foundation of this concept asks educators to examine what is essential and worth knowing. While some teachers may jump to the conclusion of standards, not all standards should be treated equally (Wiggins & McTighe, 1998). Educators need to categorize curricular priority into: enduring understandings as most important, important to know and

do, and, the least important standard, what is worth being familiar with (Drake & Burns, 2004). The concept of a hierarchy of knowledge is necessary due to the limited amount of time that teachers have with students, and interdisciplinary instruction has the ability to weave in various disciplines in order to adhere to both the hierarchy of knowledge and encouraging higher-order thinking. Transferable concepts can provide a foundation for organizing curriculum amongst various disciplines. Developing curriculum from a concept-based perspective with interdisciplinarity in mind is not highly documented, since there is no formal assessment attached to the interdisciplinary framework (Drake & Burns, 2004). While there is not an explicit form of assessment, researchers who have utilized the backward design and the KNOW/DO/BE approach to design an interdisciplinary curriculum are taking a new approach of how to understand students' needs and how to accommodate them (Drake & Burns, 2004).

While the theory of interdisciplinary instruction has been conceptualized, the process of educational change needs to be addressed in order to understand how the implementation of interdisciplinary teaching can occur. In order for a change in practice to occur, educational change models need be considered in regards to implementing change. Even though many theories of instruction, like interdisciplinarity, are "proven" to be effective, the innovation fails (Ellsworth, 2000).

Ely's (1990) approach in *Conditions of Change* recognizes that the innovation may fail due to the environment and is as equally important to the innovation itself. Ellsworth (2000) frames Ely's (1990) *Conditions of Change* model as one that depends on "environmental conditions" (p. 67). Improved knowledge of the environmental conditions will improve the efforts towards change. Not only is environment a factor in educational

change, but also the participants taking part in the change process. Fullan's (1991) model, *The New Meaning of Educational Change*, examines the perspectives of stakeholders as the change agents. By examining the various perspectives of stakeholders, a holistic examination of the individuals responsible for meaningful educational change needs to occur. Environmental conditions and the various stakeholders involved in the educational change process contribute to the initial phases of my conceptual framework. The implementation and stability of the change process outlined by Havelock and Zlotolow (1995) in *Change Agent's Guide* provides a guide to the change process. Havelock and Zlotolow (1995) identify phases, or stages, that should be viewed between phases and holistically in order to gain an appropriate understanding of the change process.

Ellsworth (2000) defines change by definition as "disturbing the status quo" (p. 165). Resistance and change coincide in education due to the various stakeholders involved; despite "the negative connotation associated with resistance, a careful examination of its causes can be a powerful tool for the change facilitator" (Ellsworth, 2000, p. 166). Rather than ignoring resistance, "resistance should encourage change agents to rethink, reformulate, and restate" (Mitchell, 1995, p. 1). Zaltman and Duncan (1977), in *Strategies for Planned Change*, address resistance factors and categorizes them by cultural, social, organizational, and psychological (pp. 184-185). Resistance should not deter educational change from happening, but should rather be used as a tool for constructive feedback and the potential to modify (Ellsworth, 2000). The resistance framework developed by Zaltman and Duncan (1977) offers a diagnostic tool in identifying the cause of resistance with a potential solution in modifying the educational change. In order for interdisciplinary instruction to be successfully implemented,

educational change models need to be considered as part of the change process. Further examination of the issues that could influence this interdisciplinary conceptual framework will be presented in Chapter 2.

Problem and Purpose

Interdisciplinary instruction is an approach that was introduced in the high-school setting during the 1920s and 1930s (Applebee, Adler, & Flihan, 2007). While the theory of instruction has been around for almost a century, it has not been fully adopted and integrated in all high schools across the country. Structurally, American public education tends to be a fragmented approach between content areas, and a result of this type of approach is a lack of connection made between disciplines. Teacher isolation is one of the main structural impediments to instruction and student learning in American public schools according to Lortie (1975). Lortie (1975) argued that teachers have worked behind closed doors, rarely if ever collaborating with colleagues on improving teaching practice or examining student work since at least the 19th century.

Currently, most teachers instruct in one content area, such as English, mathematics, science, and history, to groups that could range from 25 to 35 students, for approximately 45 to 60 minutes at a time, with a student load that can range from 100 to 180 different students over the course of a week (Pate, Homestead, & McGinnis, 1997). Not only is teaching in the classroom completely independent, but also highly compartmentalized, with teachers organized into departments by their subject-matter specialty. According to Corcoran and Silander (2009), these prevailing norms reinforce an isolated and independent approach to

teaching in high school classrooms. Since most high schools organize instruction by subject or discipline, thus encouraging an isolated approach, there has been little uniformity in an approach to teaching, which resulted in the division of instruction. Due to the lack of uniformity, many schools have focused on increasing teacher collaboration, often through teaming, interdisciplinary teaching, or professional learning communities (Corcoran & Silander, 2009) in hopes of fostering a more authentic learning experience.

The purpose of this study was to investigate the challenges and factors that may inhibit the implementation of interdisciplinary teaching and the perspectives of faculty involved with the implementation of an interdisciplinary course in one Midwestern suburban high school, John Jefferson High School (pseudonym). According to Pratt and White (2005), interdisciplinary teaching requires more time from more people for the same course, and such teaching could quickly double the cost of curriculum, an expense unlikely to win approval in a time of tight budgets. In the case study I conducted, cost was not a factor; therefore, this study explored other factors that may arise in the implementation of interdisciplinary instruction.

I decided to interview teachers, counselors, and administrators who are familiar with the methods and framework of interdisciplinary teaching in an attempt to get various perspectives of this framework. Teachers, counselors, and administrators who understand the framework of interdisciplinary instruction were interviewed in order to understand their perspectives and knowledge of the framework, along with examining why this framework is not more readily implemented.

Research Questions

Research questions that guided this study include:

1. How do participants describe/define interdisciplinary teaching?

2. How do participants describe the process of implementation of interdisciplinary teaching in the high-school setting based on their role as a teacher, counselor, or administrator?

3. According to participants, what resources or policies are necessary in supporting interdisciplinary instruction?

Role of the Researcher

My role as the researcher was to investigate the perspectives of various stakeholders in regards to interdisciplinary instruction in the high school setting. In order to explore these perspectives, my role as a researcher involved providing participants with opportunities to discuss distinctive contributing factors to interdisciplinary instruction. As the researcher, I assume that authentic and truthful interactions occurred during interviews. In order to achieve a level of authentic and truthful communication needed to investigate this study, transparency with participants was essential. According to Seidman (2013), "Because interviewing involves a relationship between the interviewer and the participant, how interviewers gain access to potential participants and make contact with them can affect the beginning of that relationship and every subsequent step in the interviewing process" (p. 44). Subsequently, my role as an insider and outsider to participants altered the initial start of the interview process.

Being transparent with the participants about the newly appointed role and the basis of the study would take continuous effort by the researcher to develop a further level of trust for the study.

Not only have I taught at John Jefferson High School for the last eight years, I also student taught at John Jefferson High School. During my student teaching experience, I observed the most dynamic and engaging interdisciplinary class between a social science teacher and English teacher. Observing this class confirmed my desire to teach and also fueled my desire to work at John Jefferson High School. My experience as an educator at John Jefferson High School for eight years equipped me with the knowledge and insight, which inspired this study. Although only one of the participants in my study would be evaluated in the upcoming year by the researcher in the newly appointed administrative role, I acknowledge the authenticity of one teacher's responses might lack authenticity due to the researcher's role change. Since I am charged with evaluating this teacher in the upcoming school year, the teacher might not feel comfortable enough to express his true thoughts. Seidman (2013) states that in any hierarchal school system, in which an administrator has hiring and firing power, a teacher being interviewed may not feel free to talk openly. My role as a researcher and my newly appointed administrative role in this study needed to be acknowledged in order to process and maintain authenticity and objectivity.

<div align="center">Significance of the Study</div>

Research has shown that interdisciplinary approach to education helps students learn in a way that is meaningful to a student's educational experience. According to the National

Council for Teachers of English ([NCTE], 1995), "Educational experiences are more authentic and of greater value to students when the curricula reflects real life, which is multi-faceted rather than being compartmentalized into neat subject-matter packages" (n. p.). Real-world problems are complex; therefore, no single discipline can adequately be covered and resolved in one subject matter alone. Interdisciplinary forms of learning are prevalent and growing in abundance and stature throughout higher education (Edwards, 1996). Repko (2009) identifies a number of cognitive aspects that interdisciplinary learning fosters. He emphasizes that interdisciplinary learning helps students acquire perspectives from various fields of study, develop both declarative and procedural knowledge, and integrate conflicting insights from alternative disciplines.

John Jefferson High School, a pseudonym used to protect both the school and participants' identities, was the school chosen for this case study because it is an exemplary school based on state and national rankings. To allow for in-depth data collection, the study was limited to a school awarded for excellence as a Blue Ribbon School according to the U.S. Department of Education, as well as one of the top 20 best high schools in the state of Illinois this past year according to *Newsweek* and *U.S. World and News*. The growth demonstrated in John Jefferson High School surpasses the national average on the Educational Planning and Assessment System (EPAS) standardized tests: the Prairie State Achievement Examination (PSAE) for freshmen, an IACT (a retired ACT) for sophomores, and the actual ACT for juniors. Since John Jefferson High School has been recognized and awarded for being an exceptional high school, one could argue that there is a successful curriculum and culture that surpasses many other schools based on various educational standards.

In the past, there have been multiple interdisciplinary courses offered at the school to such an extent that interdisciplinarity has been written into the school's Seven Essential Curricular Principles. While interdisciplinary instruction has been engrained into both district and school principles and goals, John Jefferson High School offers an aligned informed disciplinary curriculum where the courses are designed to welcome interdisciplinary themes; however, the school currently offers three interdisciplinary courses. Conducting interviews with teachers who have taught interdisciplinary courses at John Jefferson High School was valuable in discovering what happened to the interdisciplinary courses and gather research on the perspectives of this framework of teaching. Since I have conducted the research on why educators pursue this form of teaching and the potential benefits, I wanted to understand the views of those who have experienced this form of teaching firsthand. While the perspectives of those who have taught in an interdisciplinary setting are valuable, investigating the perspectives of those who are familiar with this framework and are responsible for the implementation of courses and course scheduling are equally as valuable.

Organization of the Study

This study is structured into chapters. The first chapter provided an introduction and overview of the study. The second chapter contains a literature review that provides the overall history of interdisciplinary teaching along with case studies of schools that have implemented the framework. The third chapter focuses on the methodology, outlining the qualitative research design and sample. The fourth chapter provides the participants' profiles

followed by chapter five, which contains the analyses of the data and findings. Finally,

chapter six discusses the findings.

CHAPTER 2

LITERATURE REVIEW

> I think interdisciplinary can be a lot of different things. I think it could be very surface
> level, where you just reference things, but I think true interdisciplinary connections
> would be coordinating efforts to present and assess material together across
> disciplines, and I think we're kind of moving in that direction. (Veronica Monroe,
> participant interview)

Literature that investigates interdisciplinary education tends to be vast and branches

into multiple areas and levels of education. This chapter provides an overview of past and

present interdisciplinary theories and research in order to fully understand the methods of

interdisciplinary teaching by examining interdisciplinary curriculum development and

interdisciplinary case studies. Several relevant subtopics related to interdisciplinary teaching

emerged that provide further context and insight to interdisciplinarity. The following topics,

found on ERIC, support the research: interdisciplinary instruction, interdisciplinary studies,

cross-curricular teaching, team-teaching, collaboration, design and implementation, thematic

units, integration, content, academic disciplines, student engagement, fragmentation, isolation,

and traditional teaching. This literature review examines the debate on the value of

restructuring curriculum with an interdisciplinary approach, the history of interdisciplinary

teaching, and the studies of interdisciplinary implementation. Additionally, this review

provides related research concerning student engagement in the interdisciplinary learning

process. This review incorporates various perspectives on interdisciplinary teaching in order to understand the value of interdisciplinary teaching.

<div align="center">History of Interdisciplinary Teaching</div>

Many interdisciplinary concepts can be traced all the way back to John Dewey during the beginning of the 20th century, when Dewey himself spoke of the ideas that reflect interdisciplinary teaching and a student's experience (Dewey, 1913). Dewey (1917/1977) advises teachers to look beyond the compartmentalization of academic rigor and social competence. His emphasis on a student's experience and curricular experimentation holds the ideals of the progressive era (Reese, 2011). The progressive era can be defined as "a child-centered approach to learning that places great emphasis on creativity, activities, 'naturalistic' learning, real-world outcomes, and, above all, experience" (Ellis & Fouts, 2001, p. 23). Dewey (1913) encouraged certain interdisciplinary ideals in his thesis, *Interest and Effort in Education*, while exploring the theory of progressivism. The nature of education perceived by Dewey is one that focuses on an authentic student experience. Dewey (1913) emphasizes that education needs to reflect a student's interests, powers, and capacities.

Ellis and Fouts (2001) explicate a more current culture of learning associated with the development of the interdisciplinary framework: constructivism. This philosophy explains how a student's experience needs to be authentic in order to be meaningful. A shared experience is the most beneficial way for a student to retain the information being taught (Beane, 1997). Constructivism emphasizes the progressive theory by explaining how the traditional teach-from-the-book curriculum is inadequate in creating an authentic experience

for a student. Jacobs (1989) argues that an interdisciplinary approach partitions, "a more relevant, less fragmented, and stimulating experience for students" (p. 10). The idea of isolating the curricula with shared content is unnatural for the human brain. While most brains function similarly, human intellect and how each individual learns varies; "Therefore, teaching is multi-faceted with inherent choices and options for a learner, fosters optimal learning" (Fogarty & Pete, 2009, p. 5). The school day has remained the same even during the postwar period. The school day is divided into blocks of time, "often 45-60 minute segments, and the sequence of subjects often followed predictable patterns from district to district" (Reese, 2011, p. 269). The current American public education structure does not foster this type of optimal learning, and a curriculum based on a failing tradition is dysfunctional in a world that is changing more than ever.

Schools are currently implementing the same, isolated, narrow curriculum that defies a natural way of thinking despite theorists and the conclusion made in the widely recognized Eight-Year Study, also known as the Thirty-School Study (Ritchie, 1971). The Eight-Year Study, initiated in 1932, indicted the traditional approaches in teaching by encouraging the interdisciplinary approach through developing objectives such as cutting across subject-matter lines, cooperative planning and teaching, and the exploration of wide-range relationships (Ritchie, 1971). This study provided evidence that students could learn through an integrated approach and also encouraged schools "to be student-centered and to teach the skills and social orientation necessary for a democratic way of life" (Drake & Burns, 2004, p. 22). Among the many important outcomes of this seminal study, it reinvigorated the educators'

practice with cooperation, collaboration, and action more than ever before. The current status of education requires this same type of attention and action.

The structure of high school has "disappointed various waves of progressive critics who called its teachers mired in tradition" (Reese, 2011, p. 318). While activities, sports, and other extracurricular aspects of the high school experience have been added or altered, the structure in how teachers teach, the amount of time, the average class size, and how students learn has remained the same since the 1960s. According to Reese (2011), Philip Cusick, a professor and observer of education found that students in the 1970s were mostly bored and passive. The description Cusick provided draws parallels to the structure of a high school classroom in 2014: "Teachers stood in the front of the room and mostly lectured to students, whose desks were lined up in familiar rows…asking students questions and then asking more….Teachers talked about 75% of the time" (Reese, 2011, p. 320). While 40 years have passed since Cusick made these observations, these scenarios can be observed in the modern day classroom since change can be challenging.

<center>Educational Change</center>

While there are many philosophers, scholars, and theorists who have recognized the benefits of interdisciplinary teaching, many schools use the same methods of teaching and disregard an interdisciplinary approach (Beane, 1997). Breaking down the isolated nature of teachers' work and increasing opportunities for substantive collaboration should be a central focus of current efforts to restructure schools to adhere to the demands of NCLB (2001). While this seems like a simple solution, educational change is technically simple but socially

complex (Fullan 2007). Implementation is crucial in educational change, and it is important to understand the factors that influence implementation of change. In *The New Meaning of Educational Change*, Fullan (2007) identifies nine critical factors affecting implementation organized into three main categories relating to (1) the characteristics of the innovation or change project, (2) local roles, and (3) external factors.
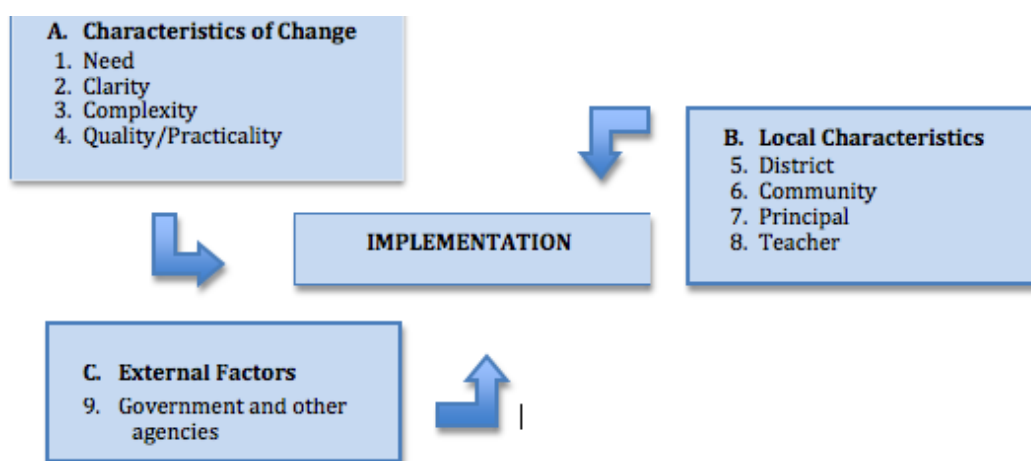
Figure 2. Nine Critical Factors in Educational Change.

1. Need: People involved need to perceive that the needs being addressed are significant and that they are making at least some progress toward meeting them.

2. Clarity: Lack of clarity diffuses goals, and unspecified means represents a major problem with implementation and can lead to false clarity. Clarity is dependent on the process, and the key is to work on clarity all through the implementation process.

3. Complexity: Complex should be examined with regard to difficulty, skill required, and the extent of alterations in beliefs, teaching strategies, and use of materials.

4. Quality/practicality: Substantial reform can be accomplished through persistently working on multilevel meaning with quality and practicality in mind.

5. District: Implementation at the district level is essential in the quality of implementation and is responsible for managing change.

6. Board and community: The school board and district actively work together to implement policies to influence change.

7. Principal: Principals manage change of a school, especially the problems that may arise with that change.

8. Teacher: Both individual teacher characteristics and collective or collegial factors play roles in determining implementation of change.

9. Government/other agencies: Legislation, new policies, and new program initiatives arise from public concerns that pressure districts. Various incentives are provided by these external entities when districts change to address public concerns.

According to Fullan (2007), the past decade has proven that educational change is difficult, complex, and even prone to fail. Ever since No Child Left Behind in 2001, it has become evident that, based on student performance, there would be a need for a new approach to teaching. Beane (1997) addressed the issue of standardized testing before NCLB (2001) even came about based on:

> The comparative studies with separate-subject approach noted in earlier chapters, advocates of curriculum integration claim that students in classrooms where the approach is used will not experience a decline in standardized test scores and will not be disadvantaged if and when they encounter subject-centered curriculum arrangements later on in school or college. (p. 99)

Due to NCLB (2001), there has been external pressure for teachers to fit in an extensive amount of material to prepare students for the rigor of standardized testing. There are nine critical factors in educational change provided by Fullan (2007). The first factor is need. Aside from standardized testing, there is a need to improve instructional practices.

The Need for Interdisciplinary Teaching

The majority of instruction in American public education may be deficient due to the fragmented approach between content areas and the lack of connection made between disciplines (Beane, 1997). This deficiency could be remedied, however, if more emphasis were placed on interdisciplinary instructional techniques and strategies across the American public education system as a whole. Integrated curriculum enables students to see the big picture, to understand the topic's relevance and real-life context, and to engage in higher-order thinking skills (Drake, 1998). With expectations for American public education only rising, it is essential that students are prepared to compete globally and are provided with a curriculum connected to their real life experiences. Up to this point, however, even though the framework of interdisciplinary instruction has been around for almost a century and has shown promise to be effective for both teachers and students, it has not been fully adopted and integrated in all high schools across the country (Drake & Burns, 2004).

The methods of designing curriculum and instruction should not be an isolated one. The idea of isolating learning is unnatural for the human brain due to the fact that "when knowledge is seen simply as a collection of bits and pieces of information and skill organized by separate subjects or disciplines of knowledge, its uses and its power are confined by their

boundaries and thus diminished" (Beane, 1997, p.7). The interdisciplinary framework defies

the isolated approach to teaching and has been overlooked as a potential solution in providing

students with a more coherent and authentic learning experience. Interdisciplinary teaching

has been defined as:

> The capacity to integrate knowledge and modes of thinking drawn from two or more disciplines to produce a cognitive advancement or example, explaining a phenomenon, solving a problem, creating a product, or raising a new question – in ways that would have been unlikely through single disciplinary means. (Mansilla & Duraisingh, 2007 p. 219)

Berg-Weger and Schneider (1998) define interdisciplinary collaboration as "an interpersonal

process through which members of different disciplines contribute to a common product or

goal" (p. 698). Collaboration, although minimally used in the traditional individual approach,

is gaining attention in reform efforts and research investigations. An integrated approach can

potentially serve all learners effectively, especially with increasingly diverse student

populations (Drake & Burns, 2004). The growing demand is clear. Students need to develop

the capacity to cultivate the multiple modes of thinking provided by a variety of integrated

disciplines. By identifying this integrated approach to learning, the importance of

interdisciplinarity for both the student and teacher becomes evident. This type of capacity to

learn is not simple; therefore, there may be resistance to this approach to learning.

<center>Resistance to Interdisciplinary Teaching</center>

In order to better understand the absence of interdisciplinary teaching, an examination

of interdisciplinary teaching itself is essential. Fagan (1976) cites that the problem with

interdisciplinary teaching may stem from uneasiness. He explains how teachers' lack of

participation is evident based upon the lack of confidence in mastering more than one particular field. Future teachers are generally trained within isolated content areas during their undergraduate experiences. The instability of interdisciplinary teaching is fueled by the threat of the unknown. High school educators have discipline-based degrees and have no background or knowledge of interdisciplinary.

Beane (1997) suggests that even though curriculum integration appears appealing, "Teachers who use this approach, even those with a good deal of experience, face considerable pedagogical and personal challenges no matter how enthusiastic and committed they are" (p. 71). Typically, explicit interdisciplinary experiences are neither present nor unintentional. A lack of understanding in multiple content areas and the framework of interdisciplinary teaching could be the foundation for why interdisciplinary teaching is unstable. Anderson (1973) explains how interdisciplinary teaching can appear to be threatening to professionals in the field. Some educators may view this method as forced upon them, thus threatening the identities, the creativity, and the expertise of practicing teachers and scholars (Beane, 1997).

Although this method is misinterpreted and even misunderstood, part of the problem with interdisciplinary teaching stems from the initial education and training of teachers (Culp, 1974). Culp explains that the educational process for teachers is also flawed. The majority of a teacher's education can be categorized between an educational major and their selected content area while, "far too often, little or no communication is carried on among these disciplines….It seems that far too often the disciplines have attempted to keep themselves

pure by keeping them in their respective departments" (Culp, 1974, p. 43). Culp's observation rings true in that the education system does not practice what it preaches.

Teachers are one of the most significant factors in children's learning; therefore, teacher preparation programs need to reexamine how teachers are prepared (Cochran-Smith & Zeichner, 2005). This contributes to the lack of understanding of interdisciplinary teaching because of the lack of exposure teachers receive during their own undergraduate education. The lack of communication between disciplines seems to be yet another underlying issue in trying to implement interdisciplinary teaching. Not only is there a lack of understanding of the instructional approach itself, but also the benefits and disadvantages of this form of teaching.

Benefits and Disadvantages of Interdisciplinary Teaching

Potter and Meisels (2005) cite an anonymous quote in their study that states, "If you keep doing what you've always done, you'll keep getting what you've always got" (p. 195). This quote emphasizes the need for change in current teaching methods. Through ten years of research, grants, and multiple institutions, Potter and Meisels (2005) implemented a standards-based interdisciplinary science undergraduate course in hope of improving current and ongoing instructional practice for non-science majors/future teachers. As a result of their study, not only were students positively affected, but the faculty was as well. Potter and Meisels (2005) reported a positive effect on students' attitudes and perceptions towards learning and capacity for critical thinking as measured by student surveys, student focus groups, student written responses, faculty reflective written responses, and classroom observations. The faculty benefitted from the energy and participation that resulted from

creating an interdisciplinary course. Both students and faculty gained, "considerable potential to promote understanding across disciplines" (Potter & Meisels, 2005, p. 203). Through student surveys, student focus groups, student written responses, faculty reflective written responses, and classroom observations, Potter and Meisels (2005) demonstrate how an interdisciplinary approach can inspire both students and faculty to acquire more knowledge.

Faculty in other studies not only felt the enrichment in their profession from the overall positive rapport from students, but the collaboration with peers was a positive outcome as well. Lortie (1975) found value in working closely with other teachers and that interdisciplinary collaboration prevented the feeling of isolation, even though teachers often value isolation. Lortie's (1975) examination of trends that influence teachers may seem outdated, having been conducted in the 1970s, but the structure of teacher socialization is still examined today. Vogler and Long (2003) examine the socialization that occurs during interdisciplinary teaching through their undergraduate course case study. Analyzing their own experiences team teaching two sections of the same undergraduate course, Vogler and Long (2003) found that "teachers who have participated in team teaching often conclude that it is a wonderful worthwhile experience" (Vogler & Long, 2003, p. 122). The amount of support and motivation offered between teachers is often taken for granted when teachers are ignorant of the collaborative experience. Through reflecting on their own experiences and having students journal about their experiences confidentially and without being penalized, Vogler and Long (2003) show how interdisciplinary teaching offers a better sense of curricular coherence for both teachers and students.

With the demands of standardized testing, it is crucial that teachers not only feel confident in their teaching, but also work collaboratively to ensure students receive a coherent education that will equally prepare them for their futures. According to Meyer (1969), much of what was taught in our nation's schools in the past was irrelevant to the needs and demands of contemporary times, and the same issue of relevance stands true today. It is evident that many schools see interdisciplinary teaching "as offering the more challenging content, the higher standard, the world-class education that is so often talked about but so rarely experienced" (Beane, 1997, p. xi). Interdisciplinary teaching has the potential to improve the quality of instruction and cater to not only the demand for higher achievement on standardized tests, but to the demand for valuable and authentic knowledge and learning.

In researching cross-curricular teaching between multiple disciplines, it is evident that the benefits and disadvantages cannot exist without one another in the method of interdisciplinary teaching due to the various concepts that need to be considered (Beane, 1997). While interdisciplinary teaching can be rewarding, learning can still be challenging for students. The exploration of information from diverse areas with different writing and thinking styles is difficult and can be overwhelming for both students and teachers alike (Eisen, Cimino, Aparicio, Marsteller, & Kushner, 2003). Instructors need to overcome this challenge in order to facilitate the process of learning. Even though Sadowski (1995) reports a reluctance to participating in interdisciplinary teaching due to the amount of work in transforming an entire curriculum, the benefits far outweigh the disadvantages. According to Beane (1997), most teachers who experience interdisciplinary teaching will not go back to a traditional approach because "the gains are relatively small, the challenges great, and the

obstacles large; curriculum integration fares well today, and it will not go away" (p. 103).

Since the traditional subject-area curriculum is failing to deliver an education that is authentic,

stimulating, and academically challenging, teachers who find interdisciplinary teaching more

complex, more difficult, and more tiring may have to face the current state of public education

and the need for change (Beane, 1997). Before change can happen, a clear understanding of

interdisciplinarity needs to be established.

<div align="center">Team Teaching vs. Interdisciplinarity</div>

The frameworks of interdisciplinary teaching and team teaching are closely related

and, to most educators, synonymous. However, essentially team teaching could be used in a

different context. Based on the culture of the school, team teaching can be different from

interdisciplinary instruction. Team teaching could be the framework in which two or more

individuals in the educational process work together towards a common goal for students. For

instance, a general class room that contains a certain number of students with individual

education plans (IEPs) could have a general education teacher and a special education teacher

who team up to instruct students who are struggling in order to eventually mainstream the

students. According to Golin and Ducanis (1981), team teaching could include anyone from a

special education teacher to the school psychologist.

The interdisciplinary team teaching concept involves teachers from two or more

academic disciplines in the planning, preparation, presentation, and evaluation of lessons to

accomplish common learning objectives (Garner, 1976). Teacher teaming has similarities to

the corporate world work team, but the configurations and purpose are driven by educational

purposes with the focus of the student in mind. Teachers, unlike works teams in the corporate environment, have a high level of "autonomy and independence in the way they plan, deliver, and conduct their classroom activities (Spraker, 2003, p. 6). Team teaching is practiced "within the same discipline or within the same grade or across grades when several teachers come together for short periods of an entire year to share some instructional responsibilities (Spraker, 2003, p. 8). Therefore, for clarification purposes, "interdisciplinary team" is a more explicit identification of interdisciplinary instruction. Interdisciplinary teams collaborate and communicate frequently to work towards a common goal. In an interdisciplinary team, each professional works within their specialty and is responsible for their content area, but they are also able to work and collaborate with others to allow for both a well-rounded understanding of, and a more holistic approach to, instruction (Hall & Weaver, 2001).

Team teaching has tremendous potential to drive the framework of interdisciplinary teaching. The rationale behind team teaching is not generally unknown by educators. The major appeal of team teaching with an interdisciplinary focus in mind is the ability "to improve the quality of instructions and individualize it; to extend specialized teaching competencies of staff; and to provide a more flexible basis or organization in terms of student, staff, time, and curriculum" (Meyer, 1969, p. 407). Team teaching can easily become part of secondary public education. Meyer (1969) predicted that "team teaching holds great promise for the future of secondary education: greater yet is that possibility of integrated secondary curriculum composed of interdisciplinary instruction reinforced through team teaching" (p. 408). While it is essential to fully understand the differences between team teaching and

interdisciplinary teaching, it is also imperative to learn from actual interdisciplinary experiences.

Experiences of Interdisciplinary Instruction

Communication within interdisciplinary teaching is an integral part of practice. Without communication, the theory cannot be effective. Woods (2007) explains the most essential aspect of interdisciplinary teaching as communication. The level of communication and collaboration involved can be overwhelming in the process of developing an interdisciplinary curriculum due to the fact that most teachers are accustomed to their subject area and are reluctant to "share the power associated with collaborative planning" (Beane, 1997, p. 74).

Barisonzi and Thorn (2003) wanted their students to be able to critically examine issues and recognize the complexity of human nature with the ultimate goal of providing students with a quality liberal arts education. Barisonzi and Thorn (2003) initially took part in an interdisciplinary project due to a state mandate. In 1997, Wisconsin colleges put forth a requirement for all graduating students to take three credits of interdisciplinary study. While this was a requirement made by the University of Wisconsin colleges, the two professors wanted to take part because of the possible benefits students could gain. The overall procedure of creating an interdisciplinary course for Barisonzi and Thorn (2003) was far from easy, initially. Both professors had to study and learn from each other's content areas before being able to design the interdisciplinary course.

After the interdisciplinary course was designed, the professors found it to be unsuccessful for two main reasons: the overall approach taken by the professors and the ideological outcome. The professors understood that their first attempt teaching with an interdisciplinary approach was not successful through class discussion (informal assessment), essays (formal assessment), and through surveying the class after the course was completed. As a result of this feedback, the professors modified the course before teaching it a second time. They integrated texts between the contents in order to help students understand not only the relevance in literature, but also the significance of the time period in which the literature was written. They also focused on themes during the lectures in order to further connect the student with the texts. Although the professors offered no original data, they explain the difference in the students' critical thinking skills and overall approach to both history and English.

While communication is an important factor to interdisciplinary instruction, teachers also need to feel empowered. Another study of the application of interdisciplinary teaching, conducted by Roberta Murata (2002), claims that interdisciplinary teaching is collegial and empowering. The examination of the purpose and pursuit of team teaching by Murata (2002) was conducted not only for her own curiosity, but also because of a mandated school improvement plan. This plan required teachers to make modifications, experiment with new models of teaching, and collaborate. Interdisciplinary teaching was used at the sophomore high school level in an English/art class that attempted to integrate both subjects through thematic connections.

Murata's (2002) interdisciplinary methods disregarded the chronological teaching

approach and instead embraced cultural and thematic connections. The three teams involved

had a wide range of teaching experience and expertise. In order to prepare for the year of

teaching and researching, Murata (2002) collected data between her team teacher partner that

spanned four years and conducted research throughout the teams for one year. Data

accumulated by Murata (2002) consists of interviews, transcriptions, personal journals/notes,

daily interactions, and field notes. The teams realized quickly that planning time was of much

greater importance than the co-teaching itself. The changes in the curriculum ultimately drove

other changes in the team teaching practice including grading, class time, content "spillover,"

and collaborative respect amongst the teachers. The teachers who participated in the teaming

found it reenergizing personally and professionally. According to Arhar (1997), several

studies within middle schools support interdisciplinarity because of the potential to "enhance

teacher professionalism" (p. 51).

Although it initially took planning time and energy away from the teachers, the

participating teachers were satisfied and gratified with their own teaching and, more

importantly, the results they saw with their students. While the approach to interdisciplinary

instruction can be challenging, "the increased feelings of efficacy and professional

satisfaction that accompany well-structured collaboration has payoff for students (Arhar,

1997, p.51). This study's focus was primarily dedicated to the teachers' approach and the

curriculum; therefore, Murata (2002) did not provide qualitative or quantitative data to

support how students were affected by interdisciplinary teaching. However, Murata (2002)

claims that students were positively influenced.

Although there are many benefits, such as empowerment, that Murata (2002) experienced, it is important to note the amount of time and communication required. Historically speaking, the world consists of rapidly changing knowledge and values (Troutman, Trump, Hunter, Clark, & Van Nostrand, 1976), which could make it difficult to justify the amount of effort involved with this process, not to mention the fact that it can be rendered less valuable if method of interdisciplinary teaching is not executed properly. In other words, interdisciplinary teaching requires a great amount of effort, time, planning, and follow-through to be beneficial.

Not only is communication a factor in interdisciplinary teaching, but time is as well. The framework of interdisciplinary teaching demands more time and energy from teachers. In addition to their individual preparation time, teachers need to schedule time to plan with their co-teacher. Re-conceptualizing a course to integrate interdisciplinary teaching can also be complex and time consuming. Oitzinger and Kallgren (2004) concur that the integration of disciplines is far from easy and is unclear at times. With the help of a University of Wisconsin System grant, Oitzinger and Kallgren (2004) co-taught American history and American literature for years and were then able to pursue the idea of enriching their course by actually integrating the courses rather than taking turns teaching. To avoid taking turns teaching, Oitzinger and Kallgren (2004) took two years to modify and restructure their class.

Experimenting with collaborative strategies, they implemented a method of student-centered learning and student team presentations. They believed that this strategy would encourage students to integrate both literature and history in their learning. Six student teams were formed to research *The Great Gatsby, The Grapes of Wrath, Catch-22, Catcher in the*

Rye, The Heart of a Woman, and *White Noise.* Oitzinger and Kallgren (2004) then set guidelines for each team's required tasks, organization, team planning, and delivery method. The researchers feared that student-led team presentations would sacrifice content coverage, but they proceeded with the case study regardless. Oitzinger and Kallgren (2004) also had the students complete a family story project that incorporated not only many elements of both history and literature, but also elements of their own lives. This project had students research family roots that dated back to 1954 and the time period that would incorporate the historic perspective. Students were also required to explain the literacy perspective by writing through the lens of a relative.

Even though interdisciplinary instruction requires more communication and time on behalf of the instructors, Oitzinger and Kallgren (2004) discovered that the students not only enjoyed the interdisciplinary format of learning, but students also learned critical thinking skills and demonstrated active learning. Throughout the course, students demonstrated the ability to analyze, interpret, and evaluate texts more critically than the researchers had seen in the past. After students presented in their teams, each student was given a survey to provide their perspective on their overall experience. Oitzinger and Kallgren (2004) assessed critical thinking by having students complete a survey in which students commented on the level of learning they experienced. The students expressed appreciation for the authentic learning they experienced through the projects they had to complete. Aside from surveying students' perspectives, the study's focus was primarily reflective; therefore, Oitzinger and Kallgren (2004) did not provide qualitative or quantitative data to support how students strengthened

their critical thinking skills. However, Oitzinger and Kallgren (2004) claim that they noticed, through the student team presentations, a clear integration of both history and English.

While Oitzinger and Kallgren (2004) took risks to improve their instructional practices, many teachers may be unwilling to do so voluntarily. Sometimes teachers are coerced into interdisciplinary teaching. Whether mandated by the state, district, or school, most interdisciplinary studies are initiated by some kind of motivation. For instance, Combs and White (2000) implemented interdisciplinary teaching with undergraduate students because it was mandated in the state of Kentucky. This new reform act required teachers to challenge themselves to redesign their curriculum to address the Kentucky Education Reform Act (KERA) goals (Combs & White, 2000). The state's goal was not only to reform teachers who were practicing, but also to reform the education system that prepares undergraduate teachers.

Combs and White (2000) applied an interdisciplinary model to undergraduate students at Eastern Kentucky University. They attempted to model the interdisciplinary teaching ideas central to KERA. In order for their project to work, the researchers hypothesized, they should model team teaching for their undergraduate students. Combs and White (2000) believed that teachers tend to adopt strategies they learn as students and ultimately these undergraduate students would carry interdisciplinary teaching into their own future classrooms. Combs and White (2000) modeled interdisciplinary teaching by combining courses and adhering to the KERA standards, which included, "integrating experiences from multiple subjects" as a goal (p. 283). Through this interdisciplinary course, undergraduate students were able to create a unit on World War II that included French, history, and English teachers working together.

The method of interdisciplinary teaching was central in their project development and was implemented during their student teaching experience, especially since all three content area teachers were placed at the same school for student teaching.

Besides student portfolios, self-evaluation, and peer evaluation, the study was primarily reflective; therefore, Combs and White (2000) did not provide qualitative or quantitative data to support the effectiveness of interdisciplinary teaching. However, Combs and White (2000) claim that their students learned how to plan instruction, collegiality, knowledge and materials for interviews, and the value of interdisciplinary teaching for both teachers and students. Teaching has been primarily an autonomous profession, according to Reese (2011), due to many of the founders of school administration. Since these individuals were system builders and managers, they lacked the necessary knowledge of how teachers could grow as professionals and treated public education similarly to the management of factories. Schools are learning communities, not factories, where connections need to be made.

While some educators use interdisciplinary teaching due to mandates, others study and apply this method because of an intrinsic motivation. For instance, Nikitina (2002) attempts to understand the thinking process of this method in order to understand recurrent patterns and stages that occur in interdisciplinary thought. In order for interdisciplinary teaching to work, educators need to understand that it is a process that goes through "a complicated chain of operations" before it can be successful (Nikitina, 2002). Understanding failure as a possibility is half the battle. Many who have applied interdisciplinary teaching report the many advantages and disadvantages. It is essential for teachers, scholars, and theorists to provide

proper documentation and reporting in pursuit of demonstrating the efficacy of this method. Studies need to be conducted in order to support the conclusions and to provide support in using this method of teaching (Gee & Mehaffie, 1974).

It is also important to note the interdisciplinary experiences that have taken place outside of education. Anne Bette Harris (2006) explains that for the past 30 years, there have been many attempts to implement interdisciplinary coursework in healthcare. While healthcare is outside of my domain of teaching, Harris (2006) goes on to explain the potential benefits of interdisciplinary framework. "The benefits include improved patient/client care, effective communications among the health care team and increasing efficiency in patient/client care are reasons for considering this direction" (Harris, 2006, p. 9). Success through this framework has been shown through interdisciplinary teams with documented positive outcomes include pain management, end-of-life care, palliative care, oncology, and geriatrics (Harris, 2006). The issue in healthcare, as in high school education, is that there are few academic programs that include interdisciplinary education experiences as part of their curricula. A very similar conflict exists in both healthcare and high school education: what is the primary goal? The debate between the need to teach the specialized content unique to each profession and to teach the necessary skills for successful collaboration and teamwork is, unfortunately, the conflict of interest between practitioners. Harris (2006) goes on to address both the value and the obstacles in implementing interdisciplinary educational approaches, but, overall, attributes success to movement within healthcare to an interdisciplinary approach.

McBride (2010) elaborates on the value and meaning of interdisciplinarity through nursing. In *Toward a Roadmap for Interdisciplinary Academic Career Success*, McBride (2010) explains that even though the larger environment encourages interdisciplinary collaboration, it is not as easy as it sounds. In the world of healthcare, academic appointments, tenure and promotion guidelines, and research by a particular department or school can potentially be obstacles that inhibit this collaborative framework; collaboration is not an easy task. According to McBride (2010), one has to be a good collaborator and must be good at what he/she does, but when an individual is learning to become a productive researcher, one most likely will be isolated within the walls of the department/school. This connects to the educational world because teachers suffer from the same dilemma. While the idea of interdisciplinary teaching is widely praised, the department/school/district does not give time, support, or accolade for adopting this framework of teaching. Just like in the high school setting, university and funding-agency incentives can indirectly discourage coinvestigators from different disciplines. The isolation of health care scientists within discipline-specific ghettos and the status differences between and among the various professions limits collaboration. Since interaction with each other as students is limited, nurses and physicians do not understand the strengths each brings to health care, much less to research (McBride, 2010).

<div align="center">Conclusion</div>

Just as the participant Veronica Monroe stated in the quote beginning Chapter 2, "interdisciplinary can be a lot of different things." As discussed in the literature, the

framework is vastly defined. Interdisciplinary teaching faces several dilemmas that other forms of teaching simply do not (Beane, 1997). This form of teaching requires not only a complex pedagogy, it requires that a teacher possess a large measure of autonomy, creativity, time, patience, and energy with no guarantee of success (Beane, 1997). Even when interdisciplinary collaboration is encouraged by the larger environment, "it is not easy" (McBride, 2010). While McBride is reflecting on healthcare, this theme is prevalent throughout my qualitative research.

Even though I had to expand my research, I found value in reading about the interdisciplinary approach in other areas of education because, while the content of education was completely different, the research, views, advantages, disadvantages, and perspectives were similar and further encourage me to research the need for interdisciplinarity. The implementation process and perspectives of individuals involved – teachers, counselors, and administrators – is absent from the body of interdisciplinary literature. This study was needed in order to further understand this theory of instruction.

CHAPTER 3

METHODOLOGY

Being an active listener is number one. Trying to see the big picture. Because
sometimes decisions, or often times decisions are made without us being
stakeholders in them. And we still have to support that. (Mena Brooks, participant
interview)

This study was designed to gain knowledge about the challenges and factors that may

influence the implementation of interdisciplinary teaching by those specifically involved

with the implementation process not only to contribute to the body of interdisciplinary

literature but also to see the big picture of how various stakeholders perceive

interdisciplinarity. The purpose of this study was to examine the perspectives on

interdisciplinary teaching and the challenges and factors that may arise at the high school

level if the framework is implemented. This chapter provides an overview of the research

purpose and rationale for the research design.

Design

According to Yin (2014), the case study is one of several approaches to conducting

social science research. Different approaches include "experiments, surveys, histories, and

the analysis of archival information" (Yin, 2014, p. 1). In order to understand which

approach is suitable for a study, Yin (2014) states it depends on "the type of research

question, the control the researcher has over the behavioral events, and the focus on the

contemporary as opposed to the historical phenomena" (p. 1). For the case study on John Jefferson High School, the "why" questions involving one person or group of people in order to examine "why" they function in relationship to the environment is necessary to understand the history that has influenced development of current curriculum (Yin, 2014). Just like the term "interdisciplinary," the concept of a case study has various definitions that have been applied, but a constant word that has been used repeatedly in relation to case studies is "decisions" (Yin, 2014). The central tendency among all types of case studies is to understand a decision or a set of decisions: why they were taken, how they were implemented, and with what result (Schramm, 1971).

A Case-Study Approach with Phenomenological Elements

Phenomenology is a framework that "stresses the transitory nature of human experience" (Seidman, 2013, p.16). Phenomenology is a way for researchers to understand how people understand and function in everyday real life experiences. After gathering the information about how people interpret their own life experiences, it then falls to the researcher to interpret that information. For the purpose of this study, there are elements of phenomenology due to my desire to gain insight from the various perspectives that contribute to the implementation of interdisciplinary teaching. The goal is not to determine what I perceive of the process of implementing interdisciplinary teaching, but rather what teachers, counselors, and administrators perceive. I examined the patterns of experiences and perceptions provided by teachers, counselors, and administrators as part of the whole picture of interdisciplinary teaching.

One of the strongest advantages of a case study approach that uses phenomenology as a basis for interviewing is the depth to which this case can be examined. Case studies are beneficial in exploring present-day events in which significant behaviors cannot be controlled in an authentic environment. Other advantages cited by Yin (2003) include the opportunity to give attention to even the smallest details of a case as well as the ability to offer some interpretations of a study's environment. Using a case-study approach can provide an opportunity to gather more thoughtful data. Working within a constant environment over a constant period of time allows the researcher to observe a case study in depth, which can ultimately provide a more complete picture of a particular study.

According to Mertens (2005), when choosing a case to study, the researcher should focus on a particular group within a complex context. The primary purpose of a case study is not to explore what is typical for all cases on a macro level, but rather to investigate what is unique to an individual case on the micro level. For teaching case studies, according to Yin (2014), the concern should not be "a rigorous and fair presentation of empirical data; however, research case studies do exactly that" (p. 2). Case study teaching and case study research are often confused. In case study teaching, case study materials "may be deliberately altered to demonstrate a particular point effectively" (Yin, 2014, p. 10). In case study research, that is not the case. While pursuing a case study, the researcher must report all evidence fairly and attempt to avoid bias while implementing research strategies and conducting research (Yin, 2014). The view of case study strategies needs to be pluralistic in order to understand whether the purpose is "exploratory, descriptive, or explanatory" (Yin, 2014, p. 3).

There are multiple approaches to research other than case studies, which include experimental studies, quasi-experimental studies, multivariate studies, correlational studies, program description or evaluations, professional judgment, advocacy, and/or expert opinion (Spraker, 2003). The primary reason I chose to use a case-study approach is to "seek to understand dynamic relationships and views of different stakeholders, rather than offering statistical proof of cause-effect" (Spraker, 2003, p. 16). For the purpose of this study, a qualitative case study approach was appropriate due to my desire to gain insight from the perspective of various stakeholders involved. The goal was not to conduct a case study on interdisciplinary teaching alone, but rather to gather the perspectives of the teachers, counselors, and administrators involved with the implementation of interdisciplinary instruction. Due to the different roles of the stakeholders in a high school setting, perspectives on interdisciplinary instruction may vary.

<div align="center">Research Questions</div>

The following are the prevailing questions that has steered this research:

1. How do participants describe/define interdisciplinary teaching?

2. How do participants describe the process of implementation of interdisciplinary teaching in the high school setting based on their role as a teacher, counselor, or administrator?

3. According to participants, what resources or policies are necessary in supporting interdisciplinary instruction?

Case Study

This research is a case study within a highly successful suburban high school that has applied interdisciplinary teaching to the curriculum. There have been successful interdisciplinary classes that have dissipated over time, despite their success with students. Since one of John Jefferson High School's Seven Essential Curricular Principles (see Appendix A) states that the content is interdisciplinary, it is essential to investigate the perspectives of faculty and administrators to further understand these curricular principles and the implementation of interdisciplinary teaching.

This case study investigated teachers who have team-taught through an interdisciplinary curriculum and teachers who have benefited from the aligned informed disciplinary curriculum planning, but do not actually teach an interdisciplinary course. It also explored the experiences of those teachers, along with the views of guidance counselors and administrators, on interdisciplinary teaching. This study examined the perspectives of counselors and administrators who are familiar with the interdisciplinary framework and are directly involved with the scheduling process of academic classes. Their perspectives are essential due to the fact that they are responsible for the scheduling and course selection for the school.

I interviewed teachers who have taught interdisciplinary courses at John Jefferson High School and who are familiar with the framework of interdisciplinary teaching. As a researcher, I interviewed teachers who currently do not teach an interdisciplinary course and teachers who have taught an interdisciplinary course at John Jefferson High School within

the course of their career, along with other faculty who are aware of the framework of interdisciplinary teaching. The purpose of my research was to investigate the perspectives approximately ten faculty members comprised of teachers, counselors, and administrators who understand the framework and to investigate whether there is material value in implementing this type of teaching method and whether administrators and teachers would ever consider adopting it.

Site

This research is a case study conducted within one midwestern high school: John Jefferson High School. The following information gives an accurate and extensive portrayal of Township High School District X with a focus on John Jefferson High School. The information identifies the ethnicity and gender of the high school's student make-up, as well as a detailed look into the communities that neighbor and feed into John Jefferson High School. The details show some diversity among ethnic groups as well as differences between socioeconomics within each neighboring community. The information provided gives a precise insight into the amount of money the school provides each student and the learning environment provided for students.

It is important to also understand that John Jefferson is a suburban school situated roughly 25 miles northwest of the very large metropolitan city, Chicago. Though the students who attend John Jefferson are predominately white, there is noticeable diversity. John Jefferson serves a wide range of white- and blue-collar workers and a wide range of

incomes within the community. The community data also shows the mobility rates and percentage of families with one or two parents (see Table 1).

Table 1

Demographics for John Jefferson High School

School Student Population	2,106
District X Student Population	12,129
Racial/Ethnic	
White	74.0%
Black	3.0%
Hispanic	12.6%
Asian/Pacific Islander	8.0%
Native American	0.3%
Multiracial/Ethnic	1.9%
Low income rate	16.8%
Limited-English Proficient Rate	1.3%
High School Dropout Rate	0.3%
Chronic Truancy Rate	0.2%
Attendance Rate	94.1%
IEP	17.3%
Homeless	0.4%
Mobility Rate	4.3%
Median Income per Household	$77,938
Median Income per Family	$97,594
Population Below the Poverty Line	2.5%

The average adult resident of Township High School District X has lived there for 17.8 years. Thirteen percent have resided in the school district for five years or less, while 22% lived there for over 30 years. The median adult age is 48.2 years old. Fourteen percent are under 35 years old; thirty percent are over 55 years old. The typical resident reports having attended college but not receiving a degree. However, 49% of the respondents are college graduates. Women comprise 53% of the sample, with men at 47% (Illinois Interactive Report Card, 2015).

Twenty-eight percent of the households in the school district contain children attending high school; within that group, 96% attend District X public schools. Thirty-two percent of the households report the presence of school-aged children below high school grades. Forty-three percent of the households contain District X high school graduates; similarly, 17% of the respondents, themselves, are graduates from District X high schools (Illinois Interactive Report Card, 2015). Seventy-eight percent of the respondents own their present residence. The median total pre-tax household income in the school district is $74,600.00. Only 11% report household incomes under $35,000.00; 42% post household incomes over $75,000.00 (Illinois Interactive Report Card, 2015).

It is essential to understand the school's and the district's vision and mission for further evidence of the school's success. District X's goals are to provide quality education while maintaining a balanced budget and serving increasing numbers of students; increase student learning through engagement, positive relationships, and innovative programs; expand lifelong learning opportunities for residents of all ages through positive relationships; community involvement; and collaborative planning in the efficient use of

resources. With NCLB (2001) in mind, District X's goal is to have subgroup's average EPSA growth surpass that of the previous cohort by 10% annually in reading, English, math, and science until growth from EXPLORE to ACT exceeds six points. The goal of measurable quarterly achievement on the ACT is one that the sophomore class has been adapted to further support the increase of growth at the junior level.

Another goal of the district is to increase student success rate (as measured by a grade of A, B, or C) per course by at least five percentile points each year until the threshold of 95% is attained. This goal is another form of measurement to monitor students' growth. A final goal of District X is to increase the number of students enrolled in at least one AP course. While many students take AP at Jefferson, the district's vision is to increase the number of AP courses taken from the previous year, as well as the number of students taking at least one AP exam. The number of students earning a passing score on an AP exam is also a goal. The mission of the school and district is to have at least 50% of all students earn a score of three or higher on an AP final. The mission and vision of District X is evident at John Jefferson High School in everyday curriculum.

Participants

John Jefferson High School has had successful interdisciplinary courses that have students enrolled in the classes year after year. I interviewed three teachers, three counselors, and three administrators from a staff of 126 to further understand the perspectives of interdisciplinary teaching in order to get a better understanding of the different angles and views of those involved with the implementation of interdisciplinary teaching. The teachers

interviewed ranged from seven years of teaching to 20 years of teaching. From either the English department or the social science department, all three teachers have participated in some form of interdisciplinary teaching. The counselors interviewed ranged from nine years of experience to 17 years of actual counseling experience with 28 years in the field of education. With a counseling department of seven at John Jefferson High School, interviewing three of seven counselors contributed immensely to this study. While these administrators range from 20 to 42 years with experience in education, the administrators interviewed in this study ranged from 15 years of administrative experience to 18 years of experience. The nine professionals interviewed have either a master's degree or doctorate degree and have been employed at John Jefferson High School for a minimum of five years. Interviewing individuals who are directly involved in and have the ability to implement this framework of teaching helped me better understand the literature as well as the motivation behind schools who adopt this framework of teaching. Chapter 4 provides in-depth profiles of each participant.

Data Collection

The research questions were answered using a case-study approach through interviewing. Seidman's (2013) three-interview process was followed. The interviews were recorded both audio and visually while the researcher took notes of . Participants included teachers, counselors, and administrators with at least five years educational experience from John Jefferson High School in Township High School District X. With at least five years of

educational experience, I anticipated participants would most likely have an understanding of interdisciplinary instruction.

The data collection period took place over the course of one semester. Approval was needed to conduct research; therefore, the superintendent of Township High School District X and the principal of John Jefferson High School were contacted for permission. I made initial contact with the principal and superintendent to inform them of the scope of the study and receive permission to conduct the study. However, the principal or superintendent was not involved in any scheduling or discussion about the study with the potential participants. Second, staff of John Jefferson High School was emailed information in regards to the study and were able to ask any questions about participation by emailing me directly in order to protect their anonymity. Based on the responses to the email, participants who showed interest in participating were met with individually to identify whether the participant met the criteria and fully understood the peramteters of the study. Participants were again informed of their anonymity. Since some of the questions could result in criticisms of the school district, I met privately with each participant and further clarified any questions and concerns. The criteria of the participants include employment in the educational field for at least five years with an understanding of interdisciplinary instruction. Each of the teachers, counselors, and administrators who fit the participant criteria and agreed to participate were interviewed.

The nine participants were individually interviewed three times for approximately 90 minutes each. The 27 interview sessions were conducted at the high school in an undisturbed conference room. An onsite interview was conducted for the convenience of the participants

if s/he needed to reference anything for the interview. The interviews were recorded both audio and visually, and memos were also taken after interviews were completed. The memos included a summary of the statements, nonverbal behaviors, and ideas for supplemental questions for the following interviews. Each interview was scheduled no more than one week apart. According to Seidman (2013), the timing of the interviews is essential to establishing a more stable relationship with the participants. Further, participants had an opportunity to reflect on the interview and think about the next one, thus increasing the likelihood for a more authentic experience. Analysis took place after all of the interviews were completed. Due to the phenomenological nature of the study, waiting to analyze the data is vital in conducting a more authentic analysis. Waiting until all interviews were complete helped avoid bias and unintentionally developing themes that may have fed into subsequent interviews.

Seidman (2013) supports the structure of in-depth interviews as crucial in understanding the meaning of participants' experiences from their point of view. Interviewing allows the researcher to put behavior in context and provides access to understanding their actions (Seidman, 2013). Seidman's three-interview series was used to collect an in-depth meaning of the perceptions of interdisciplinary instruction at the high school setting. This is the primary mode of data collection since the goal of this study is to understand the experiences of teachers, counselors, and administrators with interdisciplinary instruction; thus, interviewing is the most appropriate mode of accomplishing this task (Seidman, 2013). Each interview was approximately 90 minutes long. The participants were each interviewed first to explore their educational experience related to interdisciplinary

teaching. The interviews were transcribed after each was conducted, and the interviews did not take place more than one week apart from one another. Each participant completed all three rounds of interviews before the next participant began. This provided enough time to conduct each individual interview and grant sufficient time for thoughtful transcription. Interview questions may be found in Appendix B.

All participants were given pseudonyms for this case study. Not only are the participants given pseudonyms, but the school and district are given pseudonyms as well. John Jefferson High School (pseudonym) in District X (pseudonym) was invited to participate in the study via a letter (Appendix C) sent to them through e-mail and the district's in-district mail service. To clarify participants' participation in the study, the researcher met with the participants prior to the start of the study. Teachers, counselors, and administrators who accepted the invitation were asked to sign a consent form (Appendix D). Participation in the study was voluntary; refusal to participate involved no penalty or loss of benefits to the participants. Participation in the study posed only minimal risks, which included time taken to participate in the three-part interview process. Participants might have been hesitant to disclose specific aspects of their roles or feelings toward their work environment, colleagues, etc., if they did not feel confident in the discretion of the process due to my role at the school. Overall, with minimal risk and an open forum to share their perspectives, participants had a platform and an opportunity to disclose as much as they wanted on interdisciplinary instruction. While no further documents were collected in the research process, the three-part interview structure provided rich meaning and insight to the

perceptions of interdisciplinary instruction at the high school setting from teachers, counselors, and administrators.

Data Analysis

The data analysis for this study was conducted after all interviews were completed with each participant. Seidman (2013) cautioned about the difficult nature of separating the processes of gathering and analyzing data. Due to the qualitative nature of this case study, I analyzed the data after it had been all collected in order to avoid any preconceived notions or biased ideas to be imbedded in the data collection process. While the pure separation of generating ideas from analyzing data is impossible, according to Seidman (2013), avoiding an in-depth analysis of the interview data until all interviews have been conducted can help minimize this imposition of ideas.

The identified unit of analysis for this study was a midwest suburban high school and the teachers, counselors, and administrators employed there as the participants. In order to investigate this unit of analysis for the study, 27 interviews were completed among the nine participants. Memos were also completed after the interview process in order to further contribute to the research process. According to Seidman (2013) participants' thoughts "become embodied in their words" (p. 117). Therefore, verbatim transcription of all interviews was completed which allowed for close transcription analysis. Both audio and video interview recordings served in the analysis of each interview. Having both audio and video recordings further assisted the transcription process and contributed to the richness of

the data. Analyzing both verbal and non-verbal cues served to accomplish in depth analysis of the transcribed material.

During the data collection process, memos were taken because memos "can provide time to reflect on issues raised in the setting and how they relate to larger theoretical, methodological, and substantive issues" (Bogdan & Biklen, 1997, p. 153). Memos were used as a tool to reflect on the interviews, summarize ideas and develop further questions for interviews, and manuscript moments and feelings during each interview. Memos that were taken during this study were informal but have assisted in preliminary thoughts and the further development of second- and third-round interviews. Emergent themes formed from the analysis that was conducted utilizing the Nvivo 10 program for initial coding. The qualitative data analysis software, known as Nvivo 10, assisted in identifying the themes that emerged when all interviews were completed. All of the audio and video recorded interviews, along with memos taken during the process, were entered into a password-protected computer. All files pertaining to this study were also given pseudonyms to eliminate the risk of participants' identities being revealed.

According to Seidman (2013) it is important for the researcher to come to transcripts "with an open attitude, seeking what emerges as important and of interest from the text" (p. 119). While that sounds ideal, many theorists say it is not possible. Therefore, it is essential that the researcher "identify his or her interest in the subject and examine it to make sure that the interest is not fused with anger, bias, or prejudice" (p. 120). As a professional in the field of education, I came into this study with a prior knowledge and an overall understanding of the issues that plague the profession. With this knowledge, I anticipated the participants

having certain responses to certain topics during their interviews. Therefore, I had to be conscious of the knowledge I have and be as objective in the process of data analysis.

With this in mind, I moved forward and took the first step toward transcription by reducing the text, also known as bracketing. Marshall (1981) expresses the opportunity for the researcher to respond to "chunks" of transcript similar to responding to any close reading through the bracketing process. The researcher brackets themes based on "exercised judgment" (Seidman, 2013). According to Marshall (1981) "that judgment depends on the researcher's experience, both in the past in general, and in working with and internalizing the interviewing material; it may be the most important ingredient the researcher brings to the study" (Seidman, 2013, p. 120). This key ingredient assisted me in identifying any preconceived notions and assumptions for both the participants and for my own position in the study.

After the first cycle of coding, I proceeded to what Seidman (2013) advises as "reading, marking, and labeling process" (p. 128). I utilized a first-cycle coding method provided by Saldaña (2009). Initial coding is a first-cycle, "open-ended approach that allows the opportunity for the researcher to reflect deeply on the contents and nuances of the data before taking ownership of them" (p. 81). I listened to each interview recording from start to finish. As I listened, I annotated, marked, and labeled the printed transcription. Following each interview, I read through my memos again. After the data was reviewed for a second time, initial codes were assigned to the data gathered. Throughout this process, I used the NVivo 10 program to assist as a coding method. Seidman (2013) recommends computer programs to help "classify, sort, file, and reconnect interview data. By telling the computer

what to look for, the program can scan large amounts of data quickly and sort material into categories according to the directions" (pp. 127-128). Therefore, utilizing the NVivo 10 program provided a more in-depth analysis of the initial codes I noted in the reading, marking, and labeling process described by Seidman (2013).

During the second cycle of coding, I categorized codes and generated reoccurring themes to be considered in the data analysis process. As soon as the initial list of emergent codes were developed, I was able to apply the initial codes as parent nodes and subcategories of nodes. The NVivo 10 program then allowed for a word frequency report that offered insight into language used by the participants. According to Seidman (2013), the excerpts often connect to the literature on the subject. The emergent codes shared common ideas that are shared within the literature review. Other than frequency, I attempted to identify underlying meaning across codes.

Reason and Rowan (1981) call the next part of the process a "dialectical" process. Now that the participants have spoken, it is the interviewer responding to their words; "what emerges is a synthesis of what the participant has said and how the researcher has responded" (Seidman, 2013, p. 129). In other words, the researcher must apply meanings to the data while finding the connective threads to the study (Seidman, 2013). While finding the connective threads within the study, the researcher must also disregard any codes and themes that may not be applicable to the study. Through further analysis of the codes, I was able to collapse the data into categories. This process was supported by the recurring words and phrases present through individual interviews. Saldaña (2009) identifies the "pattern coding method" as a strategy to approach coding that assists the research with identifying

trends, patterns, and relationships. Through pattern coding, the researcher was able to generate categories from the codes and finally generate themes to address the research questions. From assigning labels, coding relevant statements, compiling a list of initial codes, grouping codes, generating categories, to finally examining the categories to generate themes, seven major themes emerged from the study through dozens of referenced codes labeled within the data that addresses the three research questions.

Researcher's Role

My position as an employee of the school under study may have influenced my perspectives, even as an outside observer. In other words, I have a predisposition to the case study and cannot ignore the preconceived notions of interdisciplinary teaching that I have developed over my years employed at John Jefferson High School. It was focused on both areas of teaching in a midwestern suburban high school. While the case study did reflect random participants, there still may be limited little consideration made for a variety of race, ethnicity, or gender based on the sample size. The sample size was limited due to the number of volunteers available for the study.

Initially, I served as a teacher at the site in which the study was conducted. During my clinical hours and student teaching experience, I had the opportunity to observe an interdisciplinary class between a social science teacher and English teacher. Observing this class solidified my intent to teach, but more importantly, my desire to teach at John Jefferson High School. My experience as an educator at John Jefferson High School for eight years

equipped me with the knowledge and insight, which inspired the study. Near the end of the interview process, I was appointed to an administrative role at John Jefferson High School.

Although I would evaluate only one of the participants in my study in the upcoming year in my newly appointed administrative role, I acknowledge one teacher's responses may not be authentic due to my role change. Seidman (2003) states that conflicts of interest are inherent when interviewing people you supervise (p. 44). My role as a researcher and my newly appointed administrative role in this study needed to be acknowledged in order to process and maintain authenticity and impartiality. While my role changed, my intent remained, and it was to further understand and measure the factors and challenges that may arise in implementing interdisciplinary teaching in a high school setting.

Conclusion

Just as Mena Brooks stated in the quote at the beginning of the chapter, being an active listener is crucial to see the big picture. This qualitative case study with phenomenological elements focused on nine professionals from one site in hopes of gaining knowledge about the challenges and factors that may influence the implementation of interdisciplinary teaching by those specifically involved in order to understand the big picture. Through the research design and process, rich data was collected to contribute to interdisciplinary literature. As a result of an in-depth analysis of data collected through Seidman's (2013) three-interview series from the various stakeholders in education, i.e.,

teachers, counselors, and administrators, themes began to emerge and are outlined and detailed through narratives in Chapter 4 and Chapter 5.

According to Saldaña (2009), themeing the data proposes "ways of analyzing or reflecting themes after they have been generated" (p. 142). Themeing the data was an appropriate choice for this study because, according to Saldaña (2009), themeing is appropriate for mostly all qualitative studies because thematic analysis allows categories to naturally emerge. Therefore, the analysis of data is broken up into themes. From the 27 interviews conducted through Seidman's (2013) three-interview series, seven themes emerged. Before exploring these seven themes, it is essential to have a more in-depth understanding of the participants who contributed to these emergent themes. In order to further understand this methodology chapter, participants in this study are discussed more closely in Chapter 4.

CHAPTER 4

PARTICIPANTS

> I think our school's different, but I think that if you were to take a teacher from just a
> random school district anywhere in the country and then hire them here, there'd be like
> a little bit of a challenge for them. (Peter King, participant interview)

John Jefferson is a different and challenging school to work in, according to

participant Peter King; as a result, the subjects in this study have a unique insight based on

their experiences related to being employed at John Jefferson High School. In this chapter,

participants are described in depth in regards to their educational background, years in the

field, and educational philosophies as described in the initial interview. I also provide a

portraiture approach in this chapter. The primary purpose of a portraiture approach to

qualitative research according to Rivera (2006) is

> to document and interpret the knowledge and wisdom of the subject. Dialogue
> between the portraitist and his subject is the medium that is used to place the subject in
> the social and cultural context within which he or she lives (p. 35).

While relating to important aspects of their professional careers, participants provided insights

to their educational philosophies, which reflects on their experiences as employees at John

Jefferson High School.

The participants represent a range of teachers, counselors, and administrators with a

vast array of experiences based on their roles in education (see Table 2). Each participant has

been in education for at least five years. One of the participants has worked at John Jefferson

High School for at least 18 years in an administrative capacity and developed the school's

current curriculum model that will be later discussed.

Table 2

Participant Information

	Age	Gender	Years in Field
Mena Brooks	50	F	28
Whitney Mathers	45	F	23
Greg Davis	40	M	9
Peter King	36	M	14
Veronica Monroe	31	F	7
Mark Holmes	45	M	20
Sam Greene	63	M	38
Kraig Rain	40	M	20
Victor Charleston	65	M	42

Mena Brooks

Mena has been in education for almost 30 years. She attended Illinois State University

and has a bachelor's degree in special education. Later in her career, Mena obtained a

counseling endorsement and an administrative endorsement. She began her career in

education as a special education teacher in a behavioral off-site program that was later

absorbed into Township High School District X. After teaching special education, Mena

moved into the counseling realm and has been counseling for 11 years.

In this role, she works with students' social and emotional concerns, academic goals,

and supports their path towards college or career. From my teaching experience at John

Jefferson High School, I have noticed that students tend to gravitate towards her. She is

always present in the hallways, interacts with her caseload of students, and always interacts

with teachers in regards to students on her caseload. Her nurturing nature is apparent working

with her over the last eight years, but also is apparent when discussing her educational

philosophy. Until ten years ago, counselors had to teach before obtaining a counseling

certification. Now, counselors do not need an initial teaching endorsement before pursuing a

counseling endorsement. As a result of her teaching experiences, Mena's educational

philosophy is unique. She said:

> I've come here from being a teacher in the past, which, that feels very beneficial just
> for having more empathy towards students and staff and getting a grasp. Although I
> have been out of the classroom for 11 years, I do feel I still have some of that core and
> that root. That being said, my philosophy towards teachers would be...support teachers
> wherever we can. I feel that as much staff development we can offer them is helpful.
> Our times are moving forward quickly and it's hard to keep up. So, I would...I'm not
> really giving you a good answer on that, I'm sorry. But just support, support, support
> because I feel that they often are being finger-pointed for why things aren't where they
> should be.

Her view of educational philosophy towards teachers demonstrates the current

struggles that teachers face daily. Since teachers teach students directly, the accountability of

student learning falls directly on the shoulders of teachers. Teachers teach daily, while

counselors support other needs of students. Mena's focus as a counselor is to find what's best

for the individual. On any given day, within an hour she will have many diverse students in

her office with different needs, different aspirations, and different skills sets and aptitudes that

she has to guide through their high school career. Aside from addressing the students'

individual needs, Mena is responsible for student scheduling. While scheduling students for

their classes is a major component of her position Mena reflected:

> That's not my forte, but definitely there's this component of scheduling where we are given a list of courses that are offered, and then we take our caseload of our 300 students and find courses for them that fit into their day. Sometimes there might be a conflict with their schedule, meaning it's a puzzle. You try and put the pieces together, and there's only one hour that course is offered, so we have to meet with the student and try and figure out what would be the best fit for their other actions, other courses that they would be interested in taking. We are also responsible for them meeting their 21 graduation credits, which is based with their core four as well as their fine arts, their driver's ed, and their consumer's ed.

As we find from early interview data, scheduling students in courses can be difficult

with not only the various courses offered by the school, but by the various conflicts of a

student's individual schedule. For instance, band may only be offered a particular period;

therefore, a counselor will have to work around that particular period to fit in other required

courses a student needs to graduate. Scheduling is a difficult and seemingly undesirable

aspect to counseling at the high school level. The overall satisfaction of her role as a

counselor, her colleagues, and John Jefferson High School is apparent. Her overall disposition

during the interviews and her day-to-day interactions is telling of Mena's commitment to

students and to John Jefferson High School.

Whitney Mathers

Whitney Mathers graduated from the University of Illinois and, at first, was enrolled

in the College of Fine and Applied Arts on the path to become a graphic artist or industrial

designer. While in the industrial design program for three years, she decided to make a major change because she realized that she did not enjoy working with inanimate objects but enjoys working with people. Whitney decided to pursue education and double major in social science and fine arts in order to be a more competitive candidate. After teaching various social science classes for five years, she pursued a counseling degree.

Whitney, like Mena, is a highly desired counselor by students due to her approachable nature and student-centered philosophy. Her educational philosophy is a testament to her approach to not only education, but to students. She said:

> My educational philosophy, I think, is trying to be student-centered as much as possible, and what's best for students. And I think that's what becomes sometimes frustrating. Because of what my philosophy is, not that I don't think the rest of the school wants to have what's best for students, I think a lot of times it's a bottom line, or it's dollars, or it's not enough kids in the class. So I think I would say, it's more student-focused more than anything.

Whitney, like most stakeholders in education, has grown frustrated with the lack of focus on students. She is passionate, kind, and willing to do whatever it takes for students on her caseload. This past year, I was able to see firsthand how much she does for her students. We shared a student, one of her 300 students from her caseload and one from my class of 27 students, and Whitney managed to meet weekly with both of us. She met with me to check the student's progress and met with the student to provide additional guidance and support. Again, that was just one of her 300 students on her caseload. This vast caseload is only one component of her role as a counselor. She explained her role further:

> We schedule students, we do college and career pieces, we meet with kids for socio-emotional reasons, we refer people to outside of school, inside of school, we try to meet with kids as much as we can for socio-emotional reasons but sometimes it's too much for the school setting, so that's when we have to refer people outside of school.

We meet with teachers, we meet with parents, we meet with administrators, we're the liaison or an advocate for students here in school too, especially when their parents aren't kinda advocating for their own children, then it's our job, or we might have homeless kids that we have to help out. We have a lot of different hats that we wear in one day.

When Whitney explained the various aspects to her position, it seems daunting and impossible. Venturing into her daily routine confirmed my view of the overwhelming daily routine of a counselor. She said:

My typical day is I have things written down on my agenda and I never follow [chuckle] because things always get out of...you get pulled in so many different directions. School counselor – we wear so many different hats. You could be doing college counseling one minute, career counseling another, changing a schedule, then someone comes in and says they want to harm themselves or you get another student that brings in a phone from over the weekend because someone is cutting themselves or some kind of self-harm, or you get new students, another counselor across the way has a new student today.

Whitney laughed as she explained a typical day at John Jefferson High School as a counselor. While frustrated with her role and the current issues with education, it was never apparent because she is always smiling and laughing, especially with her students.

Greg Davis

Before Greg Davis pursued counseling, he pursued criminal justice and communication. Greg received an associate's degree in criminal justice and a bachelor's degree in communication. After graduating, Greg taught English in a middle school in Mexico for three years. Since it was a private not-for-profit organization, Greg was provided a canned curriculum to teach. After teaching in Mexico, he pursued counseling and has been at John

Jefferson High School for the last nine years. As far as Greg's educational philosophy, he

believes his clinical background influences his philosophy. He stated:

> I believe that students learn best when they're emotionally healthy, in my opinion. And
> so the more emotionally healthy they are, the more they're apt to learn best, that's in
> just my biased opinion. Just being down here and seeing how students struggle
> sometimes, if they're struggling academically, there's usually a social and emotional
> piece to it at home, personally, and so forth like that. So, in terms of the educational
> piece, I think if we have, I believe, just a healthy emotional person tends to lead to, I
> believe personally, someone getting the most out of their academic experience.

Greg's philosophy on education clearly has a student-centered philosophy with a focus

on the whole child. Greg, like Mena and Whitney, is a counselor who goes above and beyond

for his students. While he has limited experience in the classroom and has never had the

opportunity to teach in public education, his belief in a student-centered approach is apparent.

His counseling background drives the majority of Greg's responses. Currently, Greg believes

that John Jefferson's counseling methods closely follow the American School Counselor

Association (ASCA) model, which embodies three central concepts. He described the model

as,

> academic in terms of the whole; making sure students are on track for graduation,
> signing up for the correct courses, and so forth like that. College and career-wise, just
> seeing what the right fit for them is after high school, be it military, certification
> programs, vocational, or college. And then finally, social and emotional, which is the
> part that, because I come from a clinical background, I enjoy the most. So we do that,
> we've done a number of developmental guidance throughout the school year and yeah,
> so in a nutshell that's what we are responsible for.

Greg is in education for the students. He cares a great deal about them, and working

with Greg has shown me that he cares about the whole student. His concern is to not only help

students graduate, but also to make sure students can balance the pressures of life upon

graduating.

Peter King

When Peter King started as an undergraduate at Illinois State University, he wanted to be a history teacher. Soon after, he decided to pursue journalism, specifically, broadcast journalism, and almost finished a program in broadcast journalism before switching back to education. The intense schedule and lack of pay helped Peter steer away from finishing this major. He switched to teaching because it allowed him to keep pursuing interests that he liked about broadcasting, which was a focus on politics and philosophy and writing, and then transfer those concepts to education. He became a teacher at John Jefferson High School after student teaching at John Jefferson High School. He had a great experience student teaching, which ultimately transformed his understanding of what it means to be a teacher. Peter is not only a teacher, but also a leader in the building in many aspects. He has served on and led many building initiatives and has served in an administrative capacity for two out of the 12 years of teaching within the district while teaching at least one class. I have received many students from Mr. King's class, and I have never heard a negative remark. Peter is no typical teacher though. This is how his typical day looks:

> A typical day is... A lot of it's filled with kind of operational things, attendance and emails, that kind of thing. But I really kinda restrict the amount of time I spend on that stuff, and I put more time into instructional development, curricular development. So, I'll spend more time emailing colleagues in other departments about interdisciplinary projects, colleagues within our own department about our own initiatives within the division, maybe even colleagues in other schools in the district. And I'll spend less time emailing parents, and things like that. I don't neglect those things, it's just part of my choices in terms of how I divide my time. So, I'll spend a lot of the time that I have outside of teaching doing that kind of work. And then, of course, I have some extra-curriculars. So, most recently, speech and debate, and that automatically consumes a bunch of time after school. So, that's a typical day.

Most teachers embrace the day-to-day operational things, while Peter strives for more. He prefers to take on leadership, a role that embraces curricular change, and to be a liaison for the needs of the administration. This could be for various factors, but it can be presumably a factor of his professional experiences thus far. Aside from serving as a department chair for English and fine arts for District X for two years, Peter also consults with struggling schools in developing curriculum and instructional practices that mirror the model of John Jefferson High School. Therefore, his views of what makes a good teacher is based on a hierarchal set of qualities. He said:

> I think that the best teachers are not only good at the platform performance in the classroom, that they're also good at a bunch of other, I guess, more structural components of teaching. So, things like instructional planning, long-term collaborative capacities, knowledge of sort of a bigger picture for how a curriculum is supposed to work, and then the relationship between those structural components and their practices in the classroom. I think the best teachers are able to make those two things synthesized. And the ones who are just really good classroom teachers are pretty much just that. They don't have all those other professional capacities than...I hate to put it this way, but they are, in some ways, replaceable. The irreplaceable ones are the ones who have a pretty good grip on both of those things.

His idea of what it means to be a good teacher is an expectation he holds himself accountable for. Through his professional career, Peter has received a master's degree in reading and administration from Olivet Nazarene and is pursuing a doctorate. Peter is not only a strong classroom teacher, but also a dynamic leader within the English department and John Jefferson High School.

Veronica Monroe

Veronica Monroe majored in history and political science at the University of Illinois, and minored in secondary education and earned a master's degree from Northwestern. After student teaching, she obtained a teaching job outside District X and returned the year after to teach at John Jefferson High School. Teaching at Jefferson for seven years, Veronica teaches three courses and has been teaching all three of these courses for the past five years. She teaches human geography to freshman and world history to sophomores. She has taught those same two courses since she came to John Jefferson High School. Currently, she teaches AP World History, which tends to be the bulk of her teaching schedule. While she teaches three different courses, Veronica explained her favorite aspect of teaching:

> I love developing curriculum. I think that's probably my favorite part of the job, other than actually teaching. I really enjoy being in the classroom. But I love developing a coherent design to everything that we do, and I'm always wanting to tweak it, and fix it after I've tried to do that. I'd say my biggest thing that I've done for our department is that when I came on seven years ago, we revamped the regular world history curriculum to more concretely align with the AP world history curriculum, so it's sort of an AP drive down.

> Veronica, like Peter, is a teacher leader in the building when it comes to curriculum and instruction. She consistently represents her department in building initiatives. Veronica serves on an outside consulting team that assists struggling schools with curriculum and instruction. Her passion for curriculum and instruction is apparent when asked about her educational philosophy. She said:

> So my educational philosophy in regards to students would be, I try always to think first about what skill...I guess this kind of goes with design. Are you going to ask me about design too at all? Okay, what skill and what content I think is most important for them to take away, and I've really been trying to focus more on the skill piece because

I've noticed that kids just forget things from year to year, and I want them to take away stuff that will help them at the next level no matter what history course they're taking or if they're gonna pursue a higher education degree, which most of our students do. So I would say that I try my best to always think about what it is that I want the kids to kind of get out of the experience first and foremost and that kind of drives my decision making in all other areas of even just classroom management, like how I'm going to structure the classroom, like how I'm going to deal with certain individual cases of things that come up.

With more of a structural mindset in regards to education, it is apparent that Veronica always has the end goal in sight. Starting with the end in mind, Veronica has been instrumental in her department developing various instructional units and assessments. She wants students to walk away from high school with an education that was purposeful and always has that in mind when it comes to a student's educational experience. Veronica is an exceptional teacher and has proven to be by recently winning a building award for her outstanding contributions to the building. This award is a testament to the type of teacher that Veronica is.

Mark Holmes

Mark Holmes received a degree in media communications, specifically critical media, from Northern Illinois University and then pursued a second bachelor's degree from Illinois State University in speech and education. After teaching at a neighboring high school for the first four years of his teaching career, he received a teaching position at John Jefferson High School and has been here for the last 16 years. Mark has a very hardworking philosophy, and it is clearly expressed during his interview. When asked about his educational philosophy, he immediately refers to work. He described:

Just do the work. It's pretty simple. There's a lot of work to do. I could get all grounded in what ideally I would like, but I've come to the conclusion that as a writing teacher, as a skills teacher, there're no two ways around just simply asking students about a very finite skill, having them show that skill, holding them accountable to that skill, and then adding on to that skill. So I don't know that I'd call it a philosophy other than scaffolding. Okay? There's the skill, I wanna see it in its most basic form, let's continue to build off of it.

Mark is an ideal teacher when it comes to all aspects of being a professional. Students adore him, colleagues enjoy working with him, and, most importantly, he embraces change. A social science teacher approached Mark to resurrect a junior interdisciplinary course that combined both American literature and U.S. history. He explained how the course was resurrected:

Anthony came to me last year and he said, "Look, I taught with Ted Mars before." This is where Anthony got some of this idea. He taught with Ted Mars. And they collaborated for probably, I don't know, three or four years, and that was lost when Ted retired. And so Anthony came to me last year and he wanted to resurrect that, and I said sounded like a good thing. We were both pretty open about it, and then it just came to be. We organically went with the idea of a two-period class that was called Culture Studies, which was something I think Victor had done in other forms. So we just went off of what had been done before, and Anthony had shepherded the process forward because he'd been a part of it before.

It was as simple as that. A teacher had the idea of resurrecting an interdisciplinary course, and, since it was already in the books, all it took was approaching administration with the idea, and it was approved without hesitation. Mark is teaching the interdisciplinary course in the upcoming year with Anthony again. After teaching the interdisciplinary course, Mark believes that this could be done at every level: freshman, sophomore, and junior year. His collaboration with his social science counterpart was a positive one, and he believes that many connections were made between both disciplines that benefitted his students.

Sam Greene

Sam Greene began his career at Illinois Wesleyan for a semester and then transferred

to Milton College, a small, liberal arts college near Janesville, Wisconsin where he received

his bachelor's degree. He was a teacher in a neighboring state for over 20 years and decided

to go back and get his master's degree in educational administration and has been serving in

administration ever since. This is Sam's fourth year at John Jefferson High School. Before

applying for John Jefferson, Sam was the principal for the highest ranked school in a

neighboring state. While in at his previous school, Sam explains how he became associated

with John Jefferson High School. He said:

> We wanted to do better. My associate principal for instruction was doing some
> research for best practices, and discovered Victor Charleston and his model, and that
> he was at Jefferson and that Jefferson had great student growth. At the same time, we
> had a political nightmare happening in my school with Act 10. We were gonna lose
> our contract status at the stroke of midnight on a given night. And to this day, there are
> no contracts in my previous school for administrators or teachers. They're just
> handbook agreements that can be changed at any nights notice of the school board.
> And so, I decided to get the hell out of this state. My associate principal came in and
> said, "John Jefferson needs a principal." I said, "Well, maybe I'll apply." Never
> dreaming that I'd get the job actually, and so I was quite happy to land it. I was
> looking at international opportunities, specifically London and Prague. I did a brief
> look at Arizona, and saw how abysmal their educational system was and had been.
> And really felt like the Northwest suburbs were an oasis of standing, if you will, with
> respect for public education, although it's a tenuous relationship at best.

Due to the tumultuous educational environment, Sam pursued John Jefferson High

School. His experience in education in both a neighboring state and Illinois is valuable due to

his contrasting views of roles, positions, etc. As far as Sam's educational philosophy, he said:

> I think we need to be the most things to the most students, that we're capable of being.
> I don't think it's our position to limit what those students do. I think we need to be as
> broad and as expansive, but yet as detailed as we possibly can. Again, I come from a

state where we had school of choice. Kids could leave your school and go to another school if there was room available. And we also had a program, a state law called "Youth Options," which basically said that if you didn't offer them something, if they exhausted everything in the sciences went through...if you didn't have AP and they exhausted everything by the end of their junior year, and the only option they had was at the junior college or at a four-year college, you had to pay their tuition. You had to pay for their books, their transportation, their tuition, to provide for them that education that your building didn't provide. So, we try to be very, very broad. Similar to what we're doing in Illinois now, because charter schools can embrace anything that you don't embrace as a district.

While teachers and administration are facing a rough educational environment, it seems as though students have more options in course selection than Illinois. It seems as though schools in the neighboring state are held accountable to a certain degree that Illinois schools are not. As principal of John Jefferson High School, he explains the duties of a principal and said:

My responsibilities are to manage the entire system of the high school, all of the various components of it. Whether it be the finances, the buildings and grounds, the instructional design, people from every union, and to take care of my taxpayers, my clients, my students, my extra and co-curriculars. But that changes based on system and level of system. I actually do much less direct work here in all those areas than I did in my previous district, because of all the layers that we have here.

It is clear that Sam wants to assure that his clients, the community, are satisfied with what John Jefferson High School has to offer. Not only does he satisfy the community, but he also satisfies the students and teachers. The culture at John Jefferson High School continues to get better despite the stressful external pressures of education. Sam has an open-door policy allowing any student, staff member, or community member to come in and chat with him. While Sam finds himself lucky to have received the position at John Jefferson High School, some would argue that John Jefferson High School is the lucky one to have him as principal.

Kraig Rain

Kraig Rain went to Butler University and majored in secondary education, physical

education, and health. Upon graduation he went to Ball State University and coached football

for three years and did some graduate work. While that was a positive experience, the lifestyle

was too transient for Kraig. Every three years, coaches have to be willing to move whether it

was for good reasons or bad reasons. This was not an ideal lifestyle for Kraig, so he returned

to his original path of education. He took an aide position at John Jefferson High School in

the PE department anticipating a retirement in driver's education. He quickly received his

driver's education certification and taught driver's education for the next seven years at John

Jefferson High School and another school in District X. He then served as the division head

for the physical education department at John Jefferson High School for four years before

becoming the associate principal of curriculum and instruction for the last eight years. He

stated:

> Currently I'm associate principal for instruction. I don't wanna say that the title is
> misleading because you do oversee a lot of the curricular happenings in the building,
> but I think it's more of a support role for different divisions and departments. In one
> regard, I oversee the division heads, which then with any curricular initiatives or
> collaborative efforts I feel like I act as the conduit to try to make sure those things can
> happen, should happen, how much time is allocated for those sort of projects. At the
> same time making sure that what's happening within the departments, time is
> appropriately allocated. In a lot of ways, I work on a lot of hiring for those as a
> secondary source for that. Then with teachers, I think it's a lot of professional
> development. So, my office serves as the place where teachers who want advanced
> degrees go back to grad school, are hemming and hawing over which university to
> attend, or which programs are better than the others. We discuss those options and
> then help teachers advance their career in that regard. So for the most part, a lot of
> teacher evaluation throughout the year, observations, getting out, making sure that
> you're seen, and in the classrooms, and in various meetings.

Even though the responsibilities of his position are not exactly what he anticipated upon pursuing the role, Kraig has embraced his role and helps staff with professional development and with overall support towards curricular initiatives. Not only is he supportive to staff in his position as associate principal of curriculum and instruction, but he also has the student in mind when it comes to decision-making. He said:

> I think we talk about a student-centered environment, I think that's cliché, but I think it's important to understand what that means. And to us, I think it's understanding the various backgrounds of which students arrive here. And we talk a lot about meeting them where they live, and that means at the level that they enter. We only know them, for the most part, as a test score or a few grades that we get from their junior highs or middle schools. And so we do our best to place them in an environment that sets them up for the best success. So, I think number one with them is understanding their background and then setting up an environment that can make kids the most engaged and successful in their high school. We know that there are gonna be courses they like and courses that they maybe don't like so much. But to make it as meaningful as possible to them, I think is important.

Kraig is not a top-down administrator. While he is perfectly capable of making tough decisions for John Jefferson High School, he believes that seeing all angles of the issue should assist in making those tough decisions. His leadership style is to be more of a listener than a speaker. Instead of reacting, he listens and reflects before making a decision. He explained:

> I think it's about helping make decisions. In some cases, you have to make decisions; in some cases, I work really hard to help the people in my office come to a conclusion on a decision, because most times they know the situation better than I do. I'm just hearing it from their perspective, so there's probably more than one side to a story or more than one area. And so you help them draw out what it really is that they're contemplating, and I think it helps them decide what the best outcome or what the best path is to get to a final decision.

His leadership has not only helped the current principal, Sam Greene, transition into his role as principal, but has also cultivated the current culture at John Jefferson High School.

Kraig has been instrumental in allowing interdisciplinary courses to be implemented and supporting the teachers in pursuing interdisciplinary methods of teaching.

Dr. Victor Charleston

Victor Charleston pursued a bachelor's degree at Western Illinois University in Macomb. He started out as a pre-law major and very quickly found majoring in English as the opportunity to study politics, psychology, and history. During this time, he found that an English major was the best avenue to actually study all of those concepts. He attended graduate school at the University of Chicago, but did not stay there very long. He returned to Western Illinois University and became a graduate assistant. While pursuing his graduate degree, he taught at Western as well. From there, Victor was awarded a full teaching fellowship to Loyola and enrolled in a doctoral program in English for approximately four years, teaching a couple of classes a semester and doing a full doctoral program. Initially, he did not finish his doctorate degree. Victor taught in Catholic high schools because he did not have a credential to teach in public education. After completing all his doctoral coursework in English at Loyola and starting three different doctoral dissertations, none of which are complete, his pursued cultural policy studies, a liberal arts graduate school interdisciplinary program in the education department. He majored in philosophy with a minor in history, and most of the coursework he completed was dual credit between the philosophy and education departments. Victor finished a Ph.D. in cultural policy studies, and wrote his dissertation on the Canadian social political philosopher, Charles Taylor.

Having held various teaching positions over the years, Victor obtained a teaching

position at John Jefferson High School. After teaching for 15 years, Victor obtained the

position as the English and Fine Arts Division Head in 1999. In his current role as division

head, Victor explained the integral responsibilities this position entails:

> The job mostly has me working with, more than anything, English teachers. That's my specialization, although I also supervise an art department and an extremely accomplished music department. I'm a little out of my league there, but the people who teach those courses and run those programs aren't. So my job is to support and to give them as much structure as possible. On the other hand, for the 17 years that I have been in English and fine arts, insofar as English is concerned, my current role is one that's given me a great deal of life satisfaction. Because of circumstances that were very surprising to me, I was allowed to implement a curriculum that I had sort of developed driving around in the car halfway between being a full-time teacher, doing this ACT prep program, and being a policy professor.

When Victor was appointed the English and Fine Arts Division Head in 1999, he

attended his first meeting as an administrator and had the opportunity to actually implement

change. He said:

> The principal had announced that in a couple of years the state was going to universal testing and the ACT. And she pointed out what I already knew as a person who did an ACT Prep program, and that was ACT scores at John Jefferson were almost identical with socioeconomic expectations, but we were actually just a little bit below. And the principal had been given marching orders by the superintendent to try to at least get us up to what we were supposed to be. She opened the door for any kind of tweaks and I sort of sat there. I did not have a tweak, I had this whole theory, and I went to talk to her after the meeting. She, within a couple days, made a decision that, to this day, surprises me: that we were going to implement the entire model, and we would do it over a period of years. Three years, one class at a time, because we had to move out the old structure, so it gave me a very exciting start to my administrative career where not only did I have to do what I had seen people doing as division heads or department heads before, which is very often a managerial type of role.

This was an opportunity for Victor to do something more than just administration, to

actually attempt instructional leadership and implement a theory-to-practice type of

instructional model. The success of Victor's instructional model led to it expanding across the

entire district. The success in the model was largely driven by the success of the English

department at John Jefferson High School. John Jefferson High School's success prompted a

change in curriculum structure across District X, which ultimately would prompt a change in

the way that teachers would teach and the kind of materials that were implemented within

classrooms. At the same time, Victor was able to direct district projects, to develop the

materials for the curriculum model that would ultimately expand across District X, and was

able to work with leaders from other divisions on plans for developing curricular materials.

The model that Victor developed is a theoretical model, not an English model. It is a model

for teaching and learning, and has direct implications for all subjects in District X and at John

Jefferson High School. While Victor has theoretical expertise, students are always at the

forefront of the instructional model. He explained:

> I think that insofar as the students' experience is concerned, and in talking about this
> mostly in relationship to curriculum, we, meaning high schools and the instructional
> programs that they have, it is incumbent on us to make the experience that the student
> has as coherent as possible. My observation is that of all the things you could possibly
> do to improve performance in secondary schools, the one thing that teachers are
> capable of doing, the one thing that schools are capable of doing, is making a more
> coherent experience, and the problem with high schools is that the way that they are
> structured, in the way that instruction in courses are delivered to them is necessarily
> fragmented. It's random in terms of the effects that it has on individual students. My
> belief is that the student, during a year across the courses he or she takes and through
> the years that you have him or her, at least in a core academic program, there has to be
> some internally built-in coherence and continuity in order to be able to maximize the
> students' performance.

Victor is not only beloved by all students who have the ability to take his college

course at the senior level, but by all students who have the ability to see him speak at various

forums provided at the freshman, sophomore, and junior levels. He states that the best part of

his day as an administrator is when he has the opportunity to teach his one class during the day.

Summary

While this study is not entirely a portraiture approach, elements of a portraiture approach were employed for this chapter. The portraiture approach allows a researcher to produce a more complete picture of an event or person that reveals as much about the subject matter as it does about the researcher (Lawrence-Lightfoot & Davis, 1997). Through utilizing elements of a portraiture approach to this chapter, the researcher was able to gain a deeper knowledge of the participants in the study. Using portraiture, the researcher connected participants' experiential knowledge as educational professionals, with a focus on their educational backgrounds in relation to interdisciplinary, to further understand and synthesize their understanding of interdisciplinarity. As participants provided their educational backgrounds, descriptions of their roles, and their views on the past and current state of education, they began to identify what was important to them as professionals and what was important to them in the big picture of education.

Common themes that participants had in common: the importance of academic design and structure, the professional obligation to collaborate, and the necessity of a student-centered approach. These common themes between participants exhibited similar professional integrities and goals, which reinforces the academic culture of John Jefferson High School. Academic culture will be further discussed in Chapter 5. While all the participants have different educational experiences and backgrounds, the focus on students was central in all

interviews. The portraiture approach to this chapter also provided further context to John Jefferson High School's history and academic culture. In Chapter 5, participant interviews are further examined and interwoven based on emergent themes of this study.

CHAPTER 5

DATA ANALYSIS AND FINDINGS

I think we have a duty to not just have a flavor of the month and change the channel. But that being said, it's a very slow moving organization. Traditionally, it's been a system that has not embraced progressivism, if you will. I think we need to be able to take chances and fail, and our school board says that they'll accept that and desire that but yet we see very few people willing to do that. I think John Jefferson is iconic in that regard. (Sam Greene, participant interview)

The purpose of this chapter is to report the findings of this study. According to participant Sam Greene, John Jefferson High School is "iconic" because of the school's ability to take chances in order to improve a student's educational experience. These risks taken at John Jefferson High School can be attributed to how participants interpret the meaning of interdisciplinary instruction. This chapter examines the professional experiences and perspectives of teaching with a focus on interdisciplinary teaching from the perspectives of teachers, counselors, and administrators. This section discusses the themes rooted in defining interdisciplinarity, implementing interdisciplinary instruction, and deciphering the resources or policies needed in supporting interdisciplinary instruction based on the perspectives of teachers, counselors, and administrators. This chapter presents the case study and presents data pertaining to the three research questions:

1. How do participants describe/define interdisciplinary teaching?

2. How do participants describe the process of implementation of interdisciplinary teaching in the high school setting based on their role as a teacher, counselor, or administrator?

3. According to participants, what resources or policies are necessary in supporting interdisciplinary instruction?

This chapter examines the findings of this study and connects the findings to literature. Findings may be transferable to other high schools in the midwest with a similar socioeconomic status. First, the study's findings are reviewed in the structure of the themes that emerged through data collection. The themes include: (a) interdisciplinarity means combining content areas, (b) interdisciplinarity means an aligned curriculum, (c) willingness is viewed as essential, (d) leadership is needed for implementation, (e) policy is missing, (f) policy is viewed as necessary, and (g) fostering interdisciplinarity is crucial.

Interdisciplinarity Means Combining Content Areas

This first theme contributes to interdisciplinary literature since both administrators and teachers are implicated. Administrators and teachers need to determine what level of interdisciplinary instruction to pursue since there are various interpretations of what interdisciplinarity is. According to the *Oxford Handbook of Interdisciplinarity*, Thagard (1992) identifies three styles of interdisciplinary interconnection:

> The first is when an individual alone does research at the intersection of two or more disciplines. This requires the researcher to acquire mastery not only of the ideas but also of the methods of more than one field….A second powerful kind of

interdisciplinary interconnection involves collaboration, in which two or more individuals work together on a project combining their knowledge and skills in ways that require some mutual comprehension but not full duplication of abilities….The third style of interdisciplinary research does not require such collaboration or even individuals who have mastered more than one field. There has been much valuable work by more narrowly disciplinary researchers that draws on ideas from related fields. (p. 237)

While interdisciplinary interconnection was not the focus of this study, the numerous interpretations of interdisciplinarity and whether the combining of actual content areas or disciplines is necessary for interdisciplinary instruction to take place was a factor in this study. The participants identified with these three styles of interdisciplinary interconnections within John Jefferson High School. These alternative approaches to interdisciplinary instruction were all referenced during interviews.

When Victor was asked about the current curriculum model at John Jefferson High School, he referenced Thagard's (1992) first style of interdisciplinary interconnection. He believes that there should be a "synthesis of content" in order to encourage higher order thinking. Thagard's (1992) first style believes a researcher can synthesize two or more disciplines alone, mirroring Victor's perception of other forms of interdisciplinarity when asked if interdisciplinary instruction should be implemented more in education. Victor did not believe interdisciplinary instruction should happen all the time, but rather disciplines should maintain their integrity: "I don't believe in interdisciplinary all the time. I do think disciplines have integrity, but I don't think that the burden that will be placed on most teachers of subjects, including core subjects, would be so great that it would overweigh, outweigh the great benefits that it would have for kids."

While Victor identified with Thagard's (1992) first style of interdisciplinary interconnection, Veronica identified with Thagard's (1992) second style of interdisciplinary interconnection when asked about the curriculum model. This style requires the collaboration of two people on a project to combine their knowledge and skills in ways that require some mutual comprehension, but not a full replica of abilities. Veronica explained the collaborative aspect of this style:

> Starting with the end in mind, we created, myself and a colleague of mine, Brian (pseudonym), we created unit assessments for each of the six units, the six time periods, and then, once we got what was on there, and what were the key skills that we wanted targeted on each unit exam, then we developed unit overviews for the unit with clear essential questions, vocabulary, and other content words that they needed to know, and then designed lessons from there. So each teacher on the team has autonomy to do whatever kind of lessons they wanna do, although we share materials on a Google Drive folder. But we all have the same sort of unit overview and always the same unit assessment. So that was big because prior to that, there was really no common assessments that I would say all teachers were using consistently. There's still some variation, but I think we're a little bit more cohesive as a team in that regard. So that probably has been my biggest area of actually designing a curriculum based off of a curriculum at the AP level that already existed.

When Kraig was asked about his understanding of interdisciplinary instruction at John Jefferson High School, he referenced Thagard's (1992) third style of interdisciplinary interconnection. Thagard (1992) states that to reach a goal, a researcher can utilize seeking "ideas from related fields." Kraig confirmed this style by stating that interdisciplinarity can take place if teachers have a common understanding of skills, such as a common language for the writing program, are in place. He explained:

> I think it's two-fold. I think it's number one: Allowing teachers to understand at certain grade levels across courses what's being done at what time. And by understanding that, it allows them not to necessarily reteach or teach in different way. We seem to have a common vocabulary, for example, with the writing program. So that if someone in health wants kids to write a paper on something, they can start with a

template that kids are pre-taught and understand through English. I also think interdisciplinary also is content connection. So it's both skills and content sometimes taught together in one place, such as a forum. But it's also just the understanding that there's a timeline for when things are taught and trying to match up, for example, books and novels and American literature with the timeframe that they're talking about in US history. So that maybe during those times, there was a reason why books of that nature were written about the time and all that. So I think it's two-fold in the sense that it's content connections, as well as...we use efficiencies not to have to reteach certain skill components, but staff are taught to use similar vocabulary so kids understand that when they're in a different class, they can use those same methods.

Thagard's (1992) three styles of interdisciplinary interconnection explore going beyond simply combining two classes and identifies more with the participants' perspectives beyond combining content areas. Mark, the teacher who has taught in a combined interdisciplinary course, described his understanding of interdisciplinary instruction with Thagard's (1992) second style of collaboration, as well.

Anthony (pseudonym) and I, specifically, collaborated in order to get our content as tight as it could be for the benefit of the student. That to me is what collaboration ought to be about, shoring up your curriculum, setting aside your personal ego and doing what needs to be done for the benefit of the student.

When the counselor participants Mena, Greg, and Whitney were asked about interdisciplinary instruction, they were the most hesitant in their responses. They seemed familiar with interdisciplinary instruction from their experiences at John Jefferson High School, but were unsure of how to confidently respond to this question compared to other questions during the interview. Mena used words like "limited" and "minimal" in her response. In response to the request, "Describe your understanding of interdisciplinary instruction," Mena replied:

Sure. So my understanding limit is, it's far from being professional, is again that you would take teachers and staff from your different content areas such as your English, your math, your science, social studies, and again looks at a theme or a time period,

> and you would bring in social studies....So that's a very small...nowhere near the depth of that, but that is kind of my really, very minimal.

Like Mena, Greg was unsure of the question asked. Greg understood the concept of

interdisciplinary instruction but seemed uncomfortable with the question and having to

explain himself. His response was:

> Well, my understanding of it is taking...around the different disciplines? And just interweaving them together, so that they play off one another, so one relates to the other. And I guess, the best way I can envision it, which I think has worked great this year I, and I have a better understanding of it, is with Anthony and Mark in their class, how they're weaving in together history and American literature and stuff like that. So, that's my understanding of it, which I think is a neat concept.

> Both Mena and Greg may have little theoretical understanding of interdisciplinary

instruction, but they do have an overall understanding of the framework. Whitney, another

counselor, did not reference any specific details about the current courses that are currently

implemented at John Jefferson High School. When asked to describe her understanding of

interdisciplinary instruction, she replied:

> Interdisciplinary instruction – just when two different subject areas come together and try to teach from different angles and different subject matters, but it's the about same thing. We have our English and our history classes, and you find a book that relates to World War II. Then you talk about World War II. Then you have these two different subjects that you thought were separate, but then you can see how they mesh together. And I think that's really helpful in how learning process works, it's not so divided.

> Whitney's response to interdisciplinary instruction, like Mena and Greg's, was to

combine subject or content areas in order to "look at themes," "weave," or "mesh" two

subject areas. Mark, a teacher of an interdisciplinary course, was able to articulate the

thematic view, the weaving, and the meshing of an English course with a history course.

> My understanding of it is that, Anthony and I, specifically, collaborated in order to get our content as tight as it could be for the benefit of the student. That, to me, is what

collaboration ought to be about, shoring up your curriculum, setting aside your personal ego, and doing what needs to be done for the benefit of the student. That's why I taught *The Great Gatsby* months earlier than other teachers because Andy was getting in to the 1920s in February. And that's why I didn't teach it in May this year for the first time. So it's not a criticism on other teachers, because other teachers weren't specifically tasked to collaborate. They're just doing what we've always done. So, anyway, my understanding of it is, align content for the betterment of student achievement, period.

Mark mentioned "aligned content" which calls for teachers to collaborate for a more cohesive delivery of instruction. Aligned content occurs not only in an interdisciplinary classroom, but can also occur systematically within an aligned curriculum. Even before Sam Greene was the principal at John Jefferson High School, he intertwined interdisciplinarity into his instruction, similar to practices at John Jefferson High School. When asked about his understanding of interdisciplinary instruction, he replied:

I feel like I'm in 101. [laughter] My take on interdisciplinary instruction is to....Let me give you an example of how I used to do what I consider interdisciplinary instruction. When I used to teach, *A Christmas Carol*, I'd bring in the art department head, who was a huge art dealer and an antique dealer in Victoriana. And I would also work with the foods unit and so we would research Victorian recipes and work with our foods teacher on preparation storage and presentation of Victorian dishes. I would talk about the thematic concerns, and then we'd have a cultural experience with the food. And so, to me, that's interdisciplinary.

When Sam was a teacher, he saw the importance of the participation from other content areas in lessons in order to enrich a thematic unit. He did what naturally occurs at John Jefferson High School as a result of the aligned curriculum.

Participants defined and described interdisciplinary instruction in various ways, initially as the combing of content areas. Through further research into Thagard's (1992) styles of interdisciplinary interconnection, literature supports the various perspectives of interdisciplinarity the participants expressed. Therefore, understanding the various approaches

to interdisciplinary instruction, even though the lenses of Thagard's (1992) three styles of interdisciplinary interconnection, can help teachers and administrators decipher what level of interdisciplinary instruction to pursue. A clearer understanding of the varying degrees of interdisciplinarity can also contribute to the interdisciplinary body of literature.

Interdisciplinarity Means an Aligned Curriculum

John Jefferson High School has an aligned curriculum model that is outlined in the John Jefferson's Seven Essential Curricular Principles (Appendix A). This curricular model is an instructional design with students as the primary focus. Across the curricular program, focus on coordinated interdisciplinary curriculum and instruction builds multiple literacies: textual, cultural, visual, and technological. While there are only a few interdisciplinary classes at John Jefferson High School, the aligned curriculum allows for integrated units with purposefully designed instruction around interdisciplinary topics of study to occur. Forums, or all-grade-level presentations, are common practice at John Jefferson High School and allow quarterly opportunities for all students to come together and have common learning experiences that transcend academic levels and disciplines. The vertically, horizontally, and diagonally course alignment stated in John Jefferson's Seven Essential Curricular Principles is defined in literature as curriculum articulation and coordination (English, 2000).

Curriculum articulation refers to the "focus and vertical connectivity in a school or school system" while curriculum coordination refers to the "focus and lateral connectivity in a school or system (English, 2000, p. 4). According to John Jefferson's Seven Essential Curricular Principles, "Across the curricular program, focus on coordinated interdisciplinary

curriculum and instruction builds multiple literacies: textual, cultural, visual, and technological." The term "aligned curriculum" tends to be defined as an attempt to "mirror" a curriculum to formative and summative exams in order to closely assess learners. Curriculum alignment also refers to a situation in which the teacher is teaching the curriculum and/or teaching to the test (English, 2000). Curriculum alignment is not a key component in current interdisciplinary literature; therefore, this addition to research could further contribute to interdisciplinary literature. During the interviews with Peter, Veronica, Kraig, Mena, and Victor, they referred to the principles of John Jefferson's aligned curriculum and aligned curriculum was an emerging theme.

John Jefferson High School's curriculum model allows for varying degrees of interdisciplinarity to occur. Peter explained it as "micro" and "macro" levels of connection. He described micro as an actual interdisciplinary course and macro as the integrated and aligned curriculum that has been implemented at John Jefferson High School:

> Okay, I look at interdisciplinary instruction in two ways. One way is micro, and the other is macro. I think the macro is more important, and I think makes the micro even better. And the micro, I'll start with that, is when you have an interdisciplinary course, where you have two teachers team-teaching two separate content areas together, as one integrated course. Like American studies is a great example of that. The American studies program is something that a lot of schools do. I think it's super interesting. Personally, I think, if done well, it offers a more intellectually engaging and rigorous academic experience for the students of those courses than the separate courses do. But that's on a micro level, and I think those are really rich and valuable experiences.

> On a macro level though, it's when you have a whole curriculum that is purposefully integrated. Like here at our school, we call it "horizontal alignment." It's where you have the design of the curriculum overlapping, creating interdisciplinary connections that cannot be avoided. You have to decide that you're not gonna teach the curriculum, in order to avoid making those interdisciplinary connections. Now, I think, in general, in terms of running a school, it's more valuable to have a horizontally aligned curriculum than it is to have integrated courses. I'm not saying it's not valuable to have

integrated courses. I think doing that, especially if you have a good pairing of teachers, is hardly ever going to be anything but a good experience for the kids.

Peter believes that not only are interdisciplinary courses beneficial for students, but the structural alignment of courses across a school is as equally important, especially in the core, meaning English, social science, and science courses. The reason for this is to assure that a student who is not in any interdisciplinary courses can still have interdisciplinary connections. If there is no structural curricular alignment, interdisciplinary connections are more difficult to make. Interdisciplinary connections should be purposeful and can occur naturally within an aligned curriculum model. The aligned curriculum at John Jefferson High School is a scope and sequence of courses that every student experiences. The curriculum contains interdisciplinary content that allows for interdisciplinary connections, even though the courses are not inherently interdisciplinary in structure as defined in the literature.

Veronica, similar to Peter, identified both the micro and macro interdisciplinary methods without explicitly identifying them the same way. However, her understanding of interdisciplinarity identified with both themes: combined content areas and aligned curriculum:

> Interdisciplinary instruction. Well, I think that...see, my understanding is, the core classes, but it doesn't have to be the core classes, it could be extra core. It could be really any group of teachers who try to team up across disciplines, to provide a meaningful experience for kids. I think it sounds really great. And I think when it's done purposely and meaningfully, it can actually have a really positive impact on kids. I love being able to reference things that I know are going on in other classes, but I think interdisciplinary is more than referencing. It's also got to be that you've purposely selected certain things to go in certain places in your curriculum, so that it can be enhanced via the other disciplines. I liked the way that we've tried to make an effort at John Jefferson High School.

John Jefferson High School's efforts with interdisciplinary instruction have not only resonated with teachers, but with administration driving the school's current curriculum model. Kraig, the associate principal of curriculum and instruction, related his understanding of interdisciplinary instruction with the aligned curriculum first and then with the concept of combining content areas:

> I think it's two-fold. I think it's number one: allowing teachers to understand at certain grade levels across courses what's being done at what time. And by understanding that, it allows them not to necessarily reteach or teach in different way. We seem to have a common vocabulary, for example, with the writing program. So that if someone in health wants kids to write a paper on something, they can start with a template that kids are pre-taught and understand through English. I also think interdisciplinary also is content connection. So it's both skills and content sometimes taught together in one place, such as a forum. But it's also just the understanding that there's a timeline for when things are taught and trying to match up, for example, books and novels and American literature with the timeframe that they're talking about in US history. So that maybe during those times, there was a reason why books of that nature were written about the time and all that. So I think it's two-fold in the sense that it's content connections, as well as...we use efficiencies not to have to reteach certain skill components, but staff members are taught to use similar vocabulary so kids understand that when they're in a different class, they can use those same methods.

While Kraig referenced the principles of an aligned curriculum, he mentioned forums as providing students with an interdisciplinary connection. Forums, or all-grade-level presentations, allow quarterly opportunities for all students to come together and have common learning experiences that transcend academic levels and disciplines on a particular theme or topic. Aside from thematic lessons that can be made within a classroom, John Jefferson's aligned curriculum use of forum instruction helps to foster further interdisciplinary connections. Mena described her understanding of interdisciplinary instruction;

> I feel we do this quite a bit intensively with our forums, that there's staff development time, where those core four would get together and discuss what they overlap and how they have things in common, what are those common traits. And then how can they

build and really teach the students, so they can see it from all those different lenses. I know this summer they're working on another forum with gym mixed, trying to build that up even more so. A couple years ago, we, myself and Whitney...,I came from this mental health component and then I said, "Hey, everyone else is doing forums. Why don't we try one?" So then she came into the history develop piece of death and dying. So she talks about how the different cultures handle death in their culture, and then I talk about the mental health piece.

Counselors, modeling the core content area classes, have now adopted the use of forums. This all-grade-level presentation allowed counselors an opportunity to have grade-level students come together and for a common learning experience on socioemotional needs with an interdisciplinary connection to history. The aligned curriculum that fosters the implementation of forums is now being used to educate students in other areas of need. While the culture at John Jefferson High School fosters interdisciplinary connections, the academic culture has not always been this way. Dr. Victor Charleston, who developed the current aligned curriculum model, explained more of the history behind it.

> This all does have a history, and I've always been a big fan of interdisciplinary instruction. By my own academic inclination, I like work in a lot of disciplines, I read work in a lot of disciplines, I've taken and done advanced graduate level work in a lot of disciplines. And the connections between them are extremely interesting and informative, and they make everything richer and deeper. In my earlier years teaching in the Catholic high schools, I really didn't get any opportunity to do any direct interdisciplinary instruction. But when I had the opportunity in summer school, or to grab a random history course, or sociology course, I always would. And I even made some vague forays into doing something that you might call interdisciplinary instruction there, although I won't say it got off the ground to any significant height. Here, after a few years, I began to get to know people, and indeed there was some enthusiasm for interdisciplinary instruction. I was involved in a committee, a group of teachers here. I was hired when a lot of talk about school change was starting to emerge in the mid-80s. It was all response to a nation at risk and attempting to change in reaction to that. So it didn't take long before I was able to get some interdisciplinary conversations going here. Actually, we came sort of close, "we" meaning the Jefferson faculty, to implementing a curriculum that would have been more interdisciplinary. It would have been nothing like the one we had here in terms of design mechanisms, but it certainly would have delivered disciplines together.

Victor was the trailblazer in implementing the curriculum 18 years ago. His understanding of interdisciplinary instruction stems from his college experience and his passion. Even though interdisciplinary instruction has been an educational practice that has been around for decades, it was one educational leader, Victor, who saw its value and was solely responsible for introducing this idea to support the concept of an aligned curriculum. While the administration supported him and his theory of instruction to improve the instructional practices at John Jefferson High School 18 years ago, the journey towards this change was not an easy one.

The willingness of teachers tends to be an issue when it comes to curriculum articulation and coordination. An issue that arises with curriculum articulation and coordination, or an aligned curriculum model, is that "teachers involved in curriculum construction do not agree on what the desired level of focus and connectivity should be (English, 2000, p. 4). When Victor explained how the aligned curriculum model was implemented, he expressed that the model could have been more interdisciplinary.

> Actually, we came sort of close, "We" meaning the John Jefferson faculty, to implementing a curriculum that would have been more interdisciplinary. It would have been nothing like the one we had here in terms of design mechanisms, but it certainly would have delivered disciplines together. The politics of that have always been ugly, real ugly, and that's something that always has to be acknowledged.

English (2000) defines the same issues that Victor experienced when implementing John Jefferson High School's aligned curriculum model. According to English (2000), teachers are "loath to define their work" because to do so invites supervision from administration and supervisors "change the autonomy" they have (English, 2000, p. 5). English explains,

At the root of this issue is the concept that, once the curriculum content is adequately defined (a design issue), the teacher is obligated to teach it (a delivery issue) in some reasonably competent manner. Supervision involves an estimate of the adherence or fidelity of what is taught (not necessarily how it is taught) to what was supposed to be taught. This is the process of content design to content delivery. (p. 6)

Peter echoed the challenges, as a teacher, in working collaboratively in John Jefferson's aligned curriculum model:

It's a challenge, because saying that you are going to submit yourself to a larger purpose in a school means that as an individual teacher, you have to give up some degree of your individual liberty as a teacher. And I think that's okay. I think it's okay to have to do that because that's how communities work. There are no jobs in which you work with more than one person where you don't have to do that, unless you're a studio artist or something. But that's not what we do. So my philosophy is, the real virtue and excellence of a teacher rests in that ability to contribute to a collective.

Peter is a teacher who recognizes the benefits of an aligned curriculum because of the opportunities to work collaboratively, but also identified the individual liberties that teachers give up. Veronica identified a transitional period when the aligned curriculum model was not as cohesive and aligned:

I would say that has been a good thing, that I also enjoy, that we've made sure that any kid at one particular grade level is getting a similar experience, no matter what level they're in. I didn't like when I first came on and there was way too much independence. No common assessments and every teacher was doing their own thing, and you could share stuff but it was just if you felt like it. There wasn't really anything in place that was compelling the teachers to share materials, or to create common assessments. I didn't like that.

As long as I've been there, there's been some level of interdisciplinary connectivity, with the freshman curriculum. And we've built a little bit more into the sophomore curriculum. But I think there's still more work to be done. And I like that stuff. I like when we can do, offer the kids some unique experiences that lend itself well to making connections across the disciplines. I've been pleased that the structure of the curriculum is the way that it is. And that it allows us to be able to do those types of things so that kids have common experiences. I would say that in World History in particular, we've really solidified the curriculum to make it more of a top down model. We took the AP curriculum and so every World History kid has a pretty similar

experience, regardless of what level they're at. So, the AP drive down, we redesigned six years ago, the college prep curriculum so that it mirrored more closely the AP curriculum. We just made some choices about getting rid of certain things that we didn't feel like the regular level needed. But the same skills were being taught, and that also allowed for kids to sometimes move up or move down and not really lose a whole lot of content.

Veronica explained how John Jefferson High School's aligned curriculum has been a work in progress. Restructuring a high school or a district curriculum to align more closely with college readiness standards is challenging for reasons similar to implementing interdisciplinary instruction. Not only is the term "interdisciplinary" sometimes unclear, but so is the concept of an "aligned curriculum." According to English (2000), the term "curriculum" is used in multiple capacities; as a result, variations of how curriculum is delivered can be indistinct.

In summary, all nine participants had similar understandings of interdisciplinary instruction that were defined into two emergent themes: combining content areas and John Jefferson High School's aligned curriculum model. The challenges that arise in implementing interdisciplinary instruction are examined in the following section.

Willingness is Viewed as Essential

While an aligned curriculum could further support the implementation of interdisciplinary instruction, the willingness of teachers to collaborate was further explored in order to provide both administrators and teachers the essentiality of a teacher's role. When Veronica was asked about her educational philosophy towards teachers, she started off by saying, "sharing is caring."

Sharing is caring. [chuckle] Yes and honestly, I do believe that. And I try to make a point, when I'm creating something new or doing something that I thought went really well, telling my colleagues about it or sending it to them or making sure that it's posted on our shared folder. Because I think I learn the most when I hear examples from other teachers. Like even at our last workshop, we had an English teacher, was telling how they go through a reading and I think that I just... I love that, that's the part that I really love and I think I learn the most is one, from doing myself, but I think from, honestly, listening and taking things that other teachers create and sort of modifying it and making it my own. So I do really believe in that. I think there's varying degrees of collaboration in my department depending on what team I'm on and how comfortable we feel with sharing. But in general, I try to be really proactive about giving stuff to teachers so that they feel comfortable sharing things back in return and they feel like it's a safe zone, that we're not judging each other, but trying to kind of help each other and steal ideas but in a good way, so that we can give our students a better experience. So that's, I guess, kind of my philosophy with teachers. And I think teachers should do that more and not be worried or suspicious of one another.

Veronica defies the unwilling teacher stigma that English (2000) previously illustrated. She mentioned her own intrinsic willingness to share when she stated that teachers should not be "worried or suspicious of one another" when collaborating and sharing materials. Veronica is the antithesis of many teachers in her department because of her view of educational change and interdisciplinary instruction; other teachers in her department are more reluctant to collaborate and change.

Hargreaves (2007) cites many reasons that educational change may be difficult including,

Key staff who can contribute to the change, or might be affected by it, are not committed. Conversely, key staff might become over-involved as an administrative or innovative elite, from which other teachers feel excluded. Resistance and resentment are the consequences in either case. (p. 2)

Veronica serves as a PLC leader and tends to be the primary social science teacher who volunteers and presents in interdisciplinary forums continuously, which may contribute to

Hargreave's (2007) theory. She might be considered the key staff who becomes overinvolved and is viewed an administrative elite, while other teachers may feel excluded. Another teacher who may be considered an administrative elite is Peter King. Peter has been the primary English teacher who volunteers and presents in interdisciplinary forums continuously. When asked about John Jefferson High School's history of implementing interdisciplinary instruction, he said it is an ongoing struggle due to the willingness of teachers from other departments.

> Part of this, I can tell you from experience, the other part, I can tell you from what I've heard about the history of the school. My experience is that we've always had pretty good interdisciplinary programs, in terms of the curriculum being designed on purpose. This is at macro level thing. Being purposefully designed to create interdisciplinary connections. I'm not saying it's easy; it's not like some kinda utopia where everybody in all of the departments is just like, "Yeah, sure," like that. It takes a lot of hard work and coordination to really squeeze the value out of those purposeful overlaps. But I think we've always done a pretty good job of doing that. Do I think we could do better? Sure. I do. Do I think we've been stronger in some areas some years than others? Yes, I do. But the alternative to that is not having that at all. And that we have it, despite the fact that we work hard to make it something valuable for kids, and we struggle at times with it, it's still better than not having it.

> Peter recognizes change is not easy and, according to Hargreaves (2007), if the change is pursued in isolation and gets undermined by other unchanged structures (for example, when cross curricular learning standards outcomes are juxtaposed with subject-based report cards or standardized tests); conversely, the change may be poorly coordinated with and engulfed by a tidal wave of parallel changes that make it hard for teachers to focus their efforts. (p. 2)

John Jefferson's curriculum model is juxtaposed against Illinois' standardized tests, and other departments, aside from the English department, might have felt the residual effect of the changes when the curriculum was implemented. During interviews, many other departments at John Jefferson High School are described as unwilling or reluctant, except for the English department. Since Dr. Victor Charleston, the English and Fine Arts division head, was the

leader in this curriculum change at John Jefferson High School, his English department may have had a more coordinated and clear vision.

Hargreaves (2007) describes educational change as chaotic and complex and cites an influential chaos theorist to support his theory of chaos and complexity in the educational change process. Stacey (1996) describes the effects of humans to change in any type of organization,

> The creative process in human systems…is inevitably messy: it involves difference, conflict, fantasy, and emotion; it stirs up anger, envy, depression, and many other feelings. To remove the mess by inspiring us to follow some common vision, share the same culture, and pull together is to remove the mess that is the very raw material of creative activity. (p. 15)

When discussing the nature of chaos and complexity in educational systems, Hargreaves (2007) puts teachers in two categories: pioneers and settlers. Both types of teachers should be valued in educational change in order to maintain some form of stability and structure through the change process.

> Some teachers are, in their nature, pioneers. Living on the edge of chaos is the way they like to live their lives. Other teachers are settlers; they plant roots, form relationships and celebrate the rhythms of life. Schools today are in danger of rewarding only their pioneers, those who truly thrive on chaos. But schools, just like society, need their settlers as well as their pioneers to water the horses, ensure the food supply, and maintain the secure base from which others can take their risks. In schools, it is usually the settlers who maintain order, coach the sports teams, coordinate the programmes and ensure that everything keeps running on time while change is going on all around them. Schools, therefore, do not only already have strong elements of continuity; these should also be actively cultivated and maintained. Knowing how to balance chaos with order, change with continuity, is one of the areas in which educational change theory and practice need to be extended further. (p. 6)

Reoccurring ideas expressed by participants and in literature are that change is not easy and many factors, such as emotions, the process of implementation, and structure, need

to be addressed in the change process in order for stakeholders, such as teachers, to be willing

to embrace change such as the implementation of interdisciplinary instruction. Therefore, it is

important to understand educational change and how it implicates the willingness of

stakeholders to engage or support interdisciplinary instruction.

The role of the teacher has changed dramatically in the last decade from teacher

evaluation processes to the use of technology to standardized assessments. The demand is

growing for teachers which may contribute to a lack of willingness to adopt an

interdisciplinary approach to instruction. Mena described what the implementation of

interdisciplinary instruction entails:

> A lot of time and a lot of understanding, I would guess. And then not knowing for
> sure, but understanding from the different staff. They have to be able to give and take,
> work well together, look at a timeline, realize how long it's going to take, where
> they're going to implement the different pieces. I suppose not only knowing your own
> curriculum but others, and just being able to work collaboratively with your team,
> your school members.

As Mena said, "a lot of time and a lot of understanding." Adopting this form of instruction

has proven to be demanding of time and, with the current state of education, the role of a

teacher is getting harder. Mena stated, "I think the job's getting harder and harder for teachers

to try and keep reaching students."

Like Mena, Veronica explained from a teacher's perspective that time is a critical

component of implementing interdisciplinary teaching.

> Like I said before, if it's true interdisciplinary instruction, I think it requires a lot of
> planning, and it requires full teams coming together. I think it can start with maybe a
> teacher or two from each discipline, just coordinating efforts on something and that's...
> I think where we've seen most of it happening at our school is certain teachers just
> getting together and saying, "Okay, we're gonna put together this presentation or this
> forum," and I think most of the other team members go along with it to some degree.

But I think to really make it work, every teacher has to agree on the sequence if they're gonna teach things, or at least agree to do the same content or material….So there needs to be a lot of teacher willingness to coordinate with other teachers, but then not just coordinate ,but actually implement whatever content or whatever skill you're doing across disciplines in the classroom using some of the curriculum from the other classes.

As attested to by teachers, they could be willing to take the time to make interdisciplinary connections, but this has to be a vision that the administration supports as well. Whitney discussed the will of teachers to work together, but also mentioned the will of administration:

The process to get there? First of all you have to have two teachers who would....They supported the administration number one. And I think it's helpful if they go out and see in other school districts to see what works there prior to it, if they can, and what works, what doesn't work? So then a lot of the stuff that doesn't work has already gotten ironed out in another school district, that you could kinda bring some of that curriculum into here. Then you have to have the support of the administration. You have to have two teachers that want to do it and then two teachers whose personalities mesh too.

That they would want to teach those classes and they would put it in their curriculum. That they would say yes to the whole thing and then the support being, can we look at other school districts and see what works, doesn't work. Do I have time to work with this teacher within the school hours and not do all those things on my own. So support, like workshop pay in the summer to prepare, having the resources available for the teachers so they're ready to go so they don't feel like they're lost.

As Whitney described, teachers might be willing to pursue interdisciplinary instruction but have to take an extra step at John Jefferson High School. They need not only support to have the course offering available in the course catalog, but also to have the approval of the administration to support the professional development of the course. Greg explained how the support of administration allowed for the interdisciplinary course to run for the upcoming school year:

Greg: I think if it could work period-wise, I like it, I think it's good. I think for one of two reasons. Number one is actually...yeah, the big one, I think, is just exposure to the two and how you can relate them together. Why one's important with the other and so forth, like that. And I think also just an opportunity for teachers to work together closely, quite honestly.

Interviewer: How is the framework of interdisciplinary instruction supported in this school?

Greg: I know they work really hard to have that particular class run. You know what I mean? So, I think the support in that, regarding in terms of if the enrollment was a little bit low.

Interviewer: So who do you mean works hard?

Greg: Well, I'll give an example. So, for example, the numbers were a little bit low for the class for the US history and the American lit interdisciplinary class. And so, I know Todd (pseudonym) and Victor really wanted to have it run, and so they recruited more students. And so, I guess for me, that's like an example of a situation where we didn't know what was going on, and so there was a possibility of that class not running, and how could they get more students involved and stuff like that. And so, we came up with the idea, or I'd mentioned the idea, why don't you give us a list of the students, and then we will say yay or nay for students who would be a good fit in terms of that type of model, and then, I think they have enough students now to run that class. So, I think, at this point, they're on board on making sure that runs.

Not only is there a need for teachers to be willing to teach the interdisciplinary course, the administration needs to be willing to support the framework. Since this interdisciplinary course was resurrected last year, student awareness and enrollment was low. Therefore, two administrators, Todd and Victor, worked with students and counselors to make sure the student enrollment numbers were substantial enough for the course to run. Due to the support of the administration, Mark and Anthony taught the junior American Literature and U.S. history interdisciplinary course last year and will teach the course in the upcoming school year. In response to the question, "What does the implementation of interdisciplinary instruction entail?" Mark responded:

Giving up a lot, but also receiving a lot. So, I gave up, on my end, the comfort of knowing where I would be. And it upset a lot of what I would be teaching at particular times, and so I had to really reshuffle the days and the weeks. But to the great advantage, I felt and I saw that this in student writing and, in some ways, some of their performances, and specifically in class discussions, and some of their essays that the benefit was Anthony could take over and he could complement what I taught, so it was actually less work in that sense. And then the students, when they turned in their work, would have a richer appreciation. And you saw this in some of their writing of the context. Some of the students who work are just...students who are not as effective would still struggle, but, in my more effective students, I saw an uptick in their performance. So what did I gain? What did I lose? I might have lost this certainty of where I would be, but the gains were...I knew what I was doing was right because the content connections were strong and several students illustrated that in their work.

While Mark has seen his students grow in regards to the depth of their writing and in class discussions, he identified the willingness to give up time, comfort, and autonomy of the English content in order to align with the U.S. history course. When referencing the junior team of teachers, consisting of English, science, and social science teachers, Mark alluded to the lack of interdisciplinary connections being made at the junior level,

> That said, at the freshman level, it seems like interdisciplinary is being executed really well. A lot of teachers are on board. At the junior level, I can say, it's the same old, same old. We're not getting a whole lot of gains in terms of interdisciplinary instruction or in collaboration.

The lack of willingness for teachers to make a concentrated effort to make more interdisciplinary connections seems to be an underlying issue. Victor defined the issue that Mark alludes to during his interview. As the creator and driving force of the curriculum model, Victor explained the challenges he has faced with teachers in regard to interdisciplinary instruction.

> There's a strange possessiveness that teachers have about their classrooms that is unhealthy. And there's a strange definition of what's done in those classrooms, regarding the discipline of the classroom, that's also not healthy. It's not even healthy for the discipline, as someone who enjoys studying about structures of academic

institutions and why they organize themselves in the way that they do, a sort of sociology of knowledge type of approach. It's fascinating to me that you would have this huge investment in secondary schools and have your production force, teachers, operate in an entirely uncontrolled. It just seems to me, that just from a matter of design, that that is an incredibly ineffective way to produce outcomes, whatever those outcomes are. You can define and test them anyway you want; all I really ask for is something that's relevant to instruction and reliable, stable, reliable, nonintrusive, once a year or something like that. But that's also very, very necessary. Teachers would take...in fact, many teachers would take offense to even that. Any threat to, in some way or another constraining, autonomy is resisted I think, theoretically. There is no theory behind it, there is not a reason or a purpose behind it.

Victor went a step further and described teachers as unwilling to collaborate and make interdisciplinary connections, and the way that high schools are structured facilitate the unwilling teachers to close their doors and teach.

But it is probably the single biggest impediment to progress in the secondary school. Elementary schools, to a lesser extent middle schools, which are sometimes in another world. But elementary schools have a completely different delivery. Modality, I mean, it's one teacher in all the subjects, generally. And if it's not, the concert in which they work is closer, so you don't have the fragmentation as much a part of the structural conditions. And in some ways, it might even minimize someone who talks from a theoretical perspective. A lot of this, when you're talking about dealing with kids at scale, is structural. It's having all the things moving in the right direction, at the right calibration, with the right amount of attention. It's not even the technique, or the brilliance of what you're doing, it's setting those up.

District X scores immediately began to change, once the schools began to change to exactly the curriculum that we had, because they pretty much had the curriculum that we had before we made the change. So the structural effect...puts people in place. Structural effects have intention; it's not like they're witless. But the fact of the matter is, a lot of this takes place by just simply getting the right chutes and ladders going on.

John Jefferson High School still has the same fragmented structured schedule that most high schools have, but has transcended some of that fragmentation through the school's current aligned curriculum model. Through Mark's and Victor's interviews, it is clear that the curriculum model has not transcended the unwillingness of certain teachers to embrace

interdisciplinary connections whenever possible. However, not only are the willingness of teachers, students, and administrators important, but the need for strong leadership is essential.

<div align="center">Leadership is Needed for Implementation</div>

The majority of interdisciplinary literature focuses on the role of the teacher. This study draws more attention to the role of administration in the implementation of interdisciplinary instruction. Goldring and Greenfield (2002) discuss the evolution of education and say,

> While consideration of the complexity of teaching and learning has been at the periphery of educational administration for most of the century, the past 20 years have seen increasing attention to studying the complexity of the relationship between teaching and learning, and the leadership, administration, and organization of schools. (p. 5)

Leadership at the high school level is organized in many forms and tiers when it comes to curriculum and instruction. At John Jefferson High School, the top tier is the principal, then the associate principal of curriculum and instruction, followed by the division heads, then PLC leaders, and finally teachers. As an administrator, when Dr. Victor Charleston was asked about his educational philosophy in regards to his leadership, he referenced the essay "The Hedgehog and the Fox" by Isaiah Berlin (1953).

> I tend to be a one-trick pony, or as I like to call it, a hedgehog. Someone who believes in one big thing, and that one big thing is much more important than a bunch of little day-by-day things – sort of the master of all trades, or the jack of all trades and master of none – that you get from the fox, who's all over the place. As a hedgehog, I believe that the administration is the one that's most accountable for giving teachers the direction and the structures that are necessary to operate within. Once again, I think that American high school administrators are much more interested in what I heard

call, The Harmony of Adults, than they are in the outcomes of their students. Making teachers amenable to their jobs by giving them as much freedom and by putting as few restrictions on them as possible tends to be the way that high school administrators in general operate. And I think that that is absolutely the wrong way to go about it.

Rasmussen and Ludvigsen (2009) discuss approaches in teacher education with

reference to the hedgehog and fox theory.

This overly simplistic contrast between a focused and a multilevel approach to the world can obviously be discussed and interpreted in different ways, and it is perhaps for this reason that it is much borrowed. It is important to stress that the contrast is used here as a tool for thinking and unpacking issues and not as a typology." (85)

Victor mentioned that, as a hedgehog, he believes in one "big thing." The one big thing he

constantly comes back to is students. He believed that "the harmony of adults" should not be a

concern, but student learning always needs to be the goal, and the need for leadership is

essential.

It's incumbent on high school administrators to know what to do, and to be able to articulate that to teachers, who then will figure out the ways to do it in the classroom. I do know that because of the way that high school are organized, that for most part if you can't get administrators to pursue some form of a structured... Some form of a carefully designed approach to student achievement, then it's not gonna happen. We don't have a whole lot that would allow us to quality control instruction, and if the administration is not all in on it, it's very, very difficult to get that done. Because high school administrators are too often managers, and not instructional leaders, not instructional designers, we tend to see that a situation persist, and it sort of endures over time, and again, creates what I called before, sort of 'air you breathe' type of effect. No one really realizes that this is something that could be changed, and that this norm that we've become used to is essentially part of the problem, in my opinion, the biggest problem.

According to Leithwood and Riehl (2003), the term "leadership" is complex,

especially in education, and they provide a working definition of leadership that coincides

with Victor's belief of how high school administrators should lead: "Leaders do not merely

impose goals on followers, and leaders primarily work through with other people, and

leadership is a function more than a role" (Leithwood & Riehl, 2003, p. 2). High school

administrators have to not only set goals, but also be able to articulate purpose and direction

for teachers. According to Fullan (2007), a critical factor that can inhibit education change is

lack of clarity: "Lack of clarity diffuses goals and unspecified means represents a major

problem with implementation and can lead to false clarity. Clarity is dependent on the process

and the key is to work on clarity all through the implementation process" (p. 89). With a clear

purpose, Fullan (2014) explains how the leadership of many can be beneficial: "Strong

institutions have many leaders at all levels. Thus, the ultimate leadership contribution is to

develop leaders in the organization who can move the organization even further after you

have left" (p. 15).

Other than setting goals, articulating purpose, and providing directions, high school

administrators also have to delegate leadership to teachers. At John Jefferson High School,

school goals and initiatives are communicated directly to PLC leaders. A PLC team provides

schools a meeting framework for teachers to collaborate on grade-level teams in order to

improve instructional practices with the improvement of student learning in mind. At John

Jefferson High School, there are grade-level PLC meetings weekly and interdisciplinary PLC

meetings quarterly. Veronica, who serves as a PLC leader for sophomores, expressed the need

for leadership from a teacher's perspective and also as a PLC leader.

> So instead, there's a big encouraging thing in the background, or we introduce an
> initiative, but we don't really follow through on it because we're hoping it will just sort
> of catch on the grassroots level. I also don't know that administration even really
> knows exactly how interdisciplinary instruction might work or operate. And I think if
> you have a relatively successful school that overall is successful in doing what they're
> doing, I don't know that there's a huge push to really change or overhaul things
> because what we've been doing is always working, but I think we can always do more

to make connections for kids more explicit, and also to make the experience of going to school more exciting or more interesting or more unique for kids so that they're getting something out of their whole learning experience and whole culture of going to school, that it's not these eight individual classes that never connect or never touch or never have any sort of relation to each other.

Veronica expected more follow-through from administration when an initiative or goal was introduced and described the lack of knowledge administration has had for interdisciplinary instruction. Victor shared the same sentiment towards administration when he said, "High school administrators are too often managers, and not instructional leaders, not instructional designers." As a result, there needs to be more direct leadership at John Jefferson High School. When the Kraig, the associate principal of curriculum and instruction, was asked about his educational philosophy towards leadership, his response correlated more as manager than an instructional leader.

I truly feel like I am not a top down guy. If you need a decision, I can certainly make one. But I think it's about listening more than it is speaking. I think it's about hearing what's out there and not reacting, but reflecting. I think it's about helping make decisions. In some cases, you have to make decisions, in some cases, I work really hard to help the people in my office come to a conclusion on a decision, because most times they know the situation better than I do. I'm just hearing it from their perspective, so there's probably more than one side to a story or more than one area. And so, you help them draw out what it really is that they're contemplating, and I think it helps them decide what the best outcome or what the best path is to get to a final decision.

Kraig, along with the principal of John Jefferson High School, Sam, seemed to have a similar view of leadership, which is more of a managerial perspective. Neither of their responses articulated Leithwood and Riehl's (2003) working definition of leadership, "In public education, the ends are increasingly centered on student learning, including both the

development of academic knowledge and skills and the learning of important values and

dispositions" (p. 2). Sam said,

> I think administration has to, again, be as many things to as many people as they can. I
> serve my superintendent. I serve my school board. I serve my community. And so, it's
> my job to be the best administrator I can be to earn the salary that I get paid, and to
> represent all those wishes and desires and to balance those out in my building. You
> have a duty to be reflective, as well as reactive, to the peculiarness of your
> community, if you will, or the specifics of your community. So, my philosophy is to
> serve your bosses and to honor your bosses as well as your clients.

While I am sure both the associate principal and principal have student learning in

mind, their responses identified other priorities such as various stakeholders. Victor, who

identified with the hedgehog approach, believes in one big thing, like student learning, while

the other administrators interviewed function more as foxes. Kraig and Sam focus on more of

the day-to-day, while Victor believes that the administration is most accountable for giving

teachers the direction and the structures that are necessary to operate within. There are

varying levels of leadership; therefore, all levels of leadership need to be considered in

implementing interdisciplinary instruction.

The willingness of teachers, students, and administrators is apparent in all of the

interviews, but strong leadership is another theme that drives interdisciplinary instruction.

Peter discussed the willingness of teachers at both the micro and macro levels of

interdisciplinarity, but also the need for strong leadership.

> Again, I gotta talk about this in two ways, macro level or micro level. If you're talking
> micro level,...if you're gonna do a team-taught interdisciplinary program, I think it
> would probably start with the teachers. You have to have a good pairing of teachers.
> You gotta have at least two teachers who really want to do that. And then, I think,
> secondly, you would have to attract the right kind of student. I think, generally
> speaking, nearly all kids would probably have a pretty good experience with it, but if
> it's one of these types of courses that is isolated, meaning it's only gonna happen with

these two or three teachers and them only, you have a limited number of seats, right? So you're gonna have to sort of advertise that. And I think it might attract a certain kind of kid, and I'm not even sure how you would figure out who's better for it or not better for it other than kids just saying like, "Hey, I wanna take that," but I would think that, and then of course, I think you would have to have content that lends itself to that kind of integration.

Peter explored the idea that many courses have to face: enrollment. As Greg stated, the interdisciplinary course taught by Mark and Anthony was low in enrollment and had to be better advertised for students to enroll in the course. According to Peter, on the micro level, students have to be willing to take the interdisciplinary course and teachers have to be willing to teach the course. On the macro level, an aligned curriculum entails strong leadership and guidance. Peter stated:

> American studies is a great example. That's possible in schools that don't have an aligned curriculum because it's still its sort of own isolated program, and it meets certain graduation requirements for courses kids have to take. So it works there. But I would say, yeah. On a micro level, if you have a team-taught course, you gotta have the right teachers, the right kinds of kids, and then you would also have to have content that's conducive to interdisciplinary teaching. If you're talking macro level, now you're talking way less about teachers and types of kids. In fact, you're assuming that every teacher and every single kid in the school is gonna be part of that experience. On the macro level, it's much more about having a structurally aligned curriculum. In other words, you have to have a scope and sequence of courses and content in each content area that makes interdisciplinary connections possible. I'm not saying that you have to have each course defined down to the week, that's not what I mean, but I mean in terms of content, topics, and units, and concepts. You have to design those courses in a way that you're trying to create those overlaps. It's a leadership challenge, mostly. It's also a teacher challenge, but it's a teacher challenge by necessity, because if a leader tells you, "These are the courses," then you just have to deal with that.
>
> I would argue it'll end up being better than if you didn't have that alignment. But it starts as a leadership challenge. So that means that you're gonna have to have administrators in whatever configuration a school has, the department heads, or whatever, who are intent on creating that curriculum, but also have some knowledge of how it's supposed to work, and then how to actually implement that. So it can't be just somebody who has great personality skills or something. You gotta have

somebody who has that, in fact, maybe they could even have cruddy personality skills, [chuckle] but they may have to have some expertise with content. And they have to have some skill in communicating that to a staff and making it something that's implementable. I would argue they also have to have some guts, [chuckle] because it's not an easy process to make that happen, especially in a school that doesn't have a curriculum like that already.

Peter explored both themes of willingness and leadership. The idea that leaders need to have good personality skills is something that Peter takes lightly. He believes that they need to have "some guts" to make it happen. Educational change does take guts; it is necessary because change is challenging. Victor discussed the challenges of leader in regards to interdisciplinarity.

There's also a leadership component to this too. This is hard, it's not easy to do this, it's a hell of a lot easier just as a leader to let people do what they want. So that content piece, which really gets into it because the content is the signature of the ownership.

As stated earlier, Victor believes that teachers have "a strange possessiveness about their classrooms that is unhealthy." Unfortunately, the high school structure does not help the framework of interdisciplinary instruction because of the nature of isolated departments and the overall history of how high schools have functioned for decades.

I think the problem is, is that most teachers function within an incoherent system. I think that the high school as we know it, invites and almost always gets the phenomena of the teacher seeing the classroom as his or her domain, in a domain that is disconnected to other classrooms, whether they be in the same department or whether they be in other departments. I think the notion of the teacher as independent contractor which is, I think structurally and historically determined. I don't think it's determined as a result of decisions that are continuously made, but I think it's almost become so much a part of the way that high schools are operated that we almost don't see it, it's almost like the air you breathe, that the teacher walks in to the class and makes decisions as to what would be taught, and that as opposed to what the teacher is teaching the student in relationship to the students' experience becomes almost a primary determinant.

When asked about his educational philosophy toward teachers, that they act as "independent contractors" unless leadership provides defined structures and defined goals while encouraging collaboration, Victor responded:

> I think that's toxic, and I think that ultimately that is what, is most responsible for what I previously called random effects. Whether it's good teaching or bad teaching that takes place within a classroom, an individual teacher's classroom. That teaching will never add up just by accident or by chance, to be what the student needs. So, my philosophy of teachers, is that teachers need to work collaboratively and own students' results and make themselves some technicians that are capable of analyzing problems and providing solutions to the problems to develop the kid, and that development takes place within a context, in the absence of that context is exactly what I think is the biggest problem for high schools. Once again, I think that if you could engage teachers I would never want to script or top down, have everyone on the same page, I don't believe that's   effective, I don't believe that that is something that honors the degree to which the teacher's individual capabilities and experience could improve instruction. That said, I think that teachers working within defined structures, defined goals, collaborating with each other as to what is most important, and focusing on that in their own ways, for the most part, within those defined structures, is how you will get better teachers.

Defined structures, defined goals, and collaboration are areas that require leadership according to Victor. An example of how John Jefferson defines structures and goals is through PLCs. Professional Learning Communities, PLC, is an administratively structured time for teachers to meet weekly. Kraig echoed the focus of collaboration from a leadership standpoint:

> Time for those parties to collaborate. So PLC time is usually a big part of organizing whether or not you're gonna be in your course PLC for that day, your grade-level PLC, or an interdisciplinary PLC. So division heads and I, but not usually me so much just being aware of it, but division heads will get together and try and work out a calendar, so that these are division type days and these are interdisciplinary days and obviously, our PLCs meet once a week. And those are always negotiable and flexible, that as we are coming up on a big forum or something, we may need to alter division days for interdisciplinaries because there's work to be done or fine tuning to be done on either of the presentation, or the videos, or whatever that's being used to what's in that.

Victor, the English and fine arts division head, with support of Kraig, the associate

principal of curriculum and instruction, allocates time for collaboration to happen through

PLCs (professional learning communities) meetings weekly. Every Thursday from 7:30 a.m.

to 8:30 a.m., teachers meet in their grade-level PLCs or interdisciplinary PLCs between

English, science, and social science grade level teachers. It is the responsibility of the

administration to lead the process of coordinating these meetings and goals for the

interdisciplinary meetings. The principal, Sam, discussed how leadership drives collaboration.

> Sam: I think it entails collaborative work, both administratively and with your staff. I think you need to be a positive, a nurturing, guiding force in that initiative. You need to know where you wanna go, and be patient, and be reflective.

> Interviewer: As far as the current interdisciplinary framework, how is it implemented within the school?

> Sam: To me what I see for its implementation is through collaborative initiatives or perhaps through my API's initiative based on what I would like to see happen. And so then Kraig would take it and run with it.

> Interviewer: Okay. How is the framework of interdisciplinary instruction supported in this school?

> Sam: Supported administratively and schedule-wise. So, if we have somebody that wants to team teach or somebody that wants to work together, that gets into what we talked about before. Now, when you're scheduling something, it's not about, "Who is a football coach?" "Who needs common prep time? Who needs to work together with somebody?" Which is more of a middle-school model actually but you can bring it into a high school schedule for common planning time, common prep time, so that those teams can be forged and work together. And we've had those conversations with regard to a few initiatives in the building already. It's like what goes on for AP instructors in this building? Do they ever collaborate? Do they ever work on common instruction on the writing processes that may be similar across our curriculum? Do they do anything specifically as a cohort under themselves? And if they do, when do they find the time to do it? And how do we help them find that time?

According to Sam, the implementation of interdisciplinarity was driven by the administration. He referenced Kraig, associate principal of curriculum and instruction, as the driving force. Driving the current interdisciplinary framework through initiatives and allocated time has encouraged interdisciplinarity to thrive at John Jefferson High School. According to participants, if the framework was not supported by the administration, not only would courses remain isolated, but isolation of teachers would continue. Leadership from the principal, associate principal(s), and division heads was crucial in implementing the interdisciplinary framework. Through the hierarchy of leadership, collaboration, time, goals, and structure all needed to be considered. Even if teachers were willing to adopt an interdisciplinary framework, if there was no leadership by administration with the same vision or goal, interdisciplinarity could not be implemented effectively.

<div align="center">Policy is Missing</div>

Not only is leadership complex in nature, but educational leadership is further complicated by "the dynamic social, economic, and policy contexts in which schools are situated" (Goldring & Greenfield, 2002, p. 7). During interviews, the lack of policy knowledge in regards to whether District X has policies that cited interdisciplinary instruction was consistent. For clarity of district policy, District X's Academic Handbook was referenced. It begins with District X's initial policy, which is also the district's instructional philosophy:

> The Board of Education's primary mission is to help all students learn the skills, acquire the knowledge, and develop the behaviors necessary for them to reach their full potential as citizens who can meet the challenges of a changing society. The Board expects priorities for instruction, the evaluation system, and graduation requirements to reflect its commitment to student learning. (Reference Policy 6:10)

Understanding what District X deemed as necessary policies, such as the primary

mission and instructional philosophy, was essential in learning about the role of policy within

District X. Not only does District X have its vision and mission as policies in the district's

academic handbook, but District X also deemed goals and objectives as necessary policies

(Appendix E). All the participants were questioned on whether District X has a policy in

regards to interdisciplinary instruction, and all the participants were unaware of any

instructional policies whatsoever. District X has only two instructional policies in regards to

curriculum and instruction. While the instructional philosophy, mission, vision, goals, and

objectives are policies that reference student learning, the policies are broad and open to

interpretation. The district instructional goals and the curriculum are the only policies that

provide structure for stakeholders at the individual building/school level (Appendix F). These

are the only instructional policies provided by District X in regards to curriculum and

instruction. There is no road map on how to achieve these listed policies; as a result, every

school is different in the pursuit of achieving the district's stated instructional goals. John

Jefferson High School has been able to achieve those goals by having Seven Essential

Curricular Principles (Appendix A).

While these principles have been a staple in how curriculum and instruction is

delivered at John Jefferson High School, that is not necessarily true for the other five schools

in District X. According to Fullan (2007), having "a stimulating, coordinating, sustaining, and

coherent development across many schools is exceedingly difficult because it requires

balancing top-down and bottom-up forces" (p. 211). Due to the lack of interdisciplinarity

within District X's policies, interdisciplinarity has been a bottom-up approach at John

Jefferson High School. Fullan (2007) states that "effective principals 'cause' teachers' work to improve, effective superintendents affect the work of schools through the strategies they pursue and the specific mechanisms on the ground associated with such strategies" (p. 231). Therefore, these curricular principles that have provided John Jefferson High School such success should be considered policy in order to provide the superintendent the mechanism to strategize a more top-down and coherent approach to curriculum and instruction for all schools in District X.

While John Jefferson High School encourages interdisciplinary instruction through an aligned curriculum and the vision of the principal and administration, there is nothing policy-wise that guarantees this framework will be implemented. Through interviews, it is apparent that there is little awareness of whether District X has a policy in regards to interdisciplinary instruction. From administration to teachers to counselors, they seem to be perplexed by this interview question. Sam replied, "I don't know. I don't read the policy book much at all. I try to worry about policy when I think I might get in trouble." The principal made light of the question and went on to explain some other policies he is aware of, while Mark was short with his response to the question: "I know of none."

When Mark seemed a little rattled by the question from his facial expression and almost curt response, we moved on to the next question quickly. Counselors tend to be more aware of policies because of the nature of their position more than teachers. Since there is no district policy, the counselors seem to be also slightly rattled by the question. Mena responded, "I have no idea." Mena seemed unnerved that she does not know the answer. She

asked about the policy when the interview was over, looking for the correct answer. Greg was

unsure of the answer and redirected the questions towards instruction:

> Well, I don't know about the district, but policy-wise, I don't even know if there's a
> policy about that particular class. I think the big thing that we hear and that we think
> about is that is this student the right fit for that type of model of teaching?

Greg knew there is no current policy in regards to the interdisciplinary class, but was unsure

about district policy in regards to the framework of interdisciplinary instruction.

Whitney steered her response towards course adoption. Course adoption is policy and

in order to adopt a course, it needs to be proposed three years in advance.

> I don't know if there's a current policy on that. I know in order to have these classes to
> be interdisciplinary classes, I think it has to be in the works two or three years before it
> can actually it has to be in the books. And if not then you'd have to show your
> curriculum and whether the outcomes, your goals, all these things. That's what I know.
> That's the only thing I would know to be that the board has to approve things and
> admissions takes a while for these classes to actually get on the books.

Course adoption is a necessary component of John Jefferson High School's aligned

curriculum. Due to the interdisciplinary content and nature of the courses, interdisciplinary

connections can be made due to the content offered in the courses. Kraig's response, similar

to Whitney's, described the role of policy in regards to the district's board of education.

> I don't know that there's a policy that would... Policies tend to be board-approved, and
> I don't think the board has approved "yay or nay" on this. I think we've had board
> members come and be a part of it, whether it be a war veteran or someone that has just
> an affinity for a certain piece of the arts, or whatever timeframe we're talking about. I
> think they've seen the power in it. But as far as policy goes, there's nothing that says
> we have to do so many, or we can't do so many, or who's involved with it. And as far
> as a building, I think it's just our own critique of it. Where does it fit? What's its
> purpose? And how does it connect to the greater good? And if it does those things, I
> think we're good with it. We use our own expertise and our own building in lieu of
> paying or costing out guest speakers. A couple of times we'll do that with some

smaller invitees to do that, but for the most part, we use our own people to share their experience with those topics.

Kraig explained the role of District X's Board of Education. The involvement of a board can range and it seems as though District X's involvement is minimal and involved only when needed. It is clear that instruction is not driven by the district, but by the individual schools. While the courses offered in District X have the potential to be interdisciplinary, it is entirely up to the school whether interdisciplinarity is present within instructional practices.

Veronica explained the expectations of interdisciplinary instruction at John Jefferson High School.

> I think it's strongly encouraged. I don't think it's required. I think that it's really encouraged but it's not overtly said anywhere, "You have to have interdisciplinary connections and this is how frequently you should do them and this is…." I think it's very much supportive of like I said, teachers who show a willingness to wanna do it, but there's no…I would not say that there's any expectation that we have to do it.

Veronica has been a driving force for interdisciplinary instruction through her participation as PLC leader for sophomores and through her participation in interdisciplinary forums presented with English and science teachers. She has embraced interdisciplinary instructional practices, but expressed that this is encouraged rather than enforced. Since interdisciplinary instruction is not mandated by policy by the district or school, John Jefferson High School incorporated interdisciplinary instruction through The Seven Essential Curricular Principles developed by Dr. Victor Charleston.

Peter explained how interdisciplinarity is encouraged by the nature of the core academic courses.

> In the school? Again, it's one of these assumed elements of the curriculum design. At least to my knowledge. I don't think we have any official policy documents that say

that it's part of the curriculum. The closest thing we have to that is The Seven Essential Curricular Principles. And in those principles, one of them is explicitly described as the curriculum having to be interdisciplinary. But I think on a district level, there's nothing that states explicitly that interdisciplinarity must be, or even should be, part of any school's curriculum. There's sort of an indirect de facto policy embedded in the courses, because the core courses, which are documented as policy, it's the course handbook, and then you have those charts that show the progression of courses.

Kids at least in the core academic areas, they must take certain courses during their freshman, sophomore, and junior years. And they don't really have a lot of choice, in terms of what those core courses are gonna be. So, that's like a structural component, I think, that is sort of indirectly suggestive of a policy. 'Cause if you have to take World History and you have to take World Literature during the sophomore year, regardless of what level you're in, there's going to be some kind of opportunity for a connection there. But I do think there's a difference between setting that up and doing it on purpose. I think on the district level, we don't do that on purpose. I think on a building level, we do that much more on purpose.

Due to the structure of the courses offered to students, Peter explained how interdisciplinary connections are inevitable. However, due to the concentrated efforts of teachers, interdisciplinary connections are done purposefully. Since Dr. Victor Charleston developed District X's course offerings 18 years ago with interdisciplinarity in mind, the courses' curriculum has interdisciplinary connections that are effortless. Peter referenced the more purposeful approach to interdisciplinary connections that are made at John Jefferson High School, but even if teachers do not explicitly engage in making interdisciplinary connections, they would happen in varying degrees just by the scope and sequence of the core academic courses. Victor explained the design of the courses and why there might not be a policy on interdisciplinary instruction mandated by the district.

I don't think there's a policy on the district level, although I know every single school has the same core course structure as us, which, of course, is by design interdisciplinary. I know every single school to greater and lesser extents has done forums. I know that interdisciplinary is more on the table as a district phenomenon than it used

to be, but that's not necessarily saying much. I can say that that peaked two or three years ago and it's actually less now than it used to be, I think at the effigy of our own influence and before some of the other initiatives it was far stronger. The district on the other hand has always been extremely reluctant to issue policy on actually what you do and certainly interdisciplinary instruction is a bridge too far. Within the school because de facto the model was adopted as an all-school model and has always been, the policy on interdisciplinary instruction is supportive. We've always encouraged the participation in the events, a forum again being the most signature of them.

The administration has supported the combination of classes, when teachers wanna combine classes. I was super pleased to see Mark and Anthony, two teachers here at the junior level, put together an interdisciplinary American Studies course, now American Studies was one of the interdisciplinary courses... If you look at the curriculum course descriptions, the ones that were written in 1999 because I wrote them, every single course has an interdisciplinary version of it. They're 416 for the freshman, 417 for the sophomore, 418 for the junior, and all they are is the core course combined with its partner in social science. And we've actually had all three of them here at John Jefferson since the new curriculum, but we had the freshman one ran for years, we used to have it as part of registration and we did a section and we'd run it. We had the sophomore one for years, Brian (pseudonym) and Christina (pseudonym) taught that. We've had the junior one in numerous teacher configurations before. I'd say that there were numerous teacher configurations, meaning two or more, for all three of those courses. But then it's been a couple years, maybe five, maybe even more, since we've had one of those in the core.

It is evident that the scope and sequence of courses officered in District X are interdisciplinary by the content offered and have the potential to be truly interdisciplinary if teachers are willing to teach the courses combined, like Mark and Anthony did this past year. When participants were asked whether there should be a policy implemented in regards to interdisciplinary instruction, they were divided. Mena, Mark, Peter, and Victor were in favor of a policy approach, while Greg, Whitney, Sam, Veronica, and Kraig were hesitant or reluctant to implement a policy. Greg stated:

Policy, boy, policies, the word policies. I don't know if it's best practice. I don't know if you really need to institute a policy. Hopefully everyone will have the vision that this really is the best way to go about educating our students. And so, I like to steer away from policy, because sometimes when you throw out that word policy, a lot of

times, people don't like to be told what to do. So, hopefully you wanna buy 'em in. So, I'm not sure about the word policy. I would refrain from using the word policy.

Greg's reaction to the term "policy" was met with a deep breath and visible discomfort. Greg's alternative to implementing policy was that "hopefully everyone will have the vision." When asked why he thinks there is no current policy in place for interdisciplinary instruction, his answer reflected themes discussed earlier.

> In my opinion, I'm just kinda referring back my previous answer, I think people don't like to be told what to do. In my opinion, just that, I know the ins and outs of what's occurring in actually the classroom, but oftentimes I think I could be wrong, teachers don't like to be told how to teach. You know what I mean? Just kind of in my opinion.

Greg's alternative to policy is to have a shared vision. However, his perception of teacher's unwillingness to be "told what to do" is the reason why he believes there is no current policy in place.

Whitney, like Greg, thought that instead of policy, the building should have a "climate" that would encourage interdisciplinary instruction.

> Whitney: That's hard to say. I think if you forced two teachers to be together and they don't have a good chemistry, then it kind of wrecks two classes for kids 'cause they're stuck in two periods with the people, so I think it kind of depends, I don't know it has to be a policy. I think it's more of a climate in the building and the climate with the students if it would work best for students.
>
> Interviewer: So aside from the chemistry of the teachers, why do you think there is no current policy in place for interdisciplinary instruction?
>
> Whitney: Probably because... maybe because things work well the way it is, and people haven't explored it enough. Chemistry, I think, is the biggest thing in whether or not teachers wanna do it, and you also have to have the administration that would have to buy into it and make sure there's this strong program for it, so you have to have the curriculum behind it. 'Cause I think a lot of times, there's no curriculum, so then teachers are making up the curriculum for it, so it's a lot of extra work for people.

Both Whitney and Greg reference the willingness of teachers when discussing policy.

They also touched upon the lack of knowledge individuals have when it comes to

interdisciplinary instruction. Sam went further with the idea interdisciplinary instruction being

more "organically developed."

> Sam: I think it needs to be something that's organic and that's developed, and that's something that's mandated, I think. There's nothing more ineffective than some people doing something they don't understand anything about.

> Interviewer: Why do you think there is no district policy in regards to interdisciplinary instruction?

> Sam: I'm not sure there should be a district policy about it. It's some kind of nefarious quality of teaching, infusion of teaching. So all that they would do in policy is perhaps give a statement of endorsement whenever it's something that would be policy, that would still be philosophy, or a mission, or some such thing where they want to encourage that approach with their staff. But it wouldn't be mandated; I just don't think that would happen.

Due to the lack of knowledge of various stakeholders, Sam believed interdisciplinary

instruction would be highly ineffective if mandated. Veronica believed that models of

successful interdisciplinary instruction should be provided by administration.

> I kinda touched on this, a policy. I think that, in terms of a set number of times, there needs to be connections made, I don't think so because I think there has to be sort of a will amongst staff to wanna do it. But I do think it should be encouraged and I think models of successful interdisciplinary instruction should be provided by administration if they're trying to move in that direction, giving examples or people who are doing interdisciplinary stuff, presenting and explaining what they're doing, 'cause I think a lot of times teachers don't really know necessarily what interdisciplinary means and/or how to implement it with any new initiatives. So they hear it theoretically, something like interdisciplinary sounds good, but they have no model or structure for how it might work.

> So, I think it is necessary that administrative teams who want to implement more interdisciplinary instruction have a plan for how they would do it, provide ample workshop opportunity for staff to get together or professional development opportunity, provide models of how it's worked or what it could look like, and then

also do a lot of the legwork of framing their courses within departments and encouraging collaboration within departments and within a course so that that stuff's aligned first and foremost, so that interdisciplinary stuff can grow more organically from that. I think that if you have a hodge-podge of things happening in each department, it's way harder to make meaningful interdisciplinary connections. So policy, no, but I think you could definitely put parameters in place to strongly encourage it and to provide a model for how it might succeed. And then I feel like when teachers can see stuff, then they're willing to take the initiative. If they can see the benefit of it or if they can see how it might work, they're more willing to lead a little committee or a team or whatever to try to create something that would work for their classes.

Leadership is a theme that arises again in this interview question. It is necessary to have strong leadership and guidance for a building initiative to be effectively executed. When asked about the absence of a potential interdisciplinary policy, Veronica identified both a lack of knowledge and lack of leadership as the issue.

> I think in general, my experience with administrations in schools is, they shy away from overt policies that are telling people what to do especially when they're afraid it might affect the morale or they might seem like they're imposing on the teachers' already large workload. So, I think that there's sometimes a hesitancy to just put another policy in place of like, "You have to do this."

Veronica identified the inability of administration to pull the trigger and implement policy due to the implications it might have on staff. Kraig, an administrator, identifies policy as "too much" and explained the role of the district's board in terms of policy:

> Probably not a policy. Policies to me tend to lock in a little bit too much. I think it could be a practice. I think it could be a focus. I think, because policies then dictate how often, how many times, what needs to be the outcome. So, policies to me are board approved and tend to be a little bit, I don't know, something they don't need to totally get involved with. I would hate to have board members talk specific curriculum with me as opposed to general course needs and such like that. So, more of a practice than a policy, I think, but that's gotta come with, like I said, an aligned curriculum that can allow for that.

Kraig believed that the board's participation in curriculum and instruction should be minimal and should focus on more general needs and big picture ideas. Due to the school and district's aligned curriculum, it seemed as though the role of policy is unnecessary according to Kraig.

> I think in this district it's more, there are more big-picture policy items or more big-picture grading scales and discipline policies and cheating situations, graduation requirements. It's not to the finite level of who should be meeting with who and talking about what specific content and what era of time. So, I just don't think it's something that they need to be weighing in on as a policy. I think it's important for them, them being the board and some of our higher superintendence team to be visible and see what that means. So, when we say interdisciplinary instruction, we're gonna put a…we need workshop dollars or we need time for schools to collaborate, they're knowing what their time and their resources are being spent on. I think that's important, but I wouldn't think a policy is necessary.

Kraig identified policy as more of a big-picture idea that the superintendent is responsible for. The district supports interdisciplinary work by allocating workshop monies to workshops dedicated to interdisciplinary instruction. With five of the nine participants reluctant to the idea of implementing policy, it raises the question of what resources or policies are necessary in supporting interdisciplinary instruction in the high school setting.

Since District X has no interdisciplinary policy in place or reference to it in district policies, four of the nine participants identified a need for interdisciplinary policy. Five of the nine participants found policy to be too extreme an approach and stated that interdisciplinarity could be fostered through other means such as a school's culture, an aligned curriculum/ structure, expectations of teachers, and modeling. The participants' divided view on the use of policy indicated potential implications.

Policy is Viewed as Necessary

Five of the nine participants were not in favor of the idea of a policy mandating interdisciplinary instruction, and four of the participants were. While the end result of implementing instruction was different, the need for policy was an emerging theme due to the conflict between teachers and administrators. All nine interviewees found interdisciplinary instruction as valuable in varying degrees, but Mena, Mark, Peter, and Victor found the framework valuable enough to be mandated through policy and thought there was a need for it because of the structure and accountability that policy provides.

Mena nodded her head as she is asked whether interdisciplinary instruction should be mandated through policy. She was supportive of policy, unlike some of the other interviewees, because she believed it provides a structural component.

> Mena: I think if we're trying, as a district, moving that direction and there's some push back, then policy is always helpful. Policy I feel is always just a good skeleton or a backbone for anything. Policy is never necessarily a bad thing and it usually is there to protect and to put some guidelines and structure to be supportive and encourage. So I'm always a fan of policy.

> Interviewer: Why do you think there is no current policy in place for interdisciplinary instruction?

> Mena: Perhaps because it's the exception and not the norm.

Since interdisciplinary instruction is not implemented as policy in most, if not all, secondary schools, it is considered the exception. When asked if she had any additional comments or thoughts in regards to interdisciplinary teaching, Mena explained the reaction of students who experience interdisciplinary instruction firsthand.

No, just from my own experience with students coming into my office and talking or venting or whatever you wanna call it, they feel that it's been a rewarding experience and they feel they've gained from it so I would support it and encourage it.

Mena had 300 students in her caseload, so she was able to see various students and gauge their reactions to courses, teachers, etc. Mena's perspective was framed by her experiences with her students.

Like Mena, Mark gauged his feelings on a potential interdisciplinary policy through observations made during his year teaching an interdisciplinary course.

I guess I can't... Other than my own results, I haven't seen studies that say this is why interdisciplinary is important, other than the successes we've had in getting people on board in the English department. You can statistically crunch the numbers and see this collaboration has led to a statistical success, that's why we work together in English. If you look at... I'm sure we could do the same thing with our reading scores and point out when we collaborated we had a bump in terms of our scores. So it makes sense to me that a principal would say to us, maybe some of his division heads and maybe some of his teachers, "Look, I'm doing this because it's going to benefit the students statistically, and their content understanding is going to get better." And yes, I think there should be a policy. After a certain time, if there are certain teachers who are resistant to the success of students, then I think they're not doing their job. And so I would think that might become part of an evaluation process where, "Does the teacher work with other colleagues in order to facilitate student understanding? Yes or no." So yeah I think there should be a policy.

Mark referenced the teachers who are unwilling or "resistant" to supporting the success of their students and how policy would play a role in assuring that teachers "do their jobs."

Peter, similar to Mark, identified teachers as an issue with policy implementation, but also identified leadership as an issue.

Peter: Yeah, I do. I think in our district, in particular, yes, there should be. I understand the reasons given why we don't.

Interviewer: What are those reasons?

Peter: Well, the reasons are every school is different; every school needs to have the

opportunity to find its own priorities. And I'm sure that's true. There is a difference between our school and some of the other schools that have significantly lower income populations, etcetera. But tell me why you can't have an interdisciplinary curriculum? I still have not heard a good argument as to why you can't do that. And I think a lot of that just largely comes down to fear, because to make it a district policy means that now you have to do it, which means that, a principal must say to his or her assistant principals, "We have to do this," which means now, division heads must have to say to their staff, "We must do this." And it's just…here's what I think a lot of people think, "Gosh, it really sounds hard." And that's what they're afraid of.

Peter discussed priorities, but retracted the idea that priorities at every school are different. He was passionate in his statement and believed that there was not a legitimate argument for schools not to implement interdisciplinary instruction. He went on to identify teachers as the central problem because of their unwillingness to change and administration's fear of confronting teachers.

I'm not saying people are lazy. I'm just saying that part of that is going to necessarily entail objection from teachers. I think it's part of the weird inverted power structure of schools, is that most schools are run by the teachers, not by administrators. Administrators are there for managerial purposes, and in terms of instructional leadership, they're there for show. But I think it's different. In our district, it's different. You have an opportunity to make that a policy. I just think there's this deeply ingrained….People aren't even aware about I don't think. I think it's just this deeply ingrained fear of what it will entail to do it on a district level. And I think that…that's my theory, at least, as to why. But yeah, I think there should be. And maybe one day there will be. I just think right now, not gonna happen.

Peter believed that in most institutions, "schools are run by the teachers, not the administrators." He spoke to the culture of John Jefferson High School and how interdisciplinary concepts, at this point, are "ingrained." Since it is already ingrained, he believes that the administration fears implementing a policy at this point. He believed that the fear of changing something, like implementing interdisciplinary policy, would rattle a culture that "people aren't even aware of" and have a negative impact on John Jefferson High School.

Yeah. Here's the...that's only partly true in our district. I think there's an opportunity to make it a district policy that really probably wouldn't be met with nearly as much objection as there would be in other places. I think in a lot of other districts, it would be hard. And I think it's still worth the challenge, and I'd be disappointed if they don't meet that challenge. But, I understand why. But it's harder for me to understand why we can't do that here 'cause it's so much easier. Still gonna get blow back on it, but it's so deeply ingrained in the culture of each of our schools that for there to be a district-level policy that says that integrations must be part of the curriculum, would not be so disruptive. But I think the reason why we don't, is because there's still that other part of teacher culture and school culture, which is that, it's the individual liberty of the teacher that rules the day. It's what the teacher wants to do behind his or her closed door in the classroom. There's still, even if it's not materially true, in terms of how our schools work, it's part of the ideology that there's that sense that you're sort of doing something sacrilegious. And that a thunderbolt is gonna come down and strike you if you violate the rules.

Like Victor referenced in his interview, Peter reflected on the teachers' culture of isolation. According to Peter, implementing an interdisciplinary policy would be difficult, but worth it because students would be the beneficiaries. While some of the participants were concerned about teachers' and administrators' discomfort with policy, Peter believed that the students' experiences, both on the micro and macro level, need to be addressed, even though interdisciplinary instruction can be difficult.

Yeah, I guess in general. I still think…I've said this in other responses to other questions. Kids' learning experiences will be better if you can have some element of interdisciplinarity in there. And again, I think of it in two ways, macro and micro. Micro being team-taught interdisciplinary courses, the other being a curriculum that's set up to cultivate interdisciplinary connections. You can't lose. The alternative is disarray. The alternative is leaving kids' capacity to make relationships between content to chance and not doing it on purpose. So I think generally, it's hard work, I'll say that. But if you know how to do the work hard and you're willing to do it, from a leadership perspective and from a teacher perspective, it's only gonna be better for the kids.

Victor also believed that policy is needed provide defined structures in order to maximize the students' experiences.

Yes. Once again, I do. I look at the education debates today and I understand that any attempts to define content are subject to all sorts of problems, mostly political, but once you got over the political problems there will be professional problems in terms of debates of what content to include. And I think we've recently seen how something like the common core, which is both more and less than what it has claimed to be. But the debate over that has actually sort of destroyed, I think, assessment in general and the reaction to it as an educational policy that will prescribe practices should be cautionary to all of us. That said, I don't think that... Let me restate that. I do think that there is a place to have a policy that governs education for the purposes of quality control protecting the public. And I think those policies should involve defined structures within high schools and among those defined structures should be a demand that we maximize the incredible investment we have in the staff by what I'd like to call horizontal alignment.

I don't care what you horizontally align, but... Like I said, I do care. [chuckle] But I think that having horizontal alignment is something that, by policy, schools should do as a way to make schools better serve the students that attend them and the parents that support them.

Victor referenced the need for policy because most schools lack the structure of an aligned curriculum; as a result, schools are not providing students with the best educational experience possible. He also mentioned the "political problems" that schools face because of various stakeholders attempting to fix education. He addressed the various stakeholders' involvement in policy decisions in examining the lack of interdisciplinary policy.

Nature of high school leadership, nature of leadership right from boards of education down to building principles. Again, I don't know if I've said this before, but I'm stricken by how accurate the phrase that schools, high schools are run for the harmony of adults is, and I think that there would be no push for something that would be at first such a heavy lift. I also think that those people who are most in charge of education policy, whether it be at building levels or at higher governmental levels, are actually, and I mean this very seriously and not snidely, divorced from actual educational practice and the realities of education to the degree that it would not even occur to them. Certainly not in the way that we're talking about. I think for many good reasons and for long exposure to this a great deal of distrust in decision makers in education and what I've come to recognize is that their criteria for decisions, what they're interested in decisions are very, very different from things that have to do with teaching and learning.

The number one priority in education should be the students, not necessarily the "harmony of adults" as Victor candidly stated. While it is important to have a healthy work environment for teachers, it is important for leadership to have a vision, goals, and principles to stand by. While the term "policy" made some of the participants uneasy, it was clear that the structure of courses in District X that are policy, written by Dr. Victor Charleston with interdisciplinarity in mind, have provided the aligned curriculum and structure for his vision of interdisciplinary connections to come to life. Even though five of the participants did not agree with the need for policy, they did believe there is value to having interdisciplinary instruction.

Through data collection and District X's policies, it is evident that District X does not have a top-down approach, but rather a bottom-up approach. This approach, where decisions are driven at the school-building level, is how schools in District X drive towards the district's instructional goals. The current curriculum and instructional policies allow for each building in the district to pursue the district's goals autonomously. According to Fullan (2007), a balance of top-down and bottom-up approaches to education is necessary for policies to be effective. Fullan (2007) summarizes Steve Anderson's (2006) 12 key strategic components to district effectiveness:

1. District-wide sense of efficacy;
2. District-wide focus on student achievement and the quality of instruction;
3. Adoption and commitment to district-wide performance standards;
4. Development and adoption of district-wide curricula and approaches to instruction;
5. Alignment of curriculum, teaching and learning materials, and assessment to relevant standards;

6. Multimeasure accountability systems and system wide use of data to inform practice, hold school and district leaders accountable for results, and monitor progresss;
7. Targets and phased focuses of improvement;
8. Investment in instructional leadership development at the school and district levels;
9. District-wide, job-embedded professional development focuses and supports for teachers;
10. District-wide and school-level emphasis on teamwork and professional community (including in several cases positive partnerships with unions);
11. New approaches to board-district relations and in-district relations; and
12. Strategic relations with state reform policies and resources. (pp. 214-215)

While District X is a highly effective district in many regards, according to Anderson (2006), the instructional policies of District X lack specificity and focus according to the 12 key strategic components to district effectiveness, especially with the fourth component: development and adoption of district-wide curricula and approaches to instruction. Peter King identified District X's instructional policies as minimal. He explained the extent of policy in regards to District X.

> But those are some of the "other policies," so to speak. I'm doing air quotes for the microphone... That we have in place. But again, on a district level, board-sanctioned policy, there's course titles, course descriptions, graduation requirements, course flowcharts and there's disciplinary rules, there's co-curricular code, that's it. That's pretty much the policy structure for the district.

Peter explained how District X has course titles and descriptions aligned across the district currently, while Victor described how the alignment of courses was initially established in District X.

> I think within a school you have a local enough environment that a meaningful change in curriculum instruction could become a de-facto change in policy. I do think that at the school level, curriculum instruction is synonymous with what kids experience in the process of teaching and learning, and because I do believe there should be a defined curriculum with a purpose, and that the defined curriculum would rise to the level of policy, within the school that both need to exist concomitantly. But once

again, District X is illustrative of how the politics of high schools very frequently are such that, having anything at the level of policy, even when it sort of happens in de-facto practice is very, very difficult. In other words, when John Jefferson High School changes curriculum and everything that was measurable began to increase, it was just a matter of years before the other schools gradually fell in line to extent that we all have what amounts to a district curriculum in terms of what's required at the core. It's noteworthy that that's never been turned into a policy, it's noteworthy that the practices were allowed to develop as long as they did so organically, and that policy was something that actually never was part of the discussion.

While there are district-wide course titles and descriptions in District X, the curricula and approaches to instruction still differ from school to school. The list of the courses offered (Figure 3) is the only document aligning the English courses throughout the district. The content taught in each of these courses it different in every school. At John Jefferson High School, all the courses' content is aligned in scope and sequence with one another in order to allow for interdisciplinarity to occur.

Victor expressed the challenges with implementing policy and stated specifically that John Jefferson's curriculum, despite demonstrating success, never became policy with the exception of the approved course outline (Figure 3). Therefore, Anderson's (2006) 12 key strategic components to district effectiveness, with a focus on the fourth component, development and adoption of district-wide curricula and approaches to instruction, is not an approach that District X has adopted in order to ensure effectiveness at all schools in District X. Interdisciplinary instruction is not present whatsoever in District X's policies, but is present at the building level at John Jefferson High School due to the Seven Essential Curricular Principles developed by Dr. Victor Charleston. If it were not for Dr. Victor Charleston's Seven Essential Curricular Principles that incorporated interdisciplinarity, John

Freshman	Sophomore	Junior	Senior

03991/03992
Honors Written & Oral Communication

→ 03851/03852
Honors World Literature & Composition

→ 03971/03972
AP English Language & Composition

→ 04051/04052
AP English & Literature Composition
or
04080 College of Western Literature & Thought 1
or
04090 College of Western Literature & Thought 2

02561/02562
Written & Oral Communication
or
04161/02162
Writing & Oral Communication: Integrated

→ 03841/03842
World Literature & Composition
or
04171/04172
World Literature & Composition: Integrated

→ 03481/03482
American Literature & Composition
Or
04181/04182
American Literature & Composition: Integrated

→ One semester from:
03280 Advance Composition,
03880 Professional Written Communication,
03910 Creating Writing,
03110 Journalistic Writing 1
and
One semester from:
03780 Contemporary American Texts,
03760 Multicultural Literature,
03300 Advance Reading,
03220 Independent Reading
or
A year-long course
04111/04112 JCAT
04121-04122 CAT Composition
04131/04132 Humanities/ Composition, 04141/04142 Multiculturalism/Creative Writing, 03200 Advanced Reading, 03220 Independent Reading
or
A year-long course
03291/03292 College Composition

02101/02102
Written & Oral Communication

→ 03831/03832
World Literature & Composition

→ 03471/03472
American Literature & Composition
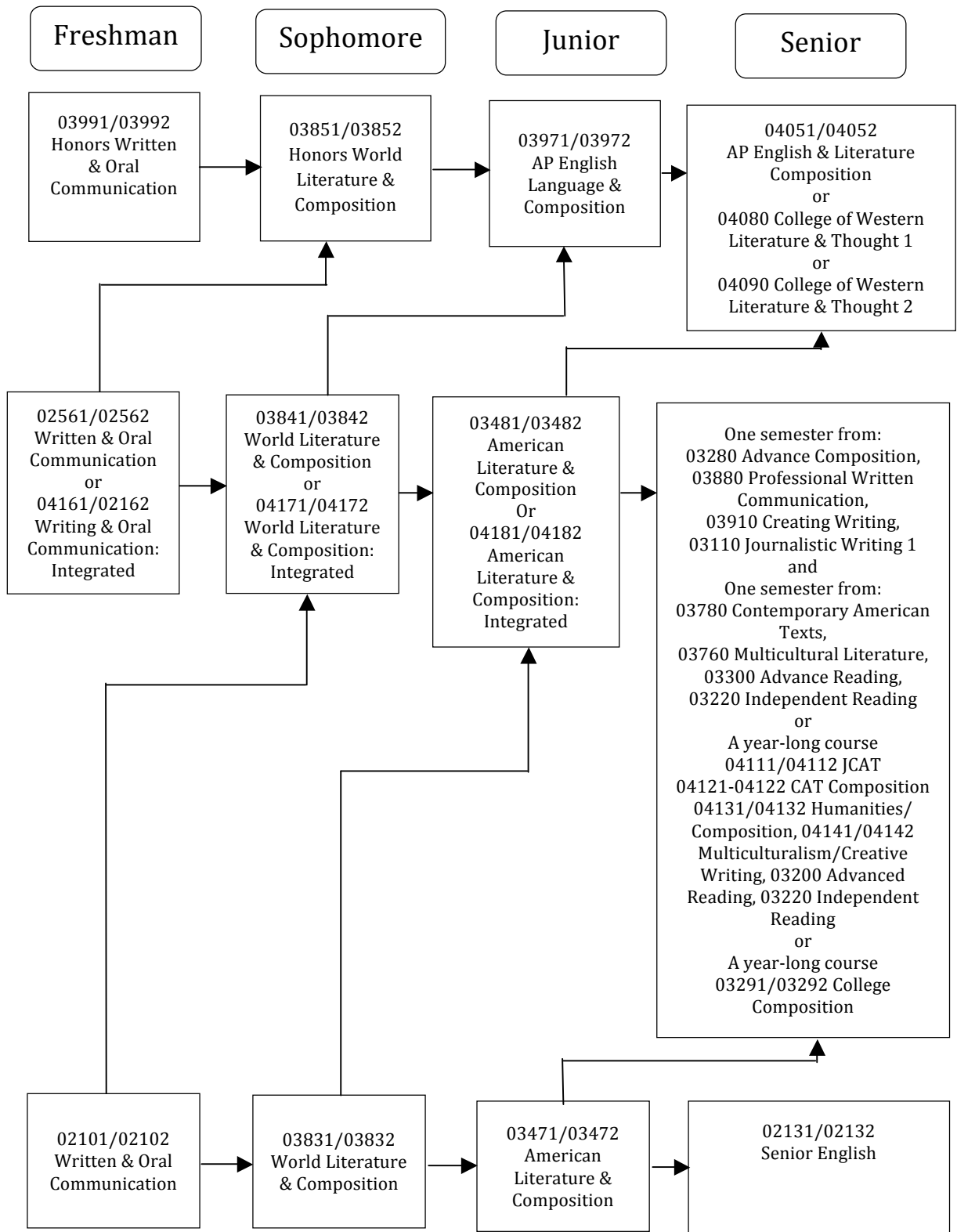
→ 02131/02132
Senior English

Figure 3. English Language Arts.

Jefferson High School may not embrace this form of instruction. This research provides more

to interdisciplinary literature because the role of both a school and a district is rarely explored.

Fostering Interdisciplinarity is Crucial

A school's culture, an aligned curriculum/structure, expectations of teachers, and

modeling were all subthemes discussed as approaches to fostering interdisciplinarity within a

school and as an alternative to policy. When Dr. Victor Charleston discussed the school's

curriculum, he mentioned how the academic culture has influenced students at John Jefferson

High School. He said,

> Now on the other hand, I attribute a lot of the difference in how... I just got into a
> conversation today I can't remember who it was with, but it was about how Jefferson
> kids behave. And Jefferson kids really do act somewhat differently I think than other
> high school students and I am 100% sure it's because of the academic environment…
> So I think that the interdisciplinary education that we give our kids is absolutely better
> than what most....Best. I just don't know another school that does it like this and the
> ones that do emphasize it, it's all this fragmented project based stuff. Our kids also
> succeed in disciplinary and that's very important for the academic credentialing
> accomplishments. I also think it's developmentally important. But there are some, I
> think almost low hanging fruit that would pay off really big for kids in the areas of
> skills and content that we could have, that we were within reach of, that are already
> defined, there is no more ground work to do, but doing it needs to be done.

According to Dill (1982), "the strength of academic culture is particularly important

when academic institutions face declining resources" (p. 304). Currently, District X is facing

various budget cuts, as most schools are, and there have been minimal concerns expressed of

budgetary cuts at John Jefferson High School. The reason that declining resources have not

directly impacted the staff, students, or community can be attributed to the academic culture

that has been carefully cultivated over the last 18 years. "If the common academic culture has

not been carefully nurtured during periods of prosperity, the result can be destructive conflicts

between faculties, loss of professional morale, and personal alienation" (Dill, 1982, p. 304). It

is evident through data collection that there is an established academic culture in place, and

the professional morale is positive. Mena described a specific time when she was pleased

and/or satisfied in her role in education:

> Every day. I love it. I really do. Every day. I'm satisfied, just by walking in this
> morning, and this one boy told me about his baseball practice yesterday after testing.
> It's the connection to humans, and really it's all about relationships. And I would say
> that for any questions you've asked, it's all about building strong, healthy relationships.

Whitney shared the same sentiment when asked about her role in education, but

specifically references John Jefferson High School. She stated,

> I would say it's positive only probably because my experience has been only here at
> John Jefferson High School for the past 22 years. My overall experience with
> education is good. I kinda get sad for what I see out there when I look at other school
> districts on the news, like Chicago public school systems and how they struggle.

Throughout the interview process, every participant agreed that an academic culture

with collaboration and interdisciplinarity in mind is what is best for a school and what is best

for students. Participants differed on how to achieve that goal. Sam Greene, the principal of

John Jefferson High School, believed that fostering interdisciplinarity should be done through

the hiring process, as he explained:

> I think that the greatest that could come from people that interview properly for that.
> That's something that you want and encourage in your building and your hires better
> be screened for that through your, in this case, through your Div Heads. In my other
> school, I would have done all the interviews. And so, it's finding those people that are
> compatible and willing to collaborate and work together for a common good, and
> trying to find fusions, if you will, of teaching and learning. And so, that comes down
> to hire and culture.

Sam recognized the academic culture that John Jefferson High School has established and would hire individuals who can adapt to the culture. Dr. Victor Charleston, who was instrumental in establishing this academic culture, believed that there is more fostering to interdisciplinary instruction.

> I have many, but I think you've done a good job in the questions you've asked me and getting to some of the heart of the matter. And the one thing that I would like to point out, and you obviously have listened to me for a couple of hours now, and you've had to have heard that, I believe that interdisciplinary instruction is something more than just a pedagogical technique. I think it's a no brainer in terms of an opportunity to make what kids do in school more meaningful and more productive. I think the idea of deliberately connecting skills and the development of those skills and I'd go farther and say content and by skills, I mean critical and essential. I don't think that that is just about interdisciplinary instruction.

Victor believes that interdisciplinary instruction is something more than just a pedagogical technique and that it should be more of connection of skills across content areas. He believes the use of interdisciplinary instruction with an aligned curriculum does more to benefit a student's educational experience.

> I mean I would not be satisfied but it would certainly be improvement if we simply had horizontal alignment of skills, which could be done without any form of more explicit interdisciplinary instruction. So understanding that kids who are in this course tend to read around these levels and that there are X, Y, and Z that we could do to improve this reading and if we do this together and we reinforce it, it's going to be better. Now, when we talk about interdisciplinary instruction, the implication I think it's correct is usually that content that subjects are also integrated to some degree of explicitness, whether it be through units, or forums, or shared topics.

Victor believes that the alignment of skills and curriculum with interdisciplinarity are necessary to foster the true value of interdisciplinarity.

> I again point out that kids have many courses in the day and we would recognize a triumph if a kid were to make an observation connecting one discipline to another. No one would not commend that as something that's worthwhile and a thinking skill that a kid demonstrates that shows something positive. But despite that, the structural and

historical conditions that govern schools and the human resources sort of model that we have in schools and the types of leaders that we choose in schools, all tend to mitigate very much against something like interdisciplinary instruction or any form of purposeful structure or operations that are goal directed at all because high schools don't do that.

The culture of a school is dependent on the leaders who are chosen. Sam was an ideal choice for principal because he identified the collaborative structure that Dr. Victor Charleston established.

High schools gather kids, they staff the school with teachers who are defined by subjects and leaders attempt to make people get along as best they can, as if the goal is the harmony of the adults and not the learning of the students. I think one of the colossal problems in secondary education is that we have all of these resources namely a faculty in every single high school. Usually a much more talented faculty I think than the public is a credit for so I'm not teacher bashing here. But I am pointing out that one of the great problems is that we do not have a way to orchestrate the efforts of that faculty toward student outcomes and because I am a strong believer that student learning is the purpose and I think it's almost a tautology of a school, I am very disappointed that schools have not taken on routes to that goal such as interdisciplinary education as well as other structured approaches to improving teaching and learning.

Victor expressed his disappointment that most schools lack structure and do not foster interdisciplinarity. While he said he is not "teacher bashing," he did mention teachers as an impediment in fostering interdisciplinary instruction, and so did Whitney.

I think it works, but there's only certain reasons that it would work. I do like our curriculum model here at Jefferson because I have a high school student in another district and it's very frustrating because everything is aligned here and I think it's helpful when you explain it to new students or parents or other staff or other schools. It lines up. So your freshman year you take Human Geo, it aligns with your English, your Bio, and so you move forward. And then the next step, you do sophomore level, then junior level. It's really helpful, especially when you're coming from other schools within our district that everything is aligned. It's when they come from out of school and you're like, "Oh, my good." When you're trying to make new schedules for people. So I really do agree with that. A time that I did not agree with the curriculum, they still would have that set but they said, "Okay. If you're going to be in, let's say, AP human geo, you must be in Honors English."

Whitney has a child who attends a high school in a neighboring district to District X where there is no aligned curriculum model in place. She explained that the aligned curriculum is not only easy for student placement, but also beneficial for students. Even though Whitney finds interdisciplinary instruction valuable, she expressed the same concern that Victor does in regards to fostering interdisciplinarity.

> Interviewer: Do you think that at the end of the day, it's probably not more readily implemented for, what reasons would you say?
>
> Whitney: Tradition.
>
> Interviewer: Tradition? What do you mean by that?
>
> Whitney: People are used to being in their own classrooms by themselves and doing their own thing. They would have to cooperate with other people. Not to say that they can't, but then it's additional time that you have to collaborate, then you have to do that at school, you can't do it on your own. So I think that kind of divides that a little bit, so I think tradition is maybe one reason why.

In addition to a school's academic culture, participants agreed that an aligned curriculum/structure needs to be in place to foster interdisciplinarity. Ruebling, Stow, Kayona, and Clarke (2004) cite four desired outcomes/results in curriculum development that is essential in improving student learning:

1. Curriculum documents follow a framework and are well written.
2. The contents of the curriculum documents align with state and national standards and with the needs of students for successful work and personal/social lives.
3. Teachers understand and implement (teach) the new curriculum.
4. Students successfully learn to use the skills and concepts of the new curriculum. (p. 244)

While these outcomes/results seem simplistic, unfortunately, these expectations are not being adequately met. In many school organizations, "curriculum documents do not exist.

Where they do, they don't follow a specified framework, are poorly written, are not up-to-date, and are generally ignored by teachers and school leaders" (Ruebling et al., 2004, p. 244). As a result, most schools do not have the ability to foster interdisciplinarity. These desired outcomes/results relate to the subthemes, aligned curriculum, structure, expectations of teachers, and modeling expressed by participants as essential to fostering interdisciplinarity. Fostering interdisciplinarity contributes to student learning; therefore, these subthemes need to be considered for desired outcomes/results. According to Ruebling et al. (2004),

> The fact that many students continue to be "left behind" with respect to important learning goals requires that educators work to improve learning results. Research increasingly affirms that the key to school improvement and student achievement is for school leaders to focus on an academic program. (p. 244)

While there is no current policy in place, student learning can still occur according to Ruebling et al. (2004). John Jefferson High School has the curriculum aligned with the framework of Dr. Victor Charleston's Seven Essential Curricular Principles. These principles coincide with Ruebling et al.'s (2004) first desired outcome because the principles provide a framework for curriculum to be developed with interdisciplinarity. According to English (2000), curriculum articulation is often lost within the isolated structure of schools, which in turn encourages autonomy rather than collaboration. Therefore, a framework needs to be in place that outlines expectations such as John Jefferson's Seven Essential Curricular Principles.

The second desired outcome is driven by the Seven Essntial Curricular Principles, District X's instructional goals and curriculum, and other policies provided in the academic handbook to support student learning at John Jefferson High School. These curricula

documents address the contents of the curriculum to assure they align with state and national standards and with the needs of students for successful work and personal/social lives. According to English (2000), "teaching to the test does not makes sense, it becomes a matter of survival" (p. 12). Since the phenomenon of standardized testing has only increased, District X has included measurement of student growth in achievement within its goals and policies. While many districts have contents of curriculum documents that align with state and national standards, "connectivity within and school sites, disappears in the reality of the chasms and gaps in the respective spheres of teacher and administrative autonomy that exist with school districts" (English, 2000, p. 6).

The third and fourth desired outcomes require teachers to understand and implement the new curriculum in order for students to successfully learn and be able to use the skills and concepts of the new curriculum. These two outcomes, cited by Ruebling et al. (2004), coincide with the subtheme: expectations of teachers. According to Popham (2001), curriculum teaching requires teachers to instruct toward a content area with a specific set of skills that a standardized exam assesses. "Curriculum teaching, if it is effective, will simultaneously elevate students' scores on a test's items and, more importantly, elevate students' mastery of the knowledge and/or skills on which the test items are based" (Popham, 2001, p. 2). Therefore, if teachers are able to teach to a curriculum and have students demonstrate their knowledge on a standardized exam, desired outcomes will be met. District X has the same desired outcomes featured in the academic handbook in part with their featured instructional goals. John Jefferson High School has been able to demonstrate all four

desired outcomes/results outlined by Ruebling et al. (2004) while also fostering

interdisciplinarity without a set policy in place.

Identifying tradition and the isolated nature of public education is a common theme

throughout these interviews. Peter discussed how teachers can inhibit the process of fostering

interdisciplinarity.

> I think part of it is we don't know how and I say 'we' because as a profession, I don't think we know how to do that in a consistent, stable and coherent way. But I think the other part of that problem is, it really is anathema to a lot of what underpins our understanding of our profession and our personal role in it. I think we have a very atomized profession where whether a teacher is consciously aware of this or not, their behaviors bear this out and that is the implicit belief that, "What happens in my classroom is more important than what happens anywhere else." I think if you were to push a teacher on that, they probably wouldn't admit to that readily, because it just sounds sort of like you have a bad attitude. So again, I'm not saying that people are like petulant children about it. I'm not saying that, I'm just say that it's kind of ingrained in us from the time we decided to become a teacher and go through the training to become one.

Peter described the profession as "atomized" unbeknownst to a teacher. When Peter

defined the profession as atomized, he believes that teachers diminish the profession through

an isolated approach to instruction. As a result, if the culture of a school does not foster

interdisciplinarity, isolation will become the norm. Peter explained how John Jefferson High

School is different from most schools. Perhaps the expectations of teachers in regards to

collaboration should be addressed. Peter explained how John Jefferson High School surpasses

most schools:

> I think our school's different, but I think that if you were to take a teacher from just a random school district anywhere in the country and then hire them here, there'd be like a little bit of a challenge for them. They might not even be able to put their finger on what's sort of uncomfortable and different about this situation, but I think that a lot of it could be contributed to the fact that it's just different. It's different to work the way

we do, to have a curriculum that's built that way and for our collaborative processes to be built upon that assumption that that's part of the curriculum, that's really different.

The aligned curriculum is surprisingly uncommon in most high school settings. Fostering interdisciplinarity would be more challenging to implement in a curriculum that is not aligned and does not foster interdisciplinary connections. Fostering interdisciplinarity also entails encouragement and modeling. Greg observed,

> Part of it really interesting, part of it is, and I never taught in a classroom, I don't come from a teaching background, I come from a counseling background. It would be interesting to see... 'cause you think of interdisciplinary in terms of like, with teachers from like two different departments. One thing I do enjoy that I hear a lot about that I know some of the counselors here do is just the whole idea of presenting health classes. Something with a little bit more of this and that in terms of maybe counseling department with actual teachers as a whole. You know what I mean? In terms of the social emotional curriculum and stuff like that and how you can weave that into whatever curriculum they're working in right now would be kinda interesting to see if something like that could materialize.

Greg expressed interest in attempting interdisciplinary connection like his colleagues Mena and Whitney did in the past. The ability to present a forum is enticing for Greg, yet he still seemed hesitant. Veronica discussed how more modeling would assist in fostering interdisciplinarity.

> I think I need to learn more even about what are some really great, solid examples. I have our limited examples of the teachers that I've worked with across departments. And I think we give a really great experience for that day or those couple of days that we're working on it. But I think I would like to just see more examples of how it works. I think I have an understanding of what it is, but I think it could be interdisciplinary instruction could be so many different things that it would be cool to see some other models. And I guess if that really is one of the goals in our building if that's just more explicit in that we're continually working towards that goal. Sometimes I feel like it's a little all over the place.

From a teacher's standpoint, Veronica suggested while John Jefferson High School facilitates interdisciplinarity, she would benefit from seeing other successful models of

interdisciplinary instruction. From an administrative perspective and observing teachers,

Kraig believed that fostering interdisciplinarity keeps instruction "fresh" and is beneficial.

> I think it keeps things fresh. I think it keeps teachers sort of invigorated with new ideas and not just what chapter one in the book says, and then chapter two in the book says, and chapter three in the book says, and or where do I start in this period of history to end in this period of history. I think it keeps collaboration alive within buildings. As an administrator, I'm all for having staff talk to one another, especially across departments to determine what connections can be made or that sort of "Aha!" moment that "Oh, I didn't know you guys were teaching that... I'm teaching something like this, maybe we could get together and make something out of it." So, I do think it keeps teaching fresh, I think it keeps staff's ideas flowing, so I would say that that's been sort of a residual benefit.

The final subtheme to support the fostering of interdisciplinarity is modeling. Modeling, or

more opportunities to see best practice in regards to interdisciplinary instruction, is what

Veronica Monroe suggested during her interview as an approach to fostering

interdisciplinarity.

> I think I need to learn more even about what are some really great, solid   examples. I have our limited examples of the teachers that I've worked with across departments. And I think we give a really great experience for that day or those couple of days that we're working on it. But I think I would like to just see more examples of how it works. I think I have an understanding of what it is, but I think it could be, interdisciplinary instruction could be so many different things that it would be cool to see some other models. And I guess if that really is one of the goals in our building if that's just more explicit in that we're continually working towards that goal. Sometimes I feel like it's a little all over the place.

The modeling that Veronica believes is necessary to understanding an interdisciplinary

approach may require professional development. According to Feiman-Nemser (2001), in

order to design a continuum to strengthen and sustain teaching, teachers need to have more

serious and sustained learning opportunities. Feiman-Nemser (2001) explain professional

development as ambiguous:

On the one hand, it refers to the actual learning opportunities which teachers
engage in their time and place, content and pedagogy, sponsorship and purpose.
Professional development also refers to the learning that may occur when teachers
participate in those activities. (p. 26)

Veronica needs the opportunity to see different models of interdisciplinary teaching in
order to truly benefit from professional development, "Professional development means
transformations in teachers' knowledge, understandings, skills, and commitments, in what
they know and what they are able to do in their individual practice as well as in their shared
responsibilities" (Feiman-Nemser, 2001, p. 26). Without the opportunity to have professional
development in regards to interdisciplinary instruction, fostering interdisciplinarity could be
challenging. Since District X has no interdisciplinary policy in place or reference to it in
district policies, four of the nine participants identified a need for interdisciplinary policy.
While all participants found it valuable in varying degrees, they differed in the process of
implementation. Some participants thought policy was crucial to facilitating
interdisciplinarity; other participants believe that fostering interdisciplinarity, rather than
policy, should be considered. Fostering interdisciplinarity through the school's culture, an
aligned curriculum, structure, expectations of teachers, and modeling were all discussed as a
way of fostering interdisciplinarity. Understanding the complexity of what both schools and
districts need to consider upon implementing interdisciplinary instruction can contribute to
successful implementation and also to interdisciplinary literature.

Summary

Chapter 5 presented the findings of the case study. Narratives were provided to
illustrate the perspectives of the teachers, counselors, and administrators in regards to

interdisciplinary instruction. Several themes emerged during the interviews based on how participants described/defined interdisciplinary teaching, how participants described the process of implementation of interdisciplinary teaching, and what resources or policies are necessary in supporting interdisciplinary instruction. Participants described/defined interdisciplinary instruction as combining content areas and defined John Jefferson's aligned curriculum as interdisciplinary. Participants described the process of implementation of interdisciplinary instruction as dependent on the willingness of teachers, students, and administrators with a focus on a need for leadership. A lack of policy can also impact the process of implementing interdisciplinary instruction. Some participants found interdisciplinary valuable enough to warrant policy, while other participants believed that fostering interdisciplinarity through a school's culture, an aligned curriculum, structural measures, teacher expectations, and modeling would suffice.

CHAPTER 6

DISCUSSION OF FINDINGS & IMPLICATIONS

We can't just teach the same old math, science, English, social studies without having more rationale for how this is gonna benefit kids. (Kraig Rain, participant interview)

The purpose of this study was to examine the perceptions of teachers, counselors, and administrators related to the phenomenon of interdisciplinary instruction. As participant Kraig Rain stated during his interview, the structure of how teachers instruct and how students learn has stayed relatively the same over time. This study was fueled by not only my curiosity to learn more about how interdisciplinary instruction is implemented in the high school setting but also my curiosity to learn the various perspectives of stakeholders responsible for the implementation of interdisciplinary instruction in a high school setting.

One of the advantages of this study is its focus on the various perspectives of stakeholders from a highly successful high school. A qualitative approach was utilized in this case study. Through Seidman's three-interview series, in-depth data and meaning of participants' perceptions of interdisciplinary instruction was collected. This was the primary mode of data collection since the goal of this study was to understand the experiences of teachers, counselors, and administrators with interdisciplinary instruction; thus, interviewing was the most appropriate mode of accomplishing this task (Seidman, 2013).

This chapter provides a brief summary of the research problem and elaborates major findings, implications from the study, and recommendations for future research, and conclusions of the study.

Summary

While interdisciplinarity is "encouraged by the larger environment, it is not easy" (McBride, 2010). While McBride is reflecting on healthcare, this theme is prevalent throughout my study. According to Drake (1998), interdisciplinary instruction has proven to be effective qualitatively; however, due to the various obstacles associated with implementing interdisciplinary instruction and the lack of understanding due to the various definitions and levels of integration associated with the framework, it seemingly gets lost in translation. Through examining the themes rooted in defining interdisciplinarity, implementing interdisciplinary instruction, and deciphering the resources or policies needed in supporting interdisciplinary instruction, many implications were discovered from the perspectives of teachers, counselors, and administrator. Interviewing every stakeholder involved in the implementation of interdisciplinary instruction provided not only concepts to be further researched but also implications to those stakeholders directly involved.

"How can one justify an interdisciplinary approach in a world of increasingly specialized vocations? The justification is derived from the assumption that higher education ought to reflect the social world" (Garkovich, 1982, p. 152). The quote reflects the idea that while students will indeed have a central occupation, their specialty will ultimately require skills that are from other fields of study. For instance, if someone is a scientist, they will need

the knowledge of English grammar in order to write a grant. The isolation of different content areas can be a detriment because that is not how life after school works. Garkovich (1982) goes on to explain how it is assumed that students will be able to go on to perform the integration of knowledge. While Garkovich published her findings in 1982, it is clear that assumption in education has not gone away. The traditional way of teaching has been the standard, with a few exceptions. One exception: John Jefferson High School.

Through researching interdisciplinary instruction, it is evident that there is limited research with regard to the structural component of implementing interdisciplinary instruction. Methodologically, most research is focused on the experiences of teachers who participate in teaching an interdisciplinary course and the experiences of students who experience an interdisciplinary course. Therefore, it was my goal to understand the educational experiences and perspectives of the various stakeholders responsible for the implementation of coursework in a high school setting by focusing on the hierarchy of stakeholders responsible for the implementation.

This study adds to the research by describing the various definitions of interdisciplinarity, the implementation of interdisciplinary instruction, and the resources needed for interdisciplinary instruction from the perspectives of teachers, counselors, and administrators. Interdisciplinarity is described as: (a) combining content areas and (b) an aligned interdisciplinary-based curriculum model. The implementation of an interdisciplinary approach entails the willingness of teachers, students, and administration and a need for leadership; however, interdisciplinarity does not need a policy in place to be implemented. The study substantiates the value for interdisciplinarity in a high school setting through all

participants, even though approaches to assuring interdisciplinarity take place differed. Some participants believe that interdisciplinarity was valuable enough to be included within district policy, while other participants believe that fostering interdisciplinarity through a school's culture, an aligned interdisciplinary-based curriculum/structure, expectations of teachers, and modeling would suffice in the course of implementation. Regardless of the implementation approach, all nine participants cited interdisciplinarity as valuable.

Due to the varying degrees of interdisciplinarity, the study has important implications. The study provides insight for high school districts on how an aligned interdisciplinary-based course outline can assist in developing an interdisciplinary-based curriculum. An aligned interdisciplinary-based curriculum can provide opportunities for interdisciplinarity at both the macro and micro levels. The approaches to interdisciplinarity, at both the macro and micro levels, described in this study could be of great benefit to all high schools and districts interested in developing a more aligned and coherent approach to instruction and student learning through an aligned interdisciplinary-based curriculum.

Implications

The findings of this study suggest that interdisciplinary instruction can be implemented and interpreted in many different facets. It is important to note that John Jefferson High School is an ideal school and in an ideal district for most parents as identified by accolades from U.S. Department of Education. The participants in this study provided an opportunity to discuss the definition, implementation, and the resources needed for interdisciplinary instruction to occur in a high school setting. The aligned interdisciplinary-

based model has been in place for 18 years and has allowed various opportunities for interdisciplinary connections to occur on both the micro and macro levels. Even though John Jefferson High School has been an ideal case study, implications to this study should be considered. The following implications will be discussed: for schools, for administrators, for educational policymakers, and for teacher educators.

<u>Implications for Schools</u>

The first implication of interdisciplinary instruction is for all stakeholders, teachers, counselors, and administrators, to recognize the level of implementation of interdisciplinary instruction on both the micro and macro levels. Since there is a vast array of interpretations to the term "interdisciplinary" as noted in Chapter 1, it is essential to identify the importance of both levels. The micro level is an actual interdisciplinary course, where there are two teachers team-teaching two separate content areas together as one integrated course. An example of this is the American Studies course being offered at John Jefferson High School that combined a junior-level social science course and an English course together, referenced in the data collection. On a macro level, interdisciplinarity is a purposefully integrated tool in a school-wide curriculum. Ultimately, John Jefferson High School's instructional model lends itself to the opportunity to have interdisciplinary instruction to occur on both the micro and macro levels.

John Jefferson High School's aligned interdisciplinary-based curriculum model has a systemic approach: the Seven Essential Curricular Principles. At the beating heart of the school's educational program is a set of Seven Essential Curricular Principles (Appendix A)

that serve as theoretical guidelines for the program's design and function. Placed within the framework of the Seven Essential Curricular Principles, an additional critical element of the instructional program is the Alignment Principles. As a matter of structural practicality, these three principles serve as concrete parameters for tightening the function of the model's components. The first principle, vertical alignment, refers to the streamlining of content and skills between all content area courses within a given year. Second, horizontal alignment refers to the streamlining of content area courses from year to year. Finally, diagonal alignment refers to the streamlining of course content and skills between ability levels within a given course. Together, these alignment principles genuinely systematize the instructional model as to give students a tightly constructed learning experience from year to year. For teachers, this means having the capacity to focus on collaboration and instructional decision-making.

An additional critical element of the instructional model is the interdisciplinary component. The interdisciplinary addition to John Jefferson's Seven Essential Curricular Principles demands that content and skills applications be interconnected between courses. Since courses were designed with purposeful overlapping, interdisciplinary connections cannot be avoided. Therefore, for a seamless implementation of interdisciplinary courses, an aligned interdisciplinary-based curriculum needs to be in place for micro and macro levels of interdisciplinary connections to occur.

Implications for District Administrators

Implementation of any type of curricular change requires willingness, leadership, and potentially policy. If there is a lack of policy, the willingness of various stakeholders and strong leadership is even more essential. All three of these themes fall under the umbrella of educational change. Hallinger (2003) discusses the challenges that educational change can have on the willingness of teachers, the building leadership, and the implications of a lack of policy: "Contemporary patterns of educational change present educators with changes that are multiple, complex and sometimes contradictory. And the change demands with which educators have to deal, seem to follow one another at an increasingly frenetic speed (p. x.)." As a result of educational change, the willingness of teachers to adapt to change, such as interdisciplinary instruction, might be implicated. Ultimately, if an aligned interdisciplinary-based curriculum model is in place, this framework provides a more collaborative opportunity for teachers to work within. Administrators could benefit from this research since there are multiple facets when considering implementation, and an aligned interdisciplinary-based curriculum is a major component.

If schools want to implement an aligned interdisciplinary-based curriculum, it is important for district and high school administration to consider the following implications: (a) an aligned interdisciplinary-based curriculum requires courses that allow for interdisciplinary connections to be mandated through district policy; (b) districts and/or high schools need the courses to be explicitly outlined, sequenced, and framed, with interdisciplinarity in mind, by administration; (c) administration needs to provide leadership

through course development and guidance in the integration of courses; and (d) administration should incorporate interdisciplinarity through school-driven initiatives and goals. An aligned interdisciplinary-based course outline mandated by a district can further support an aligned interdisciplinary-based curriculum to be developed. If an aligned interdisciplinary-based curriculum is in place, administration at the high school level can outline the development of courses with interdisciplinarity in mind. With this framework in place, administration at the building level can drive interdisciplinarity through building initiatives and goals. Therefore, districts should find ways to better support and communicate with school-level administration in their pursuit of designing curriculum and also consider school level administration with regard to policy development.

<div align="center">Implications for School Administrators</div>

As soon as a high school has an aligned interdisciplinary-based curriculum on the macro level in place, administrators should consider Ely's (1990) *Conditions of Change Model* when implementing an aligned interdisciplinary-based curriculum in order improve the efforts towards change. The goal, according to Ely (1990), is to "attain each of the eight conditions during implementation":

1. Dissatisfaction with the status quo ("There has to be a better way.")
2. Knowledge and skills exist ("I can do this" or "I can learn quickly.")
3. Resources are available ("I have everything I need to make it work.")
4. Time is available ("I have time to figure this out, and to adapt my other practices.")
5. Rewards or incentives exist for participants ("I am going to get something out this too.")
6. Participation is expected and encouraged (This is important, and I have a voice in it.")
7. Commitment by those who are involved (Administrators and faculty leaders support it.")

8. Leadership is evident ("I know who to turn to for encouragement, and they're available.") (pp. 76-77)

Based on Ely's (1990) eight conditions of implementation, high schools need to consider the following implications: (a) administration needs show how an aligned interdisciplinary-based curriculum will improve student learning; (b) administration needs to demonstrate the knowledge and skills that naturally occur with interdisciplinarity; (c) administration needs to provide teachers with the framed and sequenced outline of the courses; (d) administration needs to allow time for collaboration and development of the courses; (e) administration needs to provide staff with encouragement and rewards, especially for teachers that take on leadership roles in PLCs; (f) administration needs to set expectations through school initiatives and goals; (g) school initiatives and goals needs to be encouraged at the district level; and (h) administration needs to drive interdisciplinarity through focused and purposeful leadership. Both district and school level administration need to understand the necessary steps in the implementation of interdisciplinary instruction.

<u>Implications for Educational Policymakers</u>

Educational policymakers and the public are increasingly demanding towards educators. Since most Americans have taken part in the educational process, "the public is less deferential to teachers and administrators and freely offers advice on educational improvement" (Reese, 2011, p. 336). While "the history of intensive educational change is a little more than half a century old," societal expectations have not improved in recent years (Fullan, 2007, p. 4). With expectations for American public education only on the rise due to

No Child Left Behind ([NCLB], 2001) and the Every Student Succeeds Act (2015), it is important that educational policymakers consider an interdisciplinary approach for districts and schools.

While No Child Left Behind ([NCLB], 2001) and the Every Student Succeeds Act (2015) will not motivate change, according to Fullan (2007), crisis is an initial motivator to initiate change; however, it is not substantial enough to sustain significant change. Based on Ely's (1990) *Conditions of Change Model* and the eight conditions of implementation, educational policymakers need to consider the following implications: (a) educational policymakers need an understanding of the current status quo in education with regard to interdisciplinarity; (b) educational policymakers need to understand the current interdisciplinary knowledge schools and districts have; (c) educational policymakers need to provide schools and districts the resources, knowledge, and time available to learn about an interdisciplinary approach and an aligned curriculum; and (d) educational policymakers need to reward and incentivize educational change with interdisciplinarity as a focus.

Other than motivation to change, most attempts towards educational change fail due to various factors such as "lack of good materials, ineffective professional development, or minimal administrative support" (Fullan, 2007, p.108), and the fact that all real change results in some form involves loss, anxiety, or struggle (Marris, 2014). Before educational policymakers commit schools or districts to an interdisciplinary approach, educational change should be researched. Not only do schools and districts need to do research with regard to interdisciplinary instruction and educational change, but educational policymakers need to do research as well. Educational policymakers should visit, study, and research highly successful

schools, schools like John Jefferson High School, in order to gain a comprehensive understanding of how to improve public education utilizing an interdisciplinary approach and an aligned interdisciplinary-based curriculum.

Implications for Teacher Educators

Once a school has an aligned interdisciplinary-based curriculum on the macro level, the micro level of interdisciplinarity is less challenging to implement. If an interdisciplinary course is implemented on the micro level, high school administration and teachers should consider the following: (a) administration at the district and building levels need to support interdisciplinary instruction; (b) a team of interdisciplinary teachers needs to be willing to teach a combined interdisciplinary course; (c) teachers with similar teaching styles and educational philosophies should be paired together; (d) professional development should be offered to the interdisciplinary team of teachers; (e) administration should establish a common goal or expectations with the team of interdisciplinary teachers for the combined course; (e) teachers should have common planning time aside from teaching the combined course; and (f) administration should observe and revisit the course periodically with the interdisciplinary team of teachers. Through acknowledging the suggested implications, administrators and teachers should have a stronger understanding of the importance of an interdisciplinary approach on the macro and micro levels.

While teachers are urged to work together to ensure consistency, it is crucial for practitioners to know that creating an interdisciplinary curriculum is a delicate process in which several components are necessary: time, appropriate funding, and cooperation among

teachers, parents and administration (Ackerman, 1989; Miller, 1994, 1996; Whitaker, 1996). Therefore, a teacher interested in an interdisciplinary approach needs to work with another teacher who has similar teaching styles and educational philosophies. If a team of teachers is willing to teach a combined interdisciplinary course, the support of administration at the district and building levels is mandatory for a course to schedule.

Aside from scheduling, teachers will need the support from administration for planning time, resources, and professional development. Sá (2008) states that creating adequate environments for the interdisciplinary practice is often viewed as a managerial problem that requires academic leadership and administrative support. Aside from planning time, resources, and professional development, teachers need goals or expectations provided by administration. Goals and expectations are necessary due to the various definitions and degrees of interdisciplinary instruction. The foundation of the problem, according to Applebee et al. (2007), is the lack of understanding of what interdisciplinary teaching really is. In order to better understand the issues, they sought to "provide a baseline for understanding the essentially different ways in which interdisciplinary courses are construed, enacted, and experienced and to provide guideposts for further research as well as teaching" (p. 1003). Ultimately, teachers need to work alongside each other as a team of interdisciplinary teachers as well as alongside administration to have a focused goal and defined expectations of how an interdisciplinary course should be developed and instructed.

Recommendations for Future Research

While there are obstacles to change, it is important to recognize that, "society is increasingly complex, requiring educated citizens who can learn continuously, and who can work with diversity, locally and internationally" (Fullan, 2007, p. 7). An interdisciplinary approach can further assist educators prepare students to be well-rounded and well-educated citizens. Standards-based education with an isolated focus on content has come to the educational forefront in this time of accountability (Roeber, 1999). Teachers are now held accountable for student achievement based on a student's performance on standardized assessments. Interdisciplinary teaching does not require educators to ignore standards or accountability, but rather schools should integrate areas of curriculum with standards in mind (Drake & Burns, 2004). Among various educational experts, Evans (1996) identifies the need for a change in school reform and the need for collaborative relationships with "designing interdisciplinary curriculum" in mind (p. 231). The need for change in the isolated structure of the classroom is growing exponentially with the growing demands of education and society. If more emphasis were placed on interdisciplinary instructional techniques and strategies across the American public education system as a whole, both teachers and students could be the beneficiaries.

Initially I set out to learn more about the perceptions of teachers, counselors, and administrators with the micro level of interdisciplinary instruction in mind. However, as suggested by the findings, the macro level of interdisciplinarity can be more beneficial for a school as a whole. While interdisciplinary courses on the micro level were cited as rewarding

and valuable, the macro level of interdisciplinarity further supports the development of a micro-level interdisciplinary course and further supports interdisciplinary connections throughout a school-wide curriculum. The macro level of interdisciplinarity that occurs at John Jefferson High School through an aligned interdisciplinary-based curriculum model framed by the Seven Essential Curricular Principles encourages interdisciplinary connections in classrooms that are not necessarily team-taught.

While District X has not limited the approach to interdisciplinary instruction, there has been no explicit attempt to incorporate interdisciplinarity through policy. The policies and courses featured by District X lack specificity and guidance for the schools in District X. John Jefferson High School addressed an inherent need for the integration of interdisciplinarity through the Seven Curricular Principles; however, these principles are not present in the other five schools within District X. Therefore, given the findings and the limitations of this study, future studies should be performed in order to further understand the obstacles involved when implementing a framework like interdisciplinary instruction. Since this study focused on one particular high school, future studies should be performed to (a) explore a district wide approach to interdisciplinarity, rather than just a school level approach; (b) examine other schools that utilize both macro and micro levels of interdisciplinarity; (c) seek other schools that utilize only macro-level interdisciplinarity; (d) identify other schools that utilize only micro-level interdisciplinarity; and/or (e) investigate how urban or rural districts and schools approach interdisciplinary instruction on the macro and micro levels.

In addition, future studies should be performed to (a) examine perspectives of interdisciplinary instruction from teachers, counselors, and administrators at other schools

within a district rather than focus on one school; (b) explore perspectives of interdisciplinarity from teachers, counselors, administrators, students, and community members; and (c) discover perspectives of interdisciplinarity from the superintendence of a district. Ultimately, since John Jefferson High School is a high-performing school, future research should examine schools at different performance levels serving different populations.

This study has added to existing research because of the various stakeholders involved. Much research exists with a focus on teachers and students; however, examining the perspectives of interdisciplinary instruction from teachers, counselors, and administrators has contributed to the idea that since interdisciplinarity has been widely defined and implemented, there is a lack of clarity for various stakeholders within education. This study differs not only because of the numerous stakeholders interviewed, but also because of the focus of the study. Additionally, since most existing research focuses on interdisciplinary instruction, this study adds to existing research by focusing on the implementation process and resources needed to support interdisciplinary instruction. Since all stakeholders in this study expressed a value in interdisciplinary instruction, districts, schools, and educational policymakers should research the varying degrees of interdisciplinarity further.

Conclusions of the Study

Interdisciplinarity ranges in definition, practice, and implementation. While many schools have interdisciplinary courses in place on the micro level, many schools do not have an aligned interdisciplinary-based curriculum to drive interdisciplinary connections through the implemented curriculum model at the macro level. Several determining factors need to be

present for interdisciplinarity to be effectively integrated on the macro level. A district needs to have courses aligned, scoped, and sequenced with interdisciplinarity as a focus. Since Dr. Victor Charleston developed the course titles and descriptions with interdisciplinarity in mind, the aligned interdisciplinary-based curriculum model at John Jefferson High School could be seamlessly implemented.

While a district should have an aligned interdisciplinary-based curriculum model as part of its policy, this study has illustrated that a school can be successful without mandated policy. A school, however, should have an aligned interdisciplinary-based curriculum model in order to provide a framework for teachers. The interdisciplinary-based curriculum model also needs to clearly define what variation of interdisciplinarity needs to occur. Administration needs to have a vision and the ability to lead teachers through an aligned interdisciplinary-based curriculum model in order for interdisciplinary connections to take place between content areas. An aligned interdisciplinary-based curriculum model adds to interdisciplinary research because little research exists with a focus on a school-wide curriculum model. Aside from an aligned interdisciplinary-based curriculum model, educational change was an additional consideration that adds to interdisciplinary research.

John Jefferson High School is a unique school because of its aligned interdisciplinary-based curriculum model that employs interdisciplinary connections. Every single student at John Jefferson High School is exposed to interdisciplinarity through its aligned interdisciplinary-based curriculum and coursework. If it were not for Dr. Victor Charleston's vision 18 years ago, the courses in District X and the curriculum model at John Jefferson High School would not exist. According to the participants in this study, this curriculum model has

provided an enriching experience and powerful opportunities to learn and grow for both students and teachers, as described during the interviews. While the implementation of interdisciplinary instruction seems to be a daunting task, if certain measures are taken as mentioned in this study, schools can mirror the educational opportunities that John Jefferson High School has provided its students. All nine participants found value in providing an interdisciplinary framework to students; therefore, it is important for schools to consider this approach because of the qualitative benefits stated within this study.

It is crucial for every stakeholder within education to focus on the big picture: the educational experiences and growth of our students. This study explored the perception of teachers, counselors, and administrators on interdisciplinary instruction because every one of these stakeholders has a stake in a student's educational experience. Every stakeholder has a different view on how to improve the state of education; therefore, conferring with these stakeholders, with the big picture in mind, provided valuable insight in how to approach interdisciplinary instruction.

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APPENDIX A

JOHN JEFFERSON'S SEVEN ESSENTIAL CURRICULAR PRINCIPLES

1. **All students will take a rigorous course of studies, structured around a common core curriculum.**
   This course of study shall include a rigorous and appropriate course of study for all four years of high school.

2. **The student will be at the center of the instructional design, framed by alignment principles.**
   Our instructional philosophy and practices demand that student learning be at the center of the instructional design. Core curricula are intentionally aligned vertically, horizontally, and diagonally to systematically develop each student's basic skills, critical thinking ability, and content knowledge.

   a. Vertical alignment provides each student a spiraled scope and sequence for skills and content acquisition and mastery from year to year.
   b. Horizontal alignment links course across academic years. Skills and content are reinforced and enriched as each student progresses through the sequence of courses in each discipline.
   c. Diagonal alignment facilitates skills development and movement into courses at higher academic levels.
   d. Across the curricular program, focus on coordinated interdisciplinary curriculum and instruction builds multiple literacies: textual, cultural, visual, and technological.

3. **Curriculum must be content-based and interdisciplinary, both contemporary and historical in scope, and referenced to standards as objects for analysis and critique**. **RE**: **English and Social Science/ History programs**
   A content-based, print rich curriculum characterizes our high school.

   a) As freshman, students study contemporary topics and issues in a closely aligned program that integrates the study of biology with courses in communication and the social sciences. There are four distinct integrated units:
      i. Current Issues in American Politics, Economics, and Public Health
      ii. Belief: Morality and Values, Law, Crime and Punishment
      iii. Identity: Race, Class, Sex, Gender, and Genetics
      iv. Current Global Issues and Ecology
   b.   During the sophomore and junior years, students take a sequence of English and history courses that chronologically examine world and American history and cultures. Rooted in these two subjects, interdisciplinary content will consider and explore connections between historical concerns and their manifestations in contemporary culture and institutions, drawing upon the full range of academic disciplines. Each quarter will be structured around an integrated unit.
      i. Integrated units with purposefully design instruction around a topic of study

will bring all students together in common learning experiences that transcend academic levels.

ii. While always explicitly connected to skills and content, the instructional activities of integrated units shall be highly varied. Limited only by the creativity of teachers and students, examples of these rich educational experiences include complex research projects, public forums, panels and debates, field trips, performances, and multi-media presentations.

iii. Critical cultural texts will be studied throughout the curriculum. Students will acquire invaluable intellectual capital from the study of such texts, which will be examined both for their place in the cultural tradition and in the analysis of culture.

iv. The interdisciplinary focus of English and social science is supported by a parallel interdisciplinary coordination of skills alignment across all disciplines, linking the entire school in a coordinated and purposeful program of standards-aligned curriculum.

4. **Skills development will be given cross-curricular emphasis and will be aligned to accountability measures (EPAS, course assignments, departmental summative assessments, etc.).**

   a. Analysis of student performance on external normative measures (EPAS, College Board exams, PSAT, etc.) is central to self-evaluation and to the refinement of curriculum and instruction.

   b. Practice of basic skills in writing, reading, mathematics, and scientific reasoning, as well as essential skills in technology, are implemented across all content areas, and assessed according to building and departmental standards.

   c. Development of reading, writing, math, and reasoning skills will be imbedded across the curriculum. These skills will seamlessly integrate curriculum and instruction to the demands of normative assessment and accountability measures, such as the ACT.

5. **Students' critical thinking skills will be developed through deliberate teaching of conflicting interpretations and exploration of controversy.**

   Core courses will be designed to engage students in the consideration of conflicting viewpoints, debates on issues, and the interpretations of ideas and texts, from both an historical and current perspective. Critical thinking and decision-making skills will be nurtured as students develop the intellectual sophistication to recognize the complexities and nuances involved in the study of multifaceted ideas, texts, and questions.

6. **A design-based and purposefully structured instructional model will depend upon the collaboration of faculty and staff as they work in their professional learning communities.**

   It is they who, informed by both quantitative and qualitative data, will develop curriculum, instruction, and assessment, and support student learning at the

classroom/course level. John Jefferson programs will be subject to constant evaluation and revision in response to substantive data obtained from reliable quantifiable and qualitative sources, especially external normative assessments (national and state exams).

7. **A high school is a learning community.**
Our mission will be rooted in our commitment to the civic purposes of education: preparing students for intellectual, economic and personal independence and citizenship through a course of study that will include relevant content and will introduce them to participation in civic debate and discourse. We learn about community, and as a community. Learning experiences that live the idea of a school's being a learning community are emphasized pervasively.

APPENDIX B

THREE-INTERVIEW SERIES GUIDE

THREE-INTERVIEW SERIES GUIDE

(Each interview will be approximately 90 minutes each, no more than 1 week apart.)

Interview 1: Focused Professional History

1. Tell me about your professional career in education in your:
    a. College experience
    b. Previous positions/roles in education
    c. Current role
    d. Curriculum and instruction

2. Tell me about your educational philosophy in regards to:
    a. Students
    b. Teachers
    c. Administration
    d. Current policies
    e. Educational change

Due to the emergent nature of the study, questions will be developed and incorporated into interviews 2 and 3 as interviews proceed and information is gathered.

Interview 2: Details of the Experience

1. How long have you worked in education?
    a. How long have you worked at this particular job?
2. Explain your responsibilities at your job.
    a. How would you describe a typical day?
3. Describe yourself as a professional?
    a. What characteristics are important to have in your role?
4. Describe your understanding of the current curriculum model.
    a. Describe a time when you agreed with the school's curriculum model.
    b. Describe a time when you had an issue with the school's curriculum model.
5. Describe your understanding of interdisciplinary instruction.
    a. What is the school's history of implementing interdisciplinary instruction?
    b. What does the implementation of interdisciplinary instruction entail?

    c. How do you feel about the current interdisciplinary framework implemented in this school?

    d. How is the framework of interdisciplinary instruction supported in this school?

    e. What is the current policy on interdisciplinary instruction in the school and district?

6. What is your overall satisfaction with the current status of education?
    a. Can you tell me about a specific time that you were pleased/satisfied with your role in education?
    b. Can you provide an example of when you were frustrated/dissatisfied with your role in education?
    c. Do believe the current model of curriculum and instruction at this school needs to be a changed?
        i. Describe what needs to be changed.

Interview 3: Reflection on the Meaning

1. Given what you have said about the status of education, do you think interdisciplinary instruction should be implemented in education more?
    a. Do you believe there should be a policy in place in regards to interdisciplinary instruction?

2. Why do you think there is no current policy in place for interdisciplinary instruction?
    a. Do you know of any other current educational policies within the school or district?

3. Do you believe that change needs to occur within the school in regards to curriculum and instruction or policy?

4. Do you have any additional comments or thoughts about interdisciplinary teaching?

Possible Supplemental Interview Questions

1. Tell me more about your education, professional preparation, etc.
2. Please reflect more on your understanding of interdisciplinary instruction.
3. Tell me about any curriculum and instruction models that you think are effective.
4. How would you describe the public's perception of education/school/district?
5. How would you describe how decisions are made in regards to policy in the school/district?

APPENDIX C

INVITATION TO PARTICIPATE

To: *Individual email will be sent to each participant at their district email address*

From: Panagiota Merris patty.merris@███████.org

Subject: The Perception of Teachers, Counselors, and Administrators on Interdisciplinary Instruction

This email message is an approved request for participation in research that has been approved by the Northern Illinois University Institutional Review Board (IRB).

Dear [*insert name*],

My name is Panagiota Merris and I am an English teacher at ███████ High School in Township High School District ██. I am a doctoral candidate at Northern Illinois University and I am writing to invite you to participate in my research study examining the various perspectives on interdisciplinary teaching. The study will explore perceptions and experiences that various educational professionals have about the implementation and role of interdisciplinary teaching at the high school level.

You're eligible to be in this study because you are an employee of the school/district, you have been employed in education for at least five years, and you have an understanding of interdisciplinary instruction. I obtained your contact information from the district's email directory.

If you decide to participate in this study, you will be interviewed for approximately ninety minutes, three different times, with no more than one week in between each interview. I would like to record your interviews in an auditory and visual format. I will use the information gained from the interviews to describe your overall experiences and perceptions in regards to interdisciplinary instruction.

Remember, this is completely voluntary. Any information you provide during interviews will be kept strictly confidential. Your identity will not be used. It is entirely your decision to participate or decline. If you'd like to participate or have any questions about the study, please email or contact me at (630) 965-1132 or patty.merris@█████████.org.

Thank you very much.

Sincerely,

Panagiota Merris

APPENDIX D

INFORMED CONSENT FORM

INFORMED CONSENT FORM

ADULT (18 or older)

I agree to participate in the research project titled, "The perception of teachers, counselors, and administrators on interdisciplinary instruction," being conducted by Panagiota Merris, graduate student at Northern Illinois University. I have been informed that the purpose of the study is to explore my experience and perception of interdisciplinary instruction.

I understand that if I agree to participate in this study, I will be asked to do the following: be interviewed for approximately ninety minutes, three different times, with no more than one week in between each interview. Interviews will take place at the time of my choosing on site in a conference room. Interviews will be audio and visually recorded. Questions will be in regards to my educational philosophy, interdisciplinary knowledge, experience with interdisciplinary instruction, and reflections of my overall career experiences. Based on the nature of the research project, I understand I may be directly quoted as a result of my interview.

I am aware that my participation is voluntary and may be withdrawn at any time without penalty or prejudice. If I have any questions about the study or my participation in the study, I may contact Panagiota Merris (630-965-1132 or patty.merris@████.org). If I have any concerns about the nature of the study, I may contact Dr. Joseph Flynn, Faculty Advisor (jeflynn@niu.edu or 815-753-4404). I understand that if I wish further information regarding my rights as a research subject, I may contact the Office of Research Compliance at Northern Illinois University at (815) 753-8588.

I understand that the intended benefits of this study include the opportunity to have my voice heard and share my experiences with the interdisciplinary framework. This study will also help to shed light on positive and negative aspects of the implementation of interdisciplinary instruction in hopes of informing administrators, policy makers, and educational leaders to take a critical look why interdisciplinary instruction is not more readily implemented within high schools.

I have been informed that potential risks and/or discomforts I could experience during this study include loss of time when participating in three interviews approximately ninety minutes each and possible feelings of fear or insecurity with disclosing true feelings about interdisciplinary instruction, educational change, workplace environment, peers, etc. The researcher has taken steps to minimize the risks of this study. Even so, I may still experience

some risks related to language within the interview questions. The questions are sensitive and may make me feel uncomfortable or uneasy. I may discuss things that are controversial or that do not agree with the school or district's mission.

I understand that all information gathered during this study will be kept confidential. The researcher plans to publish the results of this study, but will not include any information that would identify me by using pseudonyms. The district will receive a summary report of the results; however, the results will be aggregated and no individual responses or quotes will be used. To keep my information safe, the researcher will keep my information collected through the interviews on a password-protected computer.

I realize that Northern Illinois University policy does not provide for compensation for, nor does the University carry insurance to cover injury or illness incurred as a result of participation in University sponsored research projects.

My decision to participate or not participate will have no impact on my employment. I understand that my consent to participate in this project does not constitute a waiver of any legal rights or redress I might have as a result of my participation, and I acknowledge that I have received a copy of this consent form.

_____   _____

Signature of Subject   Date

I consent to audio recording of all interviews.

_____   _____

Signature of Subject   Date

I consent to visual recording of all interviews.

_____   _____

Signature of Subject   Date

I consent to being directly quoted although my name will not be directly attached.

APPENDIX E

DISTRICT X GOALS AND OBJECTIVES

Our Primary Mission is to help all students learn the skills, acquire the knowledge, and develop the behaviors necessary for them to reach their full potential as citizens who can meet the challenges of a changing society. (Reference Policy 1:30)

District X's secondary mission is to provide residents with opportunities for lifelong learning. The district's vision encompasses expectations of students, staff, and the board of education.

The District X Vision embraces continuous improvement and includes:

Students who demonstrate
- analytic capabilities;
- communication skills including reading, writing, speaking, listening, and numeracy;
- creative expression and educated response to the creative works of others;
- ethical judgment and decision-making ability;
- career and life planning skills;
- responsible citizenship;
- understanding of ways to participate in an interdependent world;
- problem solving skills;
- concern, understanding, and respect in social interactions;
- technology literacy;
- ability to develop and maintain wellness.

An environment in which people are
- physically, psychologically, and emotionally safe;
- treated fairly and ethically; valued for their unique backgrounds and contributions.

Staff members who
- are active, life-long learners committed to continuing professional and personal development;
- are leaders in instructional practices;
- create school work which engages and challenges students;
- are innovative, take risks, and share what is learned from successes and failures;
- are concerned, caring, and compassionate;
- cooperate as partners with parents and the community in the education of students;
- use student learning data to inform instructional decisions and practices.

A Board of Education that
- provides high quality resources for students and staff;
- respects successful programs and practices;

- encourages continual improvement through risk-taking and innovation;
- cooperates and communicates as a partner with parents and the community in the education of students;
- celebrates student and staff success;
- promotes life-long learning;
- involves school and community members in decision- making processes.

Aside from District X's instructional philosophy, mission, and vision being policy, the

goals and objectives for District X are also policy.

The Superintendent directs the administration in order to manage the School District and to facilitate the implementation of a quality educational program in alignment with School Board policy 1:30, School District Philosophy. Specific goals and objectives are to:

1. Provide quality education that is relevant to membership in a global society and economy while maintaining a balanced operating budget and serving the student population.

2. Increase student learning through engagement and innovative programs to ensure students will develop self-awareness, self-management, interpersonal, and decision-making skills as measured by social and emotional learning growth objectives to establish and maintain positive relationships and achieve school and life success in a global society and economy.

3. Promote and expand life-long learning opportunities for residents of all ages through positive relationships, community involvement, community engagement and outreach, and collaborative planning in the efficient use of resources.

Parameters
1. Keep all programs, practices, and activities consistent with the district mission, vision, and goals.
2. Operate six comprehensive high schools and alternative programs to meet student needs and interests.
3. Enlarge our candidate pool to attract highly qualified individuals to increase our cultural and ethnic diversity.
4. Give the instructional program the highest priority in allocation of resources.
5. To maintain a healthy fiscal condition, establish a minimum fund balance of 30% of the operating budget.
6. Provide a Community Education Program that supports lifelong learning opportunities.
7. Review and update district goals annually. (Reference Policy 3:10

APPENDIX F

DISTRICT X INSTRUCTIONAL GOALS

District Instructional Goals

1. Each NCLB sub-group's average Educational Planning and Assessment System (EPAS) growth will surpass that of the previous cohort by 10 % annually in reading, English, math, and science until growth from EXPLORE to ACT exceeds six points.
2. Increase student success rate (as measured by a grade of A, B, or C) per course by at least five percentile points each year until the threshold of 95% is attained.
3. The number of students enrolled in at least one AP course will increase over the previous year, as will the number of students taking at least one AP exam and the number of students earning a passing score on an AP exam, until at least 50% of all students have earned a score of three or higher on an AP final. (Reference Policy 6:10)

The Curriculum

Township High School District X provides a standard-based education for all students following all State of Illinois recommended curriculum requirements. By standard-based we mean that we

1. clearly describe what students are to know and accomplish;
2. develop curriculum and instruction to ensure that students achieve standards; and
3. administer a variety of assessments to determine if and when students achieve these standards. (Reference Policy 6:40 and Policy 6:60)

The other policies that District X features:

1. Controversial Issues (Reference Policy 6:80)

2. Equal Education Opportunities (Reference Policy 7:10)

3. Grading and Promotion (Reference Policy 6:280)

4. Graduation Requirements (Reference Policy 6:300)

5. High School Credit for Proficiency (Reference Policy 6:320)

6. Attendance and Truancy (Reference Policy 7:70)

7. Life Experiences, Non-Formal Endeavors, and Proficiency Exams (Reference Policy 6:310)

7. Independent Study and Correspondence (Reference Policy 6:310)

8. Restrictions on Publications and Written or Electronic Material (Policy 7:310)

8. Academic Integrity (Policy 6:282)

9. Extracurricular and Co-curricular activities (Policy 6:190)

10. No Pass/No Play Policy (Reference Policy 7:240)

11. Internet Safety Policy (Policy 6:235)

12. Summer School (Reference Policy 6:310)

13. English Language Learners Program (ELL) (Policy 6:160)

14. Homebound and Hospitalized Instruction (Policy 6:150)

15. Student Testing and Assessment Program (Reference Policy 6:340)

16. Nonpublic School Students, Including Parochial and Home-schooled Students (Policy 7:40)

17. Education of Homeless Children (Policy 6:140)