2018

Breaking The Mold: Personalized Learning's Impact On The Development Of Higher-Order Thinking Skills

Mark Jon Hladek
University of South Carolina

BREAKING THE MOLD: PERSONALIZED LEARNING'S IMPACT ON THE DEVELOPMENT OF HIGHER-ORDER THINKING SKILLS

by

Mark Jon Hladek

Bachelor of Arts
Wheeling Jesuit University, 2002

Master of Education
Southern Wesleyan University, 2015

Submitted in Partial Fulfillment of the Requirements

For the Degree of Doctor of Education in

Curriculum and Instruction

College of Education

University of South Carolina

2018

Accepted by:

Todd Lilly, Major Professor

Catherine Compton-Lilly, Committee Member

Jeff Eargle, Committee Member

James Kirylo, Committee Member

Cheryl L. Addy, Vice Provost and Dean of Graduate School

DEDICATION

This work is dedicated to my wife, Jennifer, and my three children, Halle, Jackson, and Kason. They have been my biggest inspiration, my biggest cheerleaders, and those who have been most impacted by my countless hours spent in the pursuit of this degree. These years have been daunting and exhausting, and I know, without a doubt, I could not have made it through without their permission, encouragement, and sacrifice. I love you and thank you all immensely.

ACKNOWLEDGEMENTS

I must thank my family for both pushing me through and putting up with me during this lengthy process. I truly understand that I would not have made it without the urging of my wife, children, parents, brothers, sisters-in-law, brothers-in-law, and mother and father-in-law. Your encouragement and interest in my endeavor has helped be the hand on my back to keep me pushing forward. I'd like to give an extra thank you to my younger brother, Luke, for being an extra special inspiration and catalyst for my pursuit of this degree. Your thirst for knowledge, quests to further your education, and the competition between us have me an extra push to start and finish this program.

I am also eternally grateful for all of the many people who have helped me throughout my academic career. Specifically, I'd like to thank Dr. Cox, my undergraduate mentor, for instilling in me the passion for knowledge necessary to embark on a journey such as this and Dr. Sampson for seeing something in me and never letting me slack too far. I'd also like to thank my many professors from this program for their guidance and coursework that has made me a better teacher and better human.

Lastly, I'd like to thank Dr. Lilly for being an educational kindred spirit and for pushing and guiding me through this tumultuous process. Your guidance was nothing less than exceptional, and I truly realize that this study would not be what it is without your help.

ABSTRACT

Personalized learning (PL) is a pedagogical model designed to focus on meeting students where they are in the learning process, tailoring an individual instruction plan, varying the learning experience to prepare students for life beyond school, and creating a flexible environment that allows for student ownership and voice in the learning process (Rickabaugh, 2016). A PL model is designed to better address 21st century competencies and higher-order thinking skills as well as the inclusion of agency and self-efficacy development deemed necessary for success in the modern society (United States Department of Education [USDE], 2010). The purpose of this action research study was to discover the impact of a PL model on the development of higher-order thinking skills in the social studies classroom. Students were educated in a classroom utilizing a PL model centered on three major tenants: flexible learning environments, competency-based progression, and student-directed learning. This study utilized a quantitative action research method via a one-shot case study and a one-group pretest-posttest method to test the development of higher-order thinking skills. Results from this study will be added to the research base for PL and may serve as a guide for future curricular design in the school and district that will become the context for this study.

Keywords: Personalized Learning, Student-Centered Instruction, Competency-Based Progression, Social Studies, Flexible Learning Environments, Action Research, Higher-Order Thinking, Critical Thinking

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

AP .....Advanced Placement

ASA.....American Sociological Association

BMGF .....Bill and Melinda Gates Foundation

CP..... College Preparatory

DBQ .....Document Based Questions

EOC.....End of Course Examination

GPA.....Grade Point Average

HOCS.....Higher-Order Cognitive Skills

MAP.....Measures for Academic Progress

NCLB.....No Child Left Behind

Off/High..... Off-Pace/High Effort

Off/Low.....Off-Pace/Low Effort

On/High.....On-Pace/High Effort

On/Low .....On-Pace/Low Effort

PL.....Personalized Learning

RTTT.....Race to the Top

SCDE .....South Carolina Department of Education

SCEOC.....South Carolina Oversight Committee

SHEG ..... Stanford History Education Group

ZPD.....Zone of Proximal Development

CHAPTER ONE: INTRODUCTION

While education's beginnings and original purposes are continuously debated, most agree that the emergence of compulsory secondary education came about with a more centralized vision and purpose of preparing the citizenry to participate in an increasingly more complex industrial society (Spring, 2014). As America embarked on its industrial journey and began to emerge as a regional and global economic and political powerhouse, the need for a shift in public education became apparent (Goldin & Katz, 1999). While secondary education existed in America prior to this new secondary education movement of the 20th century, the design and focus on these new schools, based on recommendations from the Committee of Ten, began to shift away from secondary education aimed at preparing a small number of primarily wealthy students for college to one that included the entire school-aged population and focused on preparing those students for life (Bohan, 2003). It was also during this time that social studies became entrenched as a core requirement in American education. The needs of America's population were as diverse as its people; however, a singular design was deemed necessary to ensure the success and consistency of this new public education initiative. This singular design was aided by the new industrial sector who stood to benefit most by an increasingly educated and prepared citizenry (Spring, 2014). As a result, industrial America helped to create a system they felt would most benefit its citizens and their future employees. This led to the creation of an essentialist designed school system that emphasized rigid class schedules, organized structures, and procedures

designed to prepare students for life in the industrial sector over preparation for life in higher education in which higher-order thinking skills were emphasized (Spring, 2014). The current design employed by most public secondary schools continues much of what was designed in the early 20th century.

While debate continues over the purpose of public secondary education, politicians and educators today agree that preparing all students to be successful participants in civic and economic life in a representative republic with a capitalist economic system is of the utmost importance (Chicosky, 2015; Usher, 2011). As times have changed, however, what is necessary to be successful in America has also changed. The focus on rote memorization and lower-level cognitive skills with a blind patriotic sentiment in a rigid, industrial environment has waned and given rise to a need to focus on the development of higher-order thinking skills in a more flexible and creative environment that will ensure students compete on a global stage and are prepared for involvement in the more complex, global society of the 21st century (Pink, 2009; USDE, 2010). Students today are expected to be prepared to be active citizens in a society with increased global implications as well as successful economic participants in a post-industrial economy with dramatic reductions in lower-level cognitive occupations and increases in occupations requiring the 21st century skills of critical-thinking, problem-solving, collaboration, etc. (Pink, 2009). This shift has prompted educators to search for pedagogical practices that motivate students to be more active, autonomous learners who strive for mastery of content and skills over rote memorization and regurgitation of facts on state-mandated assessments and who are more prepared to work in the flexible work environments so prevalent in today's modern workplace. To accomplish this, students

must possess the higher-order thinking ability to compare information with that of the past, apply information and solutions to new problems and situations, analyze problems and seek new solutions, and understand their own ability and role in the educational process by increasing their self-advocacy and agency of learning (USDE, 2010).

Researchers like Daniel Pink (2009) push for these changes in the classroom to adjust to the changing needs of today's learners, but these changes do not often blend well with more traditional, essentialist pedagogical methods employed by secondary teachers, particularly social studies teachers, in today's classrooms. In 2015, the South Carolina Department of Education (SCDE) adopted the Profile of the South Carolina Graduate (South Carolina Education Oversight Committee [SCEOC], 2015), a list of content and life skills recommended by a panel of educational and business experts in the state, to address the concerns of these essentialist methods and push for change through a focus on: World Class Knowledge, World Class Skills, and Life and Career Characteristics. Among the various skills and characteristics discussed in this profile, the focus on critical thinking, problem-solving, work ethic, self-direction, and collaboration have the greatest correlation with the social studies classroom.

The changes suggested by researchers like Pink (2009) and those involved in the creation of the Profile of the South Carolina Graduate (SCEOC, 2015) align more with the progressive and constructivist pedagogies that social studies teachers are prepared for in teacher preparation courses and matches the original suggestions made in the 19th century by the Committee of Ten (Bohan, 2003). However, these pedagogical methods are at odds with traditional, essentialist teaching methods whereby the classroom primarily utilizes teacher-centered, direct-instruction intended to cover a large breadth of

curricular content in order to prepare students for the state-mandated standardized summative assessments associated with the state and federal accountability initiatives (Parker, Mosburg, Bransford, Vye, Wilkerson, & Abbott, 2011; Vogler & Virtue, 2007). According to Parker et al. (2011), often, these state-mandated summative assessments are directly linked to teacher evaluations, further driving the teachers' desire to teach to the test using these traditional methods. Because these state-mandated assessments are fact-oriented and cover a large breadth of the curricular material in each course, social studies teachers often focus on historical facts and speed through units to ensure coverage of the breadth of material instead of creating a student-centered environment whereby students participate in all aspects of the planning, execution, and assessment of material in order to practice the skills necessary for complex historical research, writing, and application (Fischer, Bol, & Pribesh, 2011). This essentialist method has been shown to focus on lower levels of Bloom's taxonomy (Anderson & Krathwohl, 2001) and does not encourage higher-order thinking skills (Roberson & Woody, 2012).

This dissertation concerns the modern need for students who possess more higher-order thinking skills and can function in autonomous settings, the need for a pedagogical shift away from the essentialist-driven traditional social studies classrooms towards a constructivist view of student-centered instruction in order to accomplish this task, and the possible impact of PL as a model that would allow for this change in pedagogical practice and increase in higher-order thinking skills. The teacher-researcher became interested in this topic as he strove to create classroom assignments and establish a classroom culture that encouraged learning over grades and thinking over memorization. However, the teacher-researcher recognized that essentialist pedagogical practices were a

major deterrent in this and only though a shift in pedagogical theory would these goals be accomplished. As the teacher-researcher began researching motivation, engagement, and the needs of today's learners and employees, he wondered if a shift to a PL designed classroom in which the students were in control of their learning would create the environment that would allow for this transformation to take place.

Problem of Practice

The identified problem of practice for this action research study involved the deficiencies in the development of higher-order thinking skills in secondary social studies students. As has become the norm in the era of teacher accountability and high-stakes testing, many social studies curricula and pedagogical practices center around essentialist, teacher-centered instruction focusing only on "content listed in the curriculum framework and tested on the [state mandated] examination" (Vogler & Virtue, 2007, p 55). This essentialist instructional philosophy, one that is practiced consistently in the social studies classroom, focuses on the lowest levels of Bloom's taxonomy (Anderson & Krathwohl, 2001), without developing higher-order thinking skills such as critical thinking and problem-solving (Roberson & Woody, 2012), and with the need of students, employees, and citizens who possess higher-order thinking abilities (Pink, 2009; SCEOC, 2015; USDE, 2010), this emphasis on the essentialist, teacher-centered classroom must change.

Purpose Statement

The purpose of this action research study was to determine the impact of a PL model designed around three main tenants: student-directed learning, competency-based progression, and flexible learning environments on the development of higher-order

thinking skills in a secondary College Preparatory (CP) Sociology class. Specifically, this study will examine the following:

a. The need for higher-order thinking skills;
b. The failings of essentialist, teacher-centered models;
c. Ways to improve higher-order thinking development;
d. Potential impacts of PL on higher-order thinking development; and,
e. Analysis of results on a secondary CP Sociology course.

Evidence from previous studies regarding the implementation of a PL model in various classrooms throughout the teacher-researcher's district has shown to increase student achievement in mathematics and language arts classes (CCSD, 2015), and it was the intention of this action research study to discover if the PL model will impact higher-order thinking development in a social studies classroom.

Research Question

In an effort to determine the effects of a student-centered pedagogical model on the development of higher-order thinking skills, the teacher-researcher plans to incorporate a PL model that emphasizes student-directed learning, competency-based progression, and flexible learning environments. The following research question will help to guide this study:

> What is the impact of a PL model on the development of higher-order thinking skills in a CP Sociology classroom?

Theoretical Framework

The theoretical framework of this action research study detaches itself from the essentialist pedagogies prevalent in today's era of teacher and student accountability and

embraces progressive and constructivist pedagogies. The PL model utilized by this action research study combines ideas from both the progressive and constructivist movements by embracing ideas discussed by John Dewey and Lev Vygotsky and attempts to function within a system steeped in essentialist design and ideas. Further review of the theoretical frameworks of this study, along with clear definitions of the concepts of PL and higher-order thinking, is necessary to adequately discuss the theoretical foundations for this action research study, and this review will be further explained in Chapter 2.

Action Research Design

Action research is defined as "any systematic inquiry conducted by teachers…for the purpose of gathering information about how their particular schools operate, how they teach, or how their students learn" (Mertler, 2014, p. 4). Action research is conducted by educators for practical use in their classrooms (Dana & Yendol-Hoppy, 2014). Mertler (2014) states that action research is designed to be more cyclical and allows teachers to be more flexible in their study of identified problems within their classroom. Mertler also states that action research consists of four stages. These stages include: planning, acting, developing, and reflecting. The first stage involves the identification of a problem, the consequent research surrounding that problem, and the use of that research to develop a plan of action regarding the problem. The second stage involves the collection and analysis of data during and after the implementation of the plan of action. The third stage affords the teacher-researcher the ability to make adjustments to the plan based on the data and/or develop a finalized plan to address the problem. Lastly, the fourth stage involves reflection by the teacher-researcher to address any other problems

with the study, realizations discovered by the study and its data, areas necessary for further research, and/or the identification of areas of deficiency to be addressed through future professional development.

Traditional research has long been the standard for research in the field of education (Mertler, 2014). Traditional research is primarily conducted by professionals with heavy experience and training in the field of research studies and takes great pains to ensure that these studies are performed in a way for their findings to be generalizable to the educational field as a whole. While traditional research is beneficial in studying educational issues and phenomena, it lacks the ability to be apply its findings to specific situations because it cannot take into considerations the unique variables of the independent classroom. Therefore, because of its cyclical nature and ability to deliver research that is specific to the teacher's classroom and performed at a pace conducive to making immediate change, action research is often viewed by teachers as more applicable and beneficial to the improvement of their teaching and/or student learning and improvement (Mertler, 2014). Because this study focuses on the effects of a pedagogical practice on the improvement of higher-order thinking skills within a specific classroom, an action research design is the most appropriate methodology for this study.

Methodology

This action research study was conducted in a CP Sociology course on the teacher-researcher's traditional caseload with 26 student-participants during the second semester (January through May) of the 2017-18 school year. College Preparatory is a course term used at the site of this action research study to describe classes below the Honors and Advanced Placement levels, serving as the general education-level course

offering for each subject. The site of this study was a large, public high school located in a wealthy suburb of a major city in the US Southeast. All student-participants were secondary students who had completed, at a minimum, one previous year of social studies requirements (course titles and requirements of the student-participants will differ depending on their academic level at that time). Student grade level ranged from tenth to twelfth; however, no academic qualifications and/or prerequisites beyond advancement to a second year of high school were required for participation in the course.

This study utilized a quantitative action research design in which two different designs were utilized: a one-shot case study and a one-group pretest-posttest. An action research design utilizing two different quantitative designs was appropriate to answer the problem of practice because the study was attempting to quantify the viability of a pedagogical design on higher-order thinking growth and development, and because measuring higher-order thinking skills is not easily quantified by a single test, multiple qualitative data points were also included.

Demographical data as well as effort and pacing level data was collected via teacher-researcher notes and observations, student surveys and reflections, and student participation levels as a means to sub-categorized the students for the purposes of data analysis as well as to set the context of the academic and demographic make-up of the research site. Quantitative data will be collected via a one-shot case study that analyzes scores and proficiency levels on authentic, student-directed assessments/assignments to test the development of both the transfer and problem-solving domains of higher-order thinking. Quantitative data will also be collected via a one-group pretest-posttest method that analyzes scores on the Critical Thinking Basic Concepts and Understandings Online

Test, focusing on the Basic Critical Thinking Insight and Obstacles to Critical Thinking domains of the test as well as the Adjusted Raw Score calculated via the mean of the two tested domains. Descriptive statistics of mean, median, and range on the Critical Thinking Basic Concepts and Understandings Online Test as well as simple statistical analysis of student growth on the one-shot case study assignments will be used to determine the impact, if any, of the PL model on the development of higher-order thinking skills.

Because PL models meet students where they are in the learning process and allow for self-pacing based on ability and interests (Bill and Melinda Gates Foundation [BMGF], 2014; CCSD, 2015; Rickabaugh, 2016), students may progress through the course standards at a variety of paces and may not complete all relevant standards. However, as this action research study is intended to assess the development of higher-order thinking skills instead of content-related mastery, completion of all standards will not be necessary to determine higher-order thinking growth.

Significance of the Study

This study is significant for several reasons. Primarily, this study provides information regarding the viability of PL instruction in the social studies classroom. While various studies exist regarding PL impacts on student achievement, most studies focus on its impacts on standardized test scores in mathematics and English courses. Collecting data on the viability of PL on the development of higher-order thinking skills in a secondary social studies classroom would add to the research in a unique way. Additionally, this study accomplishes the following:

a. Provides an in-depth model for PL implementation in the secondary social studies classroom.
b. Discusses the impacts of student pacing and effort levels on the success of PL pedagogical designs.

Limitations or Potential Weaknesses of the Study

Although many positive aspects of the study exist, weaknesses also exist in both the action research design and the study methodology. The primary weaknesses and limitations involves the action research design. With a limited number of students, a lack of random sampling, limited diversity of the sample, and the lack of a control group, the results of this study, while applicable to the teacher-researcher's current student load, cannot be applied or generalized to other classrooms, schools, and/or districts. The other major limitation of the action research design involves the role of the teacher-researcher. Since the teacher-researcher served as both the classroom teacher and the study designer/researcher, specific limitations regarding bias may occur. First, as the teacher-researcher truly believes in the power of PL as an agent of change in the classroom and hypothesized of its success in the development of higher-order thinking skills, he may have experienced bias throughout the implementation of the study. In an effort to counter this potential bias, the teacher-researcher implemented several strategies. These strategies included:

1. Use of the Critical Thinking Basic Concepts and Understandings Online Test instead of a teacher designed and graded test.

2. Use of student surveys, self-reflections, and participation levels as a part of the sub-categorization of students to counter any bias that might occur during the teacher observation notes.
3. Refusal to teach specific critical thinking skills and terminology provided by the test or allow students to review incorrect baseline questions in an effort to show growth that was organic instead of specifically taught.
4. Analyzing all data using descriptive statistics analysis methods.

The major methodological limitations of this study involve the overall length of the study, the data collection instruments, and the sub-categorization of the study sample. This study was conducted over the course of 15 weeks, and while this may be long enough for many studies in the educational field, this study introduced a pedagogical practice that was significantly different than what the student-participants were used to. This may have led to several students falling behind class pace or struggling with assignments because of confusion or inexperience rather than ability or performance levels. Also, the study design utilized data collection instruments that did not provide the ability to offer true growth comparisons with non-tested students and required students to utilize data collection instruments and/or assessments in which they were unaccustomed. Because so few students were accustomed to these styles of assessment, more study is needed to determine if growth was from repetition and comfort or from true growth in those higher-order thinking domains. Also, with no true comparison group provided by the authentic assessments or the testing organization, it cannot be determined if the growth shown by students in the study are significant when compared to the greater population. Lastly, the sub-categorization of the sample regarding pacing and effort

levels may not have adequately sub-divided the sample as they may have ignored many of the facets that could have led to differing pacing and effort levels. While the teacher-researcher attempted to reduce bias by offering multiple assessments of student effort, these attempts may not have covered the many facets that incorporate effort levels.

Dissertation in Practice Overview

Chapter One has introduced the reader to the identified problem of practice, purpose statement, research question, theoretical foundations, methodology, significance, and limitations of this study intended to analyze the impact of a PL on the development of higher-order thinking skills in a CP Sociology classroom. Chapter Two will ground the study in research through a thorough review of the related literature on PL, student-centered instruction, various curricular pedagogies, competency-based assessment, student engagement and motivation, and higher-order thinking skills as well as a detailed description of the study's theoretical constructs of progressivism and constructivism. These theoretical constructs were related to the pedagogical practices embedded in this action research. Chapter Three will detail the action research methodology used to collect, analyze, reflect, and report all data and findings as well as provide detailed chronological procedures. Chapter Four will report the data and relate the findings to the identified problem of practice. Finally, Chapter Five will provide an overview of the study, discuss its major findings and implications, describe an action plan in response to these findings and implications, and present areas of needed future research.

Definition of Terms

Autonomy: The degree to which the student has choice in his classroom; including topics, style of presenting, pace of completion, etc. (Pink, 2009).

Constructivism: A theory of learning that believes people construct their own understanding and knowledge of the world through experiencing things and reflecting on those experiences (Educational Broadcasting System [EBS], 2004)

Essentialism: The belief that there is a common core of knowledge and learning that can be taught in an organized, systematic way (Cohen, 1999).

Higher-Order Thinking Skills: As describe by Brookhardt (2010), higher-order thinking is thinking that is categorized as either transfer, critical-thinking, and/or problem-solving. These skills are the basis for the 21st century Skills mentioned throughout this study.

High-Stakes Testing: Any test that is standardized and is used to make important decisions about students, educators, schools, or districts (Au, 2007). Often high-stakes tests are used as measures of accountability in today's educational system.

Learner-Centered Ideology: A belief that the focus of the classroom should shift away from the teacher and towards the learner because "people's learning is facilitated by active interaction with an environment rich in physical, social, and intellectual stimuli, and the learning depends on direct interaction with materials and one's social and physical environment" (Schiro, 2013, p. 120)

Personalization: "Instruction that is paced to learning needs, tailored to learning preferences, and tailored to the specific needs of different learners" (USDE, 2010, p.12).

Personalized Learning Model (PL): A student-centered teaching model aimed at meeting students where they are in the learning process, individualizing instruction, increasing autonomy and self-advocacy, educating for growth and mastery, and

providing an environment flexible enough to accomplish this (BMGF, 2014; BMGF, 2015). The PL model used for this study will incorporate: student-directed learning, competency-based progression, and flexible learning environments (CCSD, 2015).

Progressivism: The belief that education should be child-centered and focus on discovery learning and learning how to learn (Larabee, 2005).

Student-Centered Learning: "A broad teaching approach that encompasses replacing lectures with active learning, integrating self-paced learning programs and/or cooperative group situations, ultimately holding the student responsible for his own advances in education" (Nanney, 2004, p. 1).

CHAPTER TWO: LITERATURE REVIEW

Over the past century, the United States has shifted from a regional political and economic power focused on an industrial workforce towards a global political and economic power focused on the technology and service sectors. This shift has created the need for a workforce and citizenry that possesses new skill and ability sets. These new skill and ability sets, dubbed 21st century skills, consist of skills such as problem-solving, collaboration, and critical thinking. Unfortunately, the essentialist, teacher-centered, direct-instruction designed classrooms in use in many American schools continue to fail to develop these skills in students. In an effort to address these problems, a shift in pedagogical practice must occur. Students must be placed at the center of the instruction, given the autonomy to manage their own learning, and assessed on competency instead of completion, compliance, and their ability to maintain a predetermined class pace. With the re-emergence of progressive and constructivist-inspired pedagogical reforms, new student-centered methods have gained traction and popularity, aimed at addressing the 21st century skill deficiency concerns. Personalized learning, with its emphasis on flexible learning environments, student-directed learning, and competency-based progression, has become a popular form of student-centered instruction that is believed to successfully address these 21st century skill deficiencies. It is the purpose of this study to determine the viability of a PL pedagogical method at developing the higher-order thinking skills of transfer, problem-solving, and critical thinking.

This chapter grounds this study in research, discusses its theoretical foundations, and provides a discussion of the literature regarding PL and its impact on the development of higher-order thinking skills. The historical context literature examines the essentialist shift and its effect on the social studies classroom discussing the current state of curricular design in the American educational system and its effects and limitations on student-centered classrooms. The theoretical framework literature defines constructivism and progressivism and discusses their impact in the development of student-centered instructional strategies such as PL. This chapter also defines higher-order thinking skills, explains how these skills can be developed, and examines the role these skills have on the development of historical thinking skills within the social studies classroom. An explanation of student-centered learning, its current manifestations in the classroom, and its role in the development of higher-order thinking skills is also provided as well as a description and definition of PL, its benefits, and its position as an example of a student-centered design able to fit into today's essentialist school systems. In addition, this chapter will discuss the impact student-centered learning and/or PL has on creating an environment that is conducive to learning for students of all backgrounds and ability levels. Lastly, a discussion of the results of previous studies performed regarding the field of student-centered and/or PL learning will be provided.

Historical Context

As America began the process of designing and implementing public secondary education in the late 19th century, discussion regarding subjects, content, delivery, and progression was necessary. In 1892, the NEA commissioned the Committee of Ten in Madison, Wisconsin in an effort to address these needed discussions (Spring, 2014). In

their final report, the Committee of Ten, recommended adding the study of history and social studies to the secondary curriculum as well as to the elementary curriculum, emphasized that secondary education should be aimed at preparing students for life instead of college, and stated that teachers should utilize pedagogy that "engaged students and encouraged students to 'broaden and cultivate the mind' rather than employ the traditional method of having students engage in rote memorization" (Bohan, 2003, p.80). However, in the early 20th century, America began to experience major political, economic, and cultural shifts. The country began to become more involved in global trade and politics, began welcoming large numbers of immigrant populations, and began addressing social concerns such as poverty and child labor (Spring, 2014). Industrialization also emerged as the dominant economic force in the country, employing large percentages of citizens in factories where employees were required to possess basic skills, complete repetitive tasks requiring rote memorization, and function in highly structured, compliance-driven environments. The industrial leaders, as well as other populist political leaders, saw the value of educating a workforce and citizenry educated in a way that encouraged blind patriotism and compliance through specific content and teacher-directed lessons (Spring, 2014). Frederick Winslow Taylor is credited with pioneering Scientific Management of schools in which he urged schools to move towards a factory system of production to maximize school efficiency (Iorio & Yeager, 2011). This factory approach laid the foundation for the reorganization of schools which led to the creation of an essentialist designed school system that emphasized rigid class schedules, organized structures, and procedures designed to prepare students for life in

the industrial sector over preparation for life in higher education in which higher-order thinking skills were emphasized.

While progressive reforms continued to influence American educational policies in the early 20th century, the advent of the Cold War in the 1950s and 1960s and the emergence of Piaget's behaviorist theory, shifted the country's educational focus towards a more structured environment with greater emphasis on mathematics and science subjects (Iorio & Yeager, 2011; Jones & Brader-Araje, 2002). However, constructivist reforms gained popularity in the mid-to-late 20th century as child-centric education, open classrooms, and whole student education took the place of the behaviorist views of Piaget (Jones & Brader-Araje, 2002). This constructivist movement was interrupted in the 1980s with the publication of *A Nation at Risk*, which emphasized the mediocrity of American student performance and called for reforms requiring higher standards and expectations for students and teachers (Iorio & Yeager, 2011). This led to the advent of the era of accountability, often attributed to Federal educational initiatives such as No Child Left Behind (NCLB) and Race to the Top (RTTT), and has placed an emphasis on the "back-to-the basics" approach of essentialist pedagogies (Vogler & Virtue, 2007).

Essentialist philosophers believe there is a "common core of knowledge that needs to be transmitted in a systematic, disciplined way" (Cohen, 1999, n.p.). The essentialist belief, as argued by William Bagley, is that schools have a responsibility to teach core content and preserve American ideals by teaching them directly to the students with little to no room for interpretation or deviation (Null, 2007). This approach has been adopted by most states in their development of state-mandated common standards and objectives required of schools to follow. While the goal of this study is to analyze the

effects of a progressive and constructivist pedagogical approach to education on the development of higher-order thinking skills, essentialist philosophies cannot be ignored as they form the basis for the required content of the US Government curriculum. The core content taught in this study through the PL model will revolve around the essentialist designed state standards and objectives while utilizing a progressive and constructivist pedagogy aimed at developing higher-order thinking skills.

The standardized accountability and high-stakes testing environment of schools today has greatly impacted pedagogical practices among many teachers. As Fischer et al. (2011) states, "For many teachers, the assessments that comprise the state's teacher accountability systems are their instructional focus" (p. 6). These assessments directly influence teachers' lesson planning, class design, and focus of instruction. Teachers are more reluctant to implement student-centered activities designed for fear of lost instructional time or an inability to address the dramatic breadth of content assessed on the standardized tests. Au (2007) found that high-stakes tests often lead to fragmentation of content and teaching towards the test. He states, "In tandem with both content contraction and fragmentation of knowledge, pedagogy is also implicated, as teachers increasingly turn to teacher-centered instruction to cover the breadth of test required information and procedures" (p. 263). As Au (2007) states, these essentialist approaches have been shown to be ineffective in encouraging teachers to engage in pedagogical approaches that prevent depth of learning and a shift towards student-centered instruction. Because of this, programs that wish to shift focus away from the teacher and onto the student must be designed to fit within today's essentialist curricular designs that require heavy content standardization and strict seat time emphasis.

Theoretical Framework

Progressivism and Constructivism

Over the course of the history of the American educational system, many different theories have emerged and come to impact and/or dominate the pedagogical and curricular fields. As the needs of the country and the advancement of technologies and the field of psychology grew and evolved, these theories changed as well. In the current essentialist view of American education, one steeped in standardization and accountability (Fischer et al., 2011), two previously popular pedagogical and curricular theories are experiencing a resurgence: progressivism and constructivism.

Progressivism has taken many forms since its emergence a century ago and can often be defined in two categories: pedagogical and administrative progressivism (Larabee, 2005). While the two have some theoretical beliefs in common, their beliefs in practice differ drastically. Administrative progressivism believes in a utilitarian view of governance and the structure and purpose of education. It was instrumental in paving the way for ideas such as age-grade curricular divisions in schools and the promotion of non-traditional academic subjects that focused on producing economically capable graduates in an efficient economic system. Pedagogical progressivism, while agreeing with the idea of developmentally focused education and the detraction from traditional academic curricula, opposed age-grade restrictions and a focus on the child as a future adult, opting instead for curricular designs based on the individual interests and developmental stages of the students (Larabee, 2005). Administrative progressivism's views align more with that of social efficiency theorists such as Franklin Bobbitt, and since this approach veers drastically from what is attributed to pedagogical progressives today, an emphasis on

pedagogical progressivism is more appropriate for this study (Larabee, 2005). For simplicity of understanding and synthesis with the problem of practice, future descriptions referred to as progressivism will use the beliefs and definitions of pedagogical progressivism while excluding the beliefs of administrative progressivism.

Progressivism's beginnings are often attributed to the works of John Dewey. However, Dewey himself often claimed that progressivism began with the writings and beliefs of Col. Francis Parker (Schiro, 2013). Parker's beliefs of "putting the child at the center of education, [his] developmental view of children, [his view to] make schools an enjoyable place, [etc.]" (as cited in Schiro, 2013, p. 129), most definitely make for a strong starting point in the discussion of the progressive view of education. As Larabee (2005) describes, progressivism means

> basing instruction on the needs, interests, and developmental stages of the child…teaching the skills they need in order to learn any subject…instead of focusing on transmitting a particular subject…it means promoting discovery and self-directed learning by the student through active engagement…it means having students work on projects that express student purposes and that integrate the disciplines around socially relevant themes…and it means promoting values of community, cooperation, tolerance, justice, and democratic justice (p. 277).

At its foundation, progressivism believes that education should take the focus away from the teacher and content and focus on the child (Cohen, 1999). Students should be developed to think for themselves and actively participate in their learning through experimentation and discovery. John Dewey (1938) believed that all education arises out of experience and that learning should be individual. Progressive theorists believe

education should promote reflection and self-thought and should place students in a shared decision-making and planning position with regard to activities and selection of topics and content (Cohen, 1999). Ultimately, it is the goal of progressive educators to develop students who are capable of thinking for themselves and developing learning experiences that are appropriate for their particular level of developmental ability. In short, progressivism means education should be child-centered, focused on discovery learning, and learning how to learn (Larabee, 2005) and "in the current language of American education schools there is a single label that captures this entire approach to education: constructivism" (p. 277).

Progressivism lost adherents in the middle of the 20th century with the social efficiency and behaviorist theories emerging as a result of the pressures of the Cold War, growing globalism, and the belief that American schools were falling behind their adversaries, especially in the areas of mathematics and science (Spring, 2014). However, the resurgence of progressive-influenced educational policy and the belief in education's ability to fix the societal ills of the time led to a renewed focus on child-centric teaching practices in the form of constructivism in the 1960s and 1970s (Iorio & Yeager, 2011). Abandoning the behaviorist view that children learn through the use of external stimuli to produce desired behaviors (Jones & Brader-Araje, 2002), constructivists, believe that students are naturally curious about the inner workings of the world and learn best when intrinsically motivated to do so by offering experiences and topics that are of interest and importance to them (EBS, 2004). The constructivist theory of learning believes that people construct their own understanding and knowledge of the world through reflections of personal experiences (Kanselaar, 2002).

Fueled by the research of Lev Vygotsky, constructivist theory believes there is a strong relationship between what students already know and what is to be learned as students will construct their own meaning from their learning experiences by interacting them with their prior knowledge (Harland, 2003). Vygotsky (1978) believed children first learn by imitating behaviors they see and internalizing those behaviors, reaching expertise in an apprentice-style scaffolding experience. He believed that a space existed between what a learner can do independently and what he can do with support, and he labeled this space the Zone of Proximal Development (ZPD). Vygotsky also believed that interaction with peers is an effective way of developing skills and strategies, and teachers should use cooperative learning exercises where weaker students can benefit from working with stronger students. Lastly, Vygotsky also suggests that teachers use "whole and authentic" activities in an effort to establish the best environment for learning (Holland, 2003).

In constructivism, learners are encouraged to build their own knowledge through authentic activities and situations instead of copying it from an authority, such as teachers and/or textbooks (Harland, 2003; Kanselaar, 2002). "Constructivist-based instruction firmly places educational priorities on students' learning" (Jones & Brader-Araje, 2003, p. 1) instead of the passing on of predetermined knowledge. While there are many definitions of constructivism, the common thread that runs across all is "the idea that development of understanding requires the learner actively engage in meaning-making" (Jones & Brader-Araje, 2002, p. 3). Constructivists believe that knowledge is not passively received, it is built by actively participating and thinking about the subject.

The constructivist approach leans towards encouraging students to use active techniques to create knowledge and then reflect on and talk about what they are doing and how their understanding is changing (Jones & Brader-Araje, 2002). Teachers must know their students, their previous understandings, perceptions, and misperceptions and help to guide the students through the learning process in order to build on or alter their learning based on these new experiences. The idea of constructivism is to create students who are active and expert learners. This is not to dismiss the role of the teacher as the expert in the classroom. Teachers must still truly understand and master their content, but their role, in a constructivist classroom, shifts from the keeper of all worthwhile knowledge to that of a guide for the construction of knowledge by the student. Teachers are expected to provide problem-solving skills through inquiry-based approaches in a collaborative environment and to push students to become more active in their own learning process. The views of knowledge building and construction and the roles of the teacher and student within the constructivist classroom have influenced the movement towards a more student-centered pedagogical approach.

Higher-Order Thinking

During the era of essentialist and standardized curricula, an emphasis on content and a breadth of facts became paramount (Au, 2007). However, recently, states such as South Carolina have begun to design initiatives aimed at emphasizing learning that goes beyond the mere memorization and regurgitation of facts and have adopted standards and profiles aimed at increasing cognitive learning and preparing for life skills (SCEOC, 2015). As Brookhardt (2010) mentions, rarely is the regurgitation of simple facts necessary in today's world. Limbach and Waugh (2014) state that "evidence is mounting

that ‘knowing’ is not enough. Being able to apply that knowledge to analysis, decision-making, and problem-solving within team-based, complex environments is essential for success” (p. 97). With technology and access to simple knowledge at virtually everyone’s fingertips through access with a wide variety of technologies and the world wide web, it is now necessary to teach beyond the facts and begin focusing on higher-order thinking skills such as critical-thinking, problem-solving, work ethic, self-direction, and collaboration in order to prepare students for success in the world (SCEOC, 2015). Fred Newmann (1991) defines higher-order thinking as the “challenge and expanded use of the mind…when a person must interpret, analyze, or manipulate information” (p. 325). Newmann states that this definition is relatively vague and is perceived differently by teachers, causing difficulty in its inclusion in many classrooms. Because higher-order thinking as a term is often viewed in this vague manner, this study will define and assess higher-order thinking through the three categories outlined by Brookhardt (2010): transfer, critical-thinking, and problem-solving.

The skill of transfer is that of a student’s ability to remember and make sense of information along with the ability of the student to use that information in differing contexts (Brookhardt, 2010). Anderson and Krathwohl (2001) divide learning into two categories: recall and transfer. According to their work, transfer learning is “meaningful learning” and is assessed using the higher levels of Bloom’s Taxonomy. The highest three levels of Bloom’s revised taxonomy include: analyze, evaluate, and create. Transfer is shown through a student’s ability to think or apply knowledge and skills to new contexts and apply this knowledge in a way they have never thought of before and relating their learning to new areas (Brookhardt, 2010). The skill of critical-thinking is

defined as reasonable, reflective thinking that is focused on deciding what to believe and what to do. Critical-thinking requires the student to decide what to believe and what to discard. Critiquing is often an attribute associated with critical-thinking. Examples of critical-thinking include sourcing material and making and judging assumptions made by the material and/or other students. The final category of higher-order thinking, problem-solving, incorporates both of the previous higher-order thinking skill categories in the process of solving newly presented problems. Brookhardt (2010) states that "a problem is a goal that cannot be met with a memorized solution" (p. 7). The goal of problem-solving is to equip students with the ability to identify and solve problems critically and efficiently. While it can be argued that problem-solving exists in all levels of Bloom's Taxonomy, finding solutions to complex problems that require creative, critical-thinking remains at the highest levels and is associated with higher-order thinking (Anderson & Krathwohl, 2001).

While the recent additions of higher-order thinking skills have made their way to various state standards and are now being assessed by some standardized tests (DBQ Project, 2015; SCDE, 2016), teachers have yet to adequately adjust their teaching and assessment styles to match this change (Brookhardt, 2010). Many teachers also fear that a focus on higher-order thinking skills might take away from content coverage, which could lead to lower test scores and student performance (Au, 2007), but Brookhardt (2010) states that practicing and assessing higher-order thinking skills consistently leads to improvement in student achievement both in content knowledge and performance on various measures of assessment, including standardized tests. According to the constructivist belief, students learn by constructing new meaning and through authentic

experiences (EBS, 2004); therefore, improving thinking skills through a focus on transfer, critical-thinking, and problem-solving should improve content knowledge and understanding as well (Brookhardt, 2010).

In a meta-analysis of thinking skills interventions on student cognition, achievement, and attitudes, Higgins, Baumfield, Hall, Leat, and Whoolner (2005) looked at various intervention programs used by teachers to help practice and improve higher-order thinking skills. This meta-analysis showed a dramatic effect size in student cognitive and achievement outcome averages for the classes involved in the study. An effect size of 0.62 was shown, which, according to the study, equated an increase of class averages from the 50^{th} to the 73^{rd} percentile. Brookhardt (2010) also cites several studies that show that using assignments and assessments consistently that require higher-order thinking skills increases student achievement on standardized test scores, classroom grades, and research instruments over a variety of courses. Pogrow (2005) designed the Higher Order Thinking Skills (HOTS) program as a way to address higher-order thinking skills directly with students considered "at-risk". The HOTS program was implemented over a 25 year period for Title I and Learning Disabled (LD) students and showed higher-than-average growth over each year on various school and state measured tests.

While implementing higher-order thinking strategies and assessing these skills in the classroom have shown to be successful at improving student achievement measures, Brookhardt (2010) also states that student engagement and motivation are also positively affected by the introduction of higher-order thinking skills in the classroom and on assessments. Students become engaged when they are forced to think and are motivated by the ability to think and learn new things in their own way. "Higher-order thinking

increases students' sense of control over ideas" (Brookhardt, 2010, p. 12), and since thinking is more fun than memorizing, students are often more engaged and motivated in the classroom. Further analysis of the role of motivation will be discussed at a later point in this chapter.

Although reforms have been promoted in many states aimed at addressing the higher-order thinking skill deficiencies, many of these reforms have been unsuccessful and/or abandoned as a result of the implementation of more accountability and high-stakes testing (Fischer et al, 2011; Vogler & Virtue, 2007). While high-stakes testing and accountability practices might account for the failure of the reform programs aimed at improving higher-order thinking, other barriers to their success exist as well. Onosko (1991) mentions six barriers he believes exist that limit the development of higher-order thinking initiatives. These barriers include: direct-instruction/knowledge transmission, broad and superficial coverage of content, low expectations of students, large class sizes, inefficient teacher planning and resources, and isolation of teachers from constructive collective planning. Other programs like Reading Like a Historian (Stanford History Education Group [SHEG], n.d.) and Document Based Questions (DBQ Project, 2015) are programs aimed at increasing higher-order thinking skills and are being implemented as aids in social studies classrooms, but most classrooms are still using these as supplements and not as guides for curricular design. Because higher-order thinking skills are skills that are taught and not inherent (Durr, Lahart, & Mass, 1999), they need to be practiced and refined. Durr et al. also states that the most effective way to practice and refine these skills is through inclusion of them in the classroom through practice with current content. A traditional teacher-centered classroom does not afford teachers the opportunity to

continually practice these skills as students are more passive receptors of information instead of active engagers of knowledge and information. Implementing a student-centered classroom, whereby students are continually afforded opportunities to actively engage in the material in ways that are interesting and relevant to them would offer teachers a better opportunity to practice and refine higher-order thinking skills.

As Brookhardt (2010) has mentioned, increasing the practice and assessment of higher-order thinking in the classroom is an integral part of improving student motivation and achievement, but this process is not an easy one. Brookhardt mentions that many teachers believe they are practicing and assessing higher-order thinking, but a thorough review of the lessons and assessments show otherwise. Linbach and Waugh (2014) address the difficulty in implementing higher-order thinking specifically in a learner or student-centered environment. Because the emphasis of learning and instruction moves to the student in a student-centered environment, teachers need to focus less on transferring factual knowledge to the students and more on developing an environment that empowers students to construct knowledge for themselves. In order to accomplish this, Linbach and Waugh (2014) developed a five step process to help teacher transition toward a course that develops critical thinking skills in a student-centered environment. These five steps are as follows:

- Determine learning outcomes and objectives that require students to perform and demonstrate higher-order thinking.
- Facilitate learning through high-impact activities such as posing arguments, stating opinions, critiquing evidence. Students should actively engage the material instead of passively receiving it.

- Allow frequent opportunities to practice before assessment. There is a clear need for feedback and formative assessment.
- Continue to review, refine, and improve your processes.
- Assess learning outcomes and objectives to ensure assessments accurately assess the objectives.

Focusing on these steps will give teachers who are attempting to create student-centered environments that emphasize higher-order thinking skills a solid foundation on which to build their courses.

Student-Centered Learning

Student-centered learning, an approach that has been introduced as a way to address the issues of the essentialist, standardized movements that have shown to be lacking in fixing the ills of the American educational system, has its origins in curriculum theory as an applicable interpretation of the learner-centered ideology. Learner-centered ideology is a belief that people's "learning is facilitated by active interaction with an environment rich in physical, social, and intellectual stimuli… [and] that 'learning depends on direct interaction with materials and one's social and physical environment'" (Schiro, 2013, p. 120). As Johnson states, in his 1974 paper, learner-centered ideology follows the constructivist belief that "all children naturally think through experience" (as cited in Schiro, 2013, p. 120) and that learning occurs as students interact with the real world. "Learner-Centered environments are designed to help students make connections between previous knowledge and newly acquired knowledge" (Turner, 2001, p. 125). These learner-centered environments emphasize student choice, authentic learning through links between knowledge and real life, meaning-making activities, and attending

to student prior knowledge. Learner-centered schools see the world through the eyes of the learner, placing the needs and interests of the learner above all else (Schiro, 2013). As Schiro states, the curriculum should "organize itself around individuals' intentions to learn, rather than educators' intentions to teach them; around what individuals want to learn, rather than what educators want them to learn; and around individuals' learning styles, rather than around teachers' preferred teaching styles" (p. 115). In the learner-centered ideology, the classroom would offer a wide variety of learning materials and places to learn as learner-centered proponents advocate that student choice is integral to success in the classroom. The goal of learner-centered ideology is to stimulate growth by designing experiences whereby each student can make meaning, fulfill their interests, and pursue their interests. They believe that children are naturally good and curious, and that it is the job of the teacher to foster this curiosity by offering a wide variety of experiences and learning opportunities for the student and to intervene between the student and these experiences in order to facilitate growth. Evaluation in the learner-centered ideology should be used primarily to benefit the student and measure growth and should always be accompanied with feedback. Learner-centered schools are often designed in ways that are drastically different from traditional schools in that they do not promote age-graded classrooms or a strict following of mandated or standardized curriculums. Schiro (2013) points out that many learner-centered educators believe that many of John Dewey's teachings support their beliefs of how education should be practiced. The following beliefs of Dewey (as cited by Schiro, 20103) address similar beliefs within the learner-centered ideology:

- Children and not content should be the focus of teaching.

- Children learn by doing.
- Children make meaning and construct knowledge through the continuous reconstruction of their existing meanings as a result of new experiences they encounter.
- Learning best takes place when children actively initiate and explore problems arising in their world and solve them themselves because of their own interest and motivation.
- "The child's own instincts and powers furnish the material and give the starting point for all education" (Dewey, 1897a, p. 77 as cited by Schiro)
- The teacher's job is to prepare experiential environments that engage children and challenge them to learn and make personal meanings.
- School subjects should be integrated through project learning.
- Education should be concerned with children's total (intellectual, social, emotional, physical, and spiritual) growth.
- Social interaction and learning are central to the educational endeavor.

While the learner-centered ideology lays the foundation for student-centered instruction, its move away from the major components of the traditional classroom (i.e. age-graded classrooms, standardized curriculum, direct instruction, etc.) makes it difficult to fully implement in the traditional classroom without a wholesale ideological change of the school itself (Schiro, 2013). It also becomes increasingly more difficult to implement in higher grades as interests become more varied with stricter standardization (Ryan & Deci, 2000). In the past two decades, the learner-centered ideology has been revitalized in the form of student-centered instruction, attempting to create specific styles of teaching

that successfully accomplishes the learner-centered ideological goal of placing the students at the center of instruction and designing curricula around their interests.

Student-centered learning has gained popularity in recent decades as reform movements have begun to look at the believed failings of the essentialist, standardized curricular practices of the age of accountability with regards to true and effective learning. Attempts at creating a system that educates students to be 21st century learners capable of functioning successfully in today's world have led to a shift in the focus of learning from the teacher to the student (Lent, 2014; Nordgren, 2013; Pink, 2009). Student-centered learning is another blanket term in education that can have a wide variety of definitions and interpretations. As its name implies, student-centered learning places the student at the center of learning, shifting the focus away from the teacher as the holder and transmitter of knowledge and content (Redding, 2014). Student-centered learning emphasizes the individual needs, interests, and prior knowledge of the student through active learning and meaning-making that is relevant and purposeful. Student-centered learning is self-paced, placing major emphasis on self-efficacy and student choice. Barbara Nanney (2004) describes student-centered learning as "a broad teaching approach that encompasses replacing lectures with active learning, integrating self-paced learning programs and/or cooperative group situations, ultimately holding the student responsible for his own advances in education" (p. 1).

Student-Centered Learning and Motivation

Student-centered models have shown to be successful in creating quality learning experiences that increase higher-order thinking because they shift the attention to the needs and interests of the student, which can lead to more student motivation and

engagement (Redding, 2014). Ryan and Deci (2000) define motivation as the thing that moves people to do something. In essence, a motivated person is "someone who is energized or activated toward an end" (p. 54). Motivation differs, though, in amount, or how much motivation someone has, and in type, the why someone is motivated. Most research tends to divide the type of motivation into two categories: intrinsic and extrinsic. Ryan and Deci (2000) define intrinsic motivation "as the doing of an activity for its inherent satisfactions rather than for some separable consequence" (p. 56) while extrinsic motivation "pertains whenever an activity is done in order to attain some separable outcome" (p. 60). In other words, intrinsic motivation occurs when someone is inspired to do the work while extrinsic motivation occurs when someone feels compelled to do the work for some external reason such as a reward, avoidance of punishment, etc.

Most researchers agree that intrinsic motivation is more effective than extrinsic motivation but differ on what falls under the scope of extrinsic motivation. Ryan and Deci (2000) believe that extrinsic motivation incorporates any motivation that is encouraged by an outside variable. This can be something as simple or traditional as a reward or punishment but can become more specific as an internalized understanding of the value of the task at hand. Nordgren (2013) and Pink (2009) would disagree with the label of the latter as extrinsic because the internalization of its importance signifies a move to a more intrinsic motivation. While the specifics of what qualifies as intrinsic or extrinsic might differ between researchers, it has been shown that motivation that leads to individual autonomy, the mastery of some skill, task, or information, and the understanding of the importance of the skill, task, or information and/or how it fits in the

bigger picture is the most successful form of motivation (Pink, 2009; Ryan & Deci, 2000).

Intrinsic motivation has been found to be extremely successful at motivating for higher-learning, creativity, and problem-solving (Nordgren, 2013; Pink, 2009; Ryan & Deci, 2000), but achieving intrinsic motivation becomes more difficult as students get older and the burdens of society and/or school become more prevalent (Ryan & Deci, 2000). Because of this, Ryan and Deci feel that extrinsic motivations that shift away from rewards and punishments and towards a general understanding of the value of the skill, task, or information at hand are necessary in the classroom, and offer similar motivational success as intrinsic motivations. While Nordgren (2013) and Pink (2009) do not categorize these motivations as extrinsic because they are not based on tangible rewards or punishments but rather an intrinsic understanding of the value of the skill, task, or information, they do agree with Ryan and Deci (2000) that rewards and punishments as motivation are unsuccessful and oftentimes are harmful in regard to motivation, while motivation based on an internal desire to so something or an understanding of its importance is most successful (Nordgren, 2013; Ryan & Deci, 2000; Pink, 2009).

Pink (2009) takes a stance that businesses and schools need to move away from extrinsic motivation and focus exclusively on intrinsic motivation. He states that society has evolved from a state that required menial, time-sensitive, low-level, repetitive tasks that were motivated by extrinsic rewards or threats of punishment to one that requires 21st century skills such as critical-thinking, creativity, and problem-solving skills that are not only unmotivated by extrinsic motivations but are thwarted by them. These 21st

century skills require motivation that fosters the very skills and attitudes necessary to encourage the high-level thinking and creativity. According to Pink (2009), a reliance on extrinsic motivations have created a "state of passive inertia" (p. 89) whereby workers or students feel as if they do not need to produce or work if there is no tangible reward or threat of punishment. Ryan and Deci (2000) agree as they state that traditional extrinsic motivation can lead to students performing tasks with resentment, disinterest, and/or resistance. They do feel that some extrinsic motivation can be successful, but it must be done in a way that students can internally find value in the skill, task, or information at hand but mention that it is impossible to push for intrinsic motivation in all subjects since those subjects may be impossible to make interesting enough to all students to spark intrinsic motivations. Nordgren (2013) would disagree that achieving intrinsic motivation would be impossible in all classes and suggests that intrinsic motivation can be increased in schools simply by making the content relevant to the lives of the students, pushing them to go beyond the busy-work and menial tasks and by encouraging them to become curious about the world and the subject matter. All (Nordgren, 2013; Pink, 2009; Ryan & Deci, 2000) would agree that the 21st century skills mentioned previously are necessary in the world today and that it is the responsibility of schools to teach these skills and to find ways to use motivation to push students to achieve these skills.

Research has shown that students who are motivated intrinsically by being given more autonomy, encouraged to master a topic or skill, and shown the relevance and importance of the topic or skill presented are more engaged and learn at a deeper level than those motivated through the traditional extrinsic motivations of rewards and punishments (Pink, 2009; Ryan & Deci, 2000). Traditional schools and teacher-centered

classrooms subscribe to strategies that incorporate extrinsic rewards such as grades, class rank, school punishments, shout-outs, scholarships, etc. This system creates a major barrier to the success of moving towards a change in motivational strategies towards intrinsic motivations, but a shift towards a student-centered classroom would allow of this change through a focus on autonomy, mastery, and purpose (Nordgren, 2013; Pink, 2009; Ryan and Deci, 2000).

Since student-centered lessons move away from teacher-led, direct-instruction techniques and towards active learning by the students in which they are responsible for their own learning (Felder & Brent, 1996), they often involve student autonomy regarding the topic and method of approaching the topic and use self-pacing and cooperative learning, culminating with an authentic assessment specific to the topic chosen by the student. These lessons have been shown to lead to students who are more engaged, in control of their own learning, and work harder (Pink, 2009) while helping the students to make connections between previous knowledge and newly acquired knowledge (Turner, 2011). Because student-centered instruction focuses on areas of interest of the student and gives the students autonomy in what to learn and how to learn it and focuses on topics that are personally interesting or relevant to the students (Felder & Brent, 1996), the motivation behind their effort would shift from extrinsic motivation to intrinsic motivation (Pink, 2009). As Limbach and Waugh (2014) mention, this "develops more engaged students, with deeper learning, and a greater ability to solve problems and think critically" (p. 96).

Teaching models such as inquiry-based instruction, problem-based learning, collaborative learning, etc. have emerged as applicable student-centered pedagogical

strategies that have shown success in motivating and engaging students, improving student achievement, and increasing the development of higher-order thinking. While these strategies certainly place the student at the center of instruction and meet many of the aims of both learner-centered ideology and student-centered instruction, they are incomplete because they often are either implemented merely as individual lessons within a curriculum, they don't fully address the idea of student autonomy in the classroom, and/or they take up longer periods of time which prevents the coverage of the mandated curriculum. A more recent pedagogical approach to curriculum design, personalized learning, has emerged as a way to accomplish the aims of learner-centered ideology and student-centered instruction while also addressing the concerns of partial implementation of student-centered instructional strategies, student autonomy, and the complete coverage of the mandated curriculum.

Personalized Learning as Applicable Student-Centered Learning

As student-centered learning has gained popularity and attempts to introduce it into the curriculum through practices such as inquiry-based instruction, problem based learning, collaborative learning, etc. have begun to be designed, the desire to create a curricular design that implements a student-centered approach throughout the entirety of a course while also aligning with the mandated standards and objectives arose. One student-centered approach to learning that has gained popularity in recent years has been the PL model of curricular design.

According to the USDE's National Education Technology Plan (USDE, 2010), PL allows for a variation of methods and pacing. The personalization refers to "instruction that is paced to learning needs (i.e. individualized), tailored to learning

preferences (i.e. differentiated), and tailored to the specific interests of different learners" (USDE, 2010, p. 12). However, Rickabaugh (2016) claims this definition is missing a key component: the "repositioning of the student within the learning and teaching process" (p. 5). In PL, the student must play a significant role in "setting learning goals, planning their learning paths, tracking their progress, and demonstrating their learning as partners and co-designers alongside educators" (Rickabaugh, 2016, p. 5).

The goal of PL is to create curricular designs that are "efficient and effective ways to manage curriculum, design and deliver instruction, and provide each student with a customized learning path directed, in part, by the student" (Redding, 2014, p. 3). Redding (2014) states "underlying the optimism about personalized learning is the belief that a student's desire to learn and effectiveness in learning are enhanced when the learning is personalized" (p. 4). In a truly personalized environment, students would develop greater key life skills such as self-efficacy, ownership of learning and actions, and learning independence (Rickabaugh, 2016). In PL models, greater choice and control of learning is implemented, increasing the importance of personal competencies and how teachers might help to establish these competencies (Twyman & Redding, 2015). According to Redding (2014), the four personal competencies are: cognitive (the prior knowledge that facilitates new learning), metacognitive (self-regulation of learning and use of learning strategies), motivational (engagement and persistence towards learning goals), and social/emotional (sense of self-worth, regard for others, and emotional understanding and management). These personal competencies are "integral to learning, as they are both acquired through learning and applied in the learning process" (Twyman & Redding, 2015, p. 3),

According to Waldrip, Yu, and Prain (2014) PL comprises five key components: assessment for learning, effective teaching and learning, curriculum entitlement and choice, school organization, and relationships beyond the classroom. In creating a PL classroom, teachers must discuss with students what the objectives of the course and lessons will be, allow them to aid in the creation of these objectives, and give them choice in how to present and accomplish these objectives. Teachers need to assess where students are, help to guide them towards mastery in the areas where deficiencies exist, and offer timely and quality feedback throughout the process. Teachers must also strive to create environments in the classroom that encourages student engagement, motivation, and interaction. According to the Center for Mental Health in Schools at UCLA (2015), there are six components needed in order to create a more personalized classroom. These components include:

- Teachers must value student diversity in motivation and development.
- Teachers must offer options for learning and help students make decisions among alternatives.
- Teachers must develop an appropriate variety of options as a starting point.
- Teachers must facilitate student understanding of the options presented.
- Teachers must establish procedures for individual and small group work.
- Teachers must pursue one-to-one and small group interactions.

While PL is still a new and emerging pedagogical practice and can have varying meanings and definitions, most models focus on meeting students where they are in the learning process, tailoring an individual instructional plan based on formative assessments, varying the learning experience to prepare students for life beyond school,

and creating an environment that is flexible that allows for student ownership and voice in the learning process (Bill and Melinda Gates Foundation [BMGF], 2014). Because the definitions and designs of PL can vary dramatically, a specific and concise design must be decided. This study will use a PL model designed using the Charleston County School District's (CCSD) PL model that focuses on three main components: student-directed learning, competency-based progression, and flexible learning environments (CCSD, 2015).

Student-directed incorporates the following elements:

- Students can articulate what they need to know and be able to do to master a standard.
- Students set goals based on data and choose activities to reach these goals.
- Students own their individualized learning plans.
- Students reflect on their learning and use feedback to improve.
- Students exercise choice in their learning pathways.
- Students track their data on a daily basis.
- Students extend learning by applying knowledge in new context.

Flexible learning incorporates the following elements:

- Classrooms are set up in multiple learning zones with a variety of options in seating and furniture.
- Virtual options are available for anywhere, anytime learning.
- Student and teacher scheduling is flexible.
- Learning can occur outside the classroom walls.
- Students have access to content in a digital format.

Competency-Based Progression incorporates the following elements:

- Students have an effective teacher who meets them where they are, fills their learning gaps and accelerates their learning.
- Students have access to a standards-based curriculum.
- Learning is transparent for all students. They know what they have learned, what they are currently learning, and what they will learn next.
- Frequent formative assessments drive instruction; summative assessments are given when a student is ready.
- Students receive timely, personalized support and feedback based on their individual learning needs and formative data.
- Students produce evidence to demonstrate their learning.

Results of Previous Studies

Autonomy

Hofferber, Eckes, and Wilde (2014), designed an experiment to study the effects of behavior in the classroom that supported autonomy versus behavior that was more teacher controlled. In their study, Hofferber et al. compared the success of students who were given lessons encouraging student autonomy and choice with teacher cues that fostered this behavior with students who were given explicit instructions, demands, and requirements. Both sets of students were given prior knowledge tests to help determine the success of the lessons. These same tests were administered to the students after their differing instructional lessons. The data from this study showed that students who received lessons centered on student autonomy did not show a significant difference in success on the rote-learning, multiple choice test but did show a significant increase in

success on the open-ended assessment designed to gauge deeper understanding and learning. While this experiment is small in scope and was not administered with other lessons to show consistency, it does show that autonomous lessons should not have a negative effect on traditional assessments. This evidence would do much to encourage teachers to try new motivational techniques without fear that their students will perform more poorly on more high-stakes tests.

Gillard, Gillard, and Pratt (2015) completed a study designed to test how a master's level educational psychology course taught with dramatic increases in student autonomy would affect student outcomes and motivation. The new class design focused on one that promoted autonomy through optional attendance requirements, a lack of sequential due dates, and full student choice on topics and assignments. The only requirements for the course were to complete a specific number of assignments prior to the end of class and to participate in online discussion boards that were both teacher and student-led. The results of the study show that participation the discussion posts as well as optional in-class meetings were either at or higher than the researchers' expectations and/or previous courses. The discussion board posts and assignments showed a greater depth of understanding and mastery as well as increased motivation to participate. The results from course-end surveys showed that the students overwhelmingly felt the class was both challenging and worthwhile, even though the due dates and requirements were dramatically different than their previous courses. Ultimately, the researchers determined that the move towards increased student autonomy and away from traditional extrinsic motivators offered no negative results while it encouraged deeper engagement, participation, and understanding.

Student-Centered Instruction

Parker et al. (2011) created a study that attempted to address a fear that many secondary educators have regarding changing their curriculum from teacher-centered to student-centered. This study looked at the effects of student-centered lessons, specifically problem-based learning, on student performance on the Advanced Placement (AP) test in the United States Government and Politics AP course. This study compared students who were taught using previously successful, traditional teacher-centered instructional methods with those taught using problem-based learning methods. Careful attention was paid to the achievement levels and prior knowledge of the students in order to ensure the comparison was more accurate. The study showed that students using problem-based learning methods showed no significant difference in performance on the AP test with those taught in the traditional format. However, utilizing a second complex-scenario test designed to assess for deeper learning of the content and ideas, the study showed that students using problem-based learning methods performed significantly better than their traditional methods counterparts. Interestingly, a student survey showed increased frustration among the students utilizing the problem-based learning method, but the authors attributed this to the fact that many of the students were AP "veterans" and had become accustomed to the traditional teaching methods. These new methods offered more challenging lessons and increased student-centered work that might have frustrated students who were prepared to utilize the strategies they had found to be successful in other AP courses. Ultimately, the authors of this study found that, if correctly implemented, student-centered learning that utilizes a problem-based learning format can

increase student learning and understanding while not negatively affecting student performance on high-stakes testing.

Higher Order Thinking

Saragih and Napitulu (2015) studied student-centered learning in a mathematics environment in regard to higher-order thinking. In this study, they found in classrooms that implemented a teacher-centered model, a lack of attention was paid to the independence of student thought which led only to rational thought at the lowest levels of cognition. They found that teacher-centered instruction does not accommodate the development of students' abilities to problem-solve, think logically, make connections with regard to the content, or communicate. Each of these skills are known to incorporate higher levels of cognition (Brookhardt, 2010). The study found that teachers that implemented student-centered instructional plans, such as problem-based learning, promoted creative and higher-order thinking. They also found that more active approaches to learning and collaborative learning led to improvements in students' communication and critical-thinking abilities over those using more traditional teacher-centered methods.

Personalized Learning

In a report discussing the ongoing implementation of a PL program in a middle school in Wisconsin, Taege, Krauter, and Lees (2015) describe their design and initial findings of the FLIGHT (Facilitating Learning through Integration, Guidance, High expectations, and Technology) program at their school. In this report, the authors described their program as a PL program that functions within a traditional middle school. The goal of the program was to "create a student-centered program that focused

on the learner's interests and goals" (p. 2). The authors were required to create a program in which all students utilized a PL model to cover district mandated courses and standards. These students were separated from the traditional school setting in order to allow for maximum autonomy, collaboration, and environmental flexibility. Through the use of some direct instruction and PL characteristics such as portfolios, self-pacing, and authentic proficiency-based assessments focused on student choice, the authors were able to create a PL environment that allowed for students of all abilities to progress through the content individually. Students were encouraged to work both independently and collaboratively, and were given major support through individualized meetings and goal-setting meetings with the teachers.

The preliminary results, although not qualitatively described, show that while the program was a diverse representation of the school as a whole with regards to demographics and student ability, the program experienced a dramatic increase in attendance and engagement while experiencing no behavioral issues or referrals. No specific mention was given to student progress in all content areas, but the report does mention that most of the students progressed so quickly through the middle school mathematics curriculum that a new teacher was needed for the following year that would be capable of teaching the majority of the students on high school level mathematics courses. Further review of this program is needed regarding specific data and results of student progress in areas outside of mathematics, but this report indicates that a PL model can be successful at increasing student engagement, attendance, and performance within a traditional standards-based environment.

In 2014 the Bill and Melinda Gates Foundation engaged the RAND Corporation to carry out a series of studies to discover the impact of PL on student achievement in mathematics and reading (BMGF, 2014; BMGF, 2015). In a series of two studies, the RAND Corporation sought to "identify, strengthen, and refine promising personalized learning practices; determine which are most effective; and encourage innovative educators and other leaders to spread the most successful practices to other classrooms, schools, and districts" (p. 2). The first study, titled Early Progress (BMGF, 2014), measured the success of various PL methods on 5000 students over 23 participating public charter schools in the Pacific Northwest. The study was carried out predominately in schools in urban settings with large minority populations from low SES populations. All schools implemented PL models for at least two years and administered Measures for Academic Performance (MAP) tests in mathematics and reading over the same two year period. MAP is an online adaptive test in which software adjusts the consecutive difficulty of questions in response to an individual student's answer. It can provide accurate information over a broad range of primary and secondary student ability, including progress over the course of a year. The results from the Early Progress study showed that students made gains in mathematics and reading significantly greater than a virtually matched comparative group of non-PL students. A virtual comparison group of 10,000 students was created using similar demographical criteria and similar entry level MAP scores. Two-thirds of the students in the PL group made statistically positive improvements over their non-PL comparisons. The results of the study show positive and significant results in mathematics and reading scores across all grade levels, although greater improvement occurred in the elementary grades. The study mentions effect size

estimates of 0.41 (mathematics) and 0.29 (reading) are larger than the majority of other rigorous studies of large-scale educational issues. Effect size is a standardized way researchers ensure the impact of an educational strategy that provides a standardized measure for the impact of an intervention. Included in these results was the fact that students with lower starting achievement scores showed higher relative growth rates than those starting with higher achievement scores.

In a follow up study aptly named Continued Progress (BMGF, 2015), the RAND Corporation performed the same study with over 11,000 students at 62 schools, both charter and district schools. This study increased the number of schools used and included non-charter district schools as well as a few rural schools of which both types of schools were absent from the previous study. The Continued Progress study showed similar results to those that occurred in the Early Progress study, in that the majority of schools had positive effects on mathematics and reading performance over the two years of implementation of PL models. After two years of PL implementations, the median scores of the group rose above the national average in both mathematics and reading after starting below the national average before the beginning of the study. The study mentions effect size estimates of 0.27 (mathematics) and 0.19 (reading) when compared to the virtual comparison group utilized in the previous study (BMGF, 2014). A follow-up was also included with the 21 of the schools from the original study (BMGF, 2015). The schools that participated in the follow up study showed continued growth with the treatment effect accumulating over time. While the implementation of PL models was not standardized across all schools, commonality was shown in five strategies emphasized within the study. These five strategies were: the creation of learner profiles,

personal learning paths, competency-based progression, flexible learning environments, and an emphasis on college and career readiness (BMGF, 2014; BMGF, 2015).

In a study mirroring those completed by the RAND Corporation, also partially funded by the Bill and Melinda Gates Foundation, CCSD (2015) studied the effects of a PL model on 23 public schools. These schools consisted of 1,150 teachers and 11,500 students; however, not all teachers or students participated in PL classroom modifications. The majority of the schools involved in the study were from similar demographical backgrounds of the two studies performed by the RAND Corporation (BMGF, 2014; BMGF, 2015). This study utilized the same virtual comparison group from the two previous RAND studies (CCSD, 2015). Because only some of the teachers within the schools were implementing PL in their classrooms and many were on varying levels of implementation, school-wide data regarding MAP scores was inconclusive, but the two year results of the CCSD study showed positive and statistically significant correlation between PL implementation and percentage of students exceeding the virtual comparison group on the MAP tests.

Contrary to the RAND Corporation studies (BMGF, 2014; BMGF, 2015), the CCSD (2015) study did attempt to standardize their implementation of the PL model by designing a model based on the following criteria: student-directed learning, competency-based progression, and flexible learning environments. Schools were provided instructional support and coaching throughout the year, and teachers were rated based on levels of practice and implementation as either low (154 teachers), emerging (146 teachers), or high implementers (133 teachers). Students in elementary reading classes utilizing a PL model showed a 15.4% increase in the number of students who met the

personal growth target from the MAP tests, increasing the total percentage from 69.2% at the start of the year to 84.6% at the end of the year. In elementary mathematics classes utilizing a PL model showed a 7.7% increase in the number of students who met the personal growth targets from the MAP tests, increasing the total percentage from 61.5% at the start of the year to 69.2% at the end of the year. Growth was also shown in middle and high school grades, but because the implementation levels and number of students included in PL classrooms was small, these findings are incomplete. Follow-up studies are planned as the number of middle and high school PL teachers increases. The results of the study show that students of teachers with higher levels of practice and implementation showed higher significant growth on both the mathematics and reading MAP tests; however, all levels of PL practice and implementation showed significant growth higher than the district and national averages.

Student-Centered Learning and Equity

According to the Code of Ethics produced by the National Education Association (2015), teachers must not only have a commitment to the profession; they must have a commitment to the student. In this commitment, teachers are expected to take all actions necessary to ensure the growth and success of all students. Often, these actions involve research and reflections about pedagogical practices, learning styles, etc. If those reflections show a deficiency in the classroom, and research shows that a change in pedagogical practices might improve the success of the students within that classroom, it is the teacher's responsibility to consider this change and how it might impact his or her students. Current research (Anderson & Krathwohl, 2001; Roberson & Woody, 2012) shows that traditional, essentialist pedagogical practices struggle at developing higher-

order thinking skills; however, new research (Charleston County School District [CCSD], 2015; Lent, 2014; Parker et al., 2011; Wery & Thomson, 2013) contends that a student-centered learning approach creates an environment whereby all students have the best opportunity to learn, master the content, and apply that knowledge through the development of various higher-order historical thinking skills. While teachers might shy away from a student-centered model for various reasons, it is their moral responsibility to look into the plausibility of this new approach in their classroom.

While the majority of research focuses on the role of student-centered instruction and/or PL models on overall student success in the classroom, several studies focused on and/or mentioned the effects of these designs on various types of students within the classroom (CCSD, 2015; Lent, 2014; Parker et al., 2011; Wery & Thomson, 2013). These studies often cited the effect that student-centered instruction and/or PL models had on students specifically labelled as "at-risk" or struggling students. In these studies, it was found that student-centered learning has a major impact on the area of social justice because student-centered lessons are geared towards student choice and designed to increase student engagement. Various demographics of the classroom can be positively affected by these lessons. For example, students with learning disabilities are aided by student-centered lessons as the pressure of note-taking or high-stakes testing are reduced and students are able to get more direct interaction with the teacher instead of passive interaction (Wery & Thomson, 2013). Some students from minority groups and/or lower socioeconomic (SES) groups can also benefit from this interaction and the increase of engagement, as student engagement and motivation have been found to be a major deterrent to drop-out and failure rates, something that plagues large numbers of

students from these populations (Lent, 2014). Student-centered lessons and PL models can help all groups not traditionally successful in school, including those not in danger of dropping out or being disengaged, as it gives them an opportunity to be a major part of the class which can help to the lessen disenfranchisement that may be caused by teacher-centered lessons that focus on the interest of teachers, districts, school boards, and/or text book companies with different interests, norms, and experiences (Lent, 2014; Wery & Thomson, 2013).

Conclusion

Progressivism and constructivism are theories of learning that change the focus of learning and instruction from a traditional teacher-centered approach to one that places an emphasis on the students' abilities, interests, and developmental levels (Cohen, 1999; Jones & Brader-Araje, 2002; Larabee, 2005), and these theories provide the basis for the views of the learner-centered ideology (Schiro, 2014), student-centered instruction (Redding, 2014), and PL models (BMGF, 2014; BMGF, 2015; CCSD, 2015). The views of these theories conclude that knowledge is constructed by the learner and built through personal experiences (Larabee, 2005). These experiences allow the student to be actively engaged in the lessons which can lead to increased engagement and motivation (Lent, 2014; Nordgren, 2013; Pink, 2009) and increased development of higher-order thinking (Brookhardt, 2010; Limbach & Waugh, 2014). Because the implementation of a purely learner-centered ideology would be difficult in the content-segregated and currently essentialist-designed high school setting, a PL model that establishes a student-centered approach to teaching and learning specific content could be more appropriate. The literature selected for this literature review was chosen to provide a context for the

problem of practice for this study. This study is part of a broader initiative that has been gaining traction in many districts throughout the United States, specifically within the district of this study's research site. As Waldrip et al. (2014) mentions, "Unfortunately, very few studies have evaluated the nature of the activities implemented as personli[z]ed learning initiatives in schools, or the impact of attempts at personali[z]ed learning on student achievement" (p. 171). While there are studies that address PL in American classrooms, rarely do these studies focus on the impacts of PL in the high school classroom. Because this study will specifically address the impact of the PL model on higher-order thinking in the social studies classroom, this study will make a unique contribution to the field of study regarding student-centered instruction and/or PL models.

CHAPTER THREE: ACTION RESEARCH METHODOLOGY

Personalized learning is a pedagogical practice designed to increase student achievement through a shift from the traditional, teacher-centered, direct-instruction model to a student-centered, PL model focused on meeting students where they are in the learning process and tailoring an individual instructional plan, varying the learning experience to prepare students for life beyond school, and creating an environment that is flexible that allows for student ownership and voice in the learning process (CCSD. 2015). The PL model employed by this action research study was designed around student-directed learning, competency-based progression, and flexible learning environments in an effort to emphasize higher-order thinking skills over that of low-level cognitive recall of traditional content often presented in traditional, essentialist classrooms. This shift in pedagogical practice and focus was designed to address the concern many have of higher-order thinking skill deficiencies and ill-prepared students for 21st century employment and higher education (CCSD, 2015; Pink, 2009; Vogler & Virtue, 2007). Using a quantitative action research design in which two different designs were utilized: a one-shot case study and a one-group pretest-posttest, the teacher-researcher attempted to discover the impact of the PL model on the development of higher-order thinking skills in a CP Sociology class. Chapter Three describes the research site and participants, explains the research methodology and procedure, and discusses the data analysis plan used by the teacher-researcher in this action research study. The following research question helped to guide this study:

What is the impact of a Personalized Learning (PL) model on the development of higher-order thinking skills in a Sociology CP classroom?

Action Research Validity

Action research often does not garner the same respect as traditional research in the realm of academia because it is mostly performed by teachers instead of researchers and is often viewed as less impactful because it is specific to the problems of the researcher and not generalizable to the field as a whole (Mertler, 2014). While educators have become more aware of action research and begun to embrace it as a way to conduct research that is a "more 'manageable' task that brings about results that are more informative and have immediate and direct application" (Mertler, 2014, p. 4), it can be difficult to accomplish successfully. Researchers must take pains to ensure high quality standards when utilizing action research designs.

Research Context

The teacher-researcher's current school, a large, suburban high school in coastal South Carolina, served as the context for this action research study. The teacher-researcher's role within this school is that of a social studies teacher. The teacher-researcher has eleven years of teaching experience across a wide range of social studies content areas, such as World History, Sociology, US History, Civics, Geography, and US Government and has been a member of the social studies department at his school for eight consecutive years. The school operates primarily on a 4x4 block schedule, whereby students attend courses for 90 minutes daily over the course of one semester. Alterations to the schedule include "skinny" courses whereby students attend courses for 45 minutes daily over the course of the year and quarter courses whereby students attend courses for

90 minutes every other day for one semester. The teacher-researcher's course load during the action research study will consist of three courses of CP Sociology, one taught using the traditional 4x4 block schedule (the site of this study) and two taught using the "skinny" schedule, and one course of CP Economics taught using the quarter course schedule.

Research Site

The high school that served as the context for this action research study is a comprehensive school for grades 9-12 and is the only public high school in the city, which with a population of about 79,000 people, has the fourth largest population in the state of South Carolina and boasts a per capita income higher than the national, state, and county incomes respectively (Town of Mount Pleasant, 2016). With an enrollment of 4,054 students, the school is the largest high school in South Carolina (PowerSchool, 2016). The student demographics are 82% White, 11% African America, 3% Hispanic, 2% Asian, 2% two or more races, and less than 1% categorized as other. The school has a graduation rate of 91.5%, with 90.5% of those graduates leaving to pursue some higher education upon graduation (SCDE, 2015) and consistently ranks as one of the top high schools in South Carolina and the southeastern region. The school has a free or reduced lunch population that consists of 24.1% of the total school enrollment (PowerSchool, 2016).

The classroom that will serve as the site for this study is located in an annexed trailer outside of the main school building. The classroom was designed in a way to allow for maximum variety of grouping and flexibility with 32 traditional desks, two large computer desks with individual chairs, and one cushioned reading chair and

ottoman. The classroom is equipped with a smartboard and a 1:1 student-to-Chromebook ratio, allowing for multiple modes of learning interfaces and a considerably paperless environment. The teacher-researcher utilizes Google products such as Google Classroom, Google Docs, Google Forms, Google Slides, and Google Sheets as well as a variety of other digital media as a means to extend the classroom beyond the walls and afford students multiple options for digital content and learning flexibility.

Participants

The participants of this study are 26 students enrolled in the teacher-researcher's first block CP Sociology class during the spring semester of the 2017-18 school year. Prior to the conducting of this study, the teacher-researcher received permission from the school district's Office of Assessment and Evaluation, the school's principal, a parent/guardian of each student, and each individual student (see Appendices A and B). In order to maintain the anonymity and protect the privacy of the student participants, pseudonyms have been used to replace names. All participants in the study were high school students, with four beginning the course as sophomores, twelve as juniors, and ten as seniors. All students have taken at least one previous social studies course, but there is no specific prerequisite for acceptance into the course. Gender and racial demographics are listed in Table 3.1.

Sociology is a social studies elective that attracts students from all ability levels. The school offers only the CP level of the course, and the course is often suggested as a replacement credit for a failed social studies elective, an interesting elective schedule filler, and/or a complimentary pair to the various Psychology courses also offered by the school. With the absence of a traditional honors level course, and its wide variety of

assigned students, the CP course traditionally attracts students of a wide ability level. However, the course chosen to be the site of this study is a lower performing academic sample that does not accurately reflect the achievement levels of the school as a whole. Of the 26 students who became the subjects of this study, only two were ranked in the top 40% of their class and had GPAs greater than 4.0 (4.03 and 4.08 respectively) on the school's weighted GPA scale. Detailed GPA and class rank demographics are listed in Table 3.2. Consistent with the lower GPA and class ranking demographics of the study sample, the level of rigor of previous courses was also below the school average with only one student taking more than seven Honors or AP classes and two taking between five and six Honors and AP courses. Detailed history of previous class rigor demographics are listed in table 3.3.

Table 3.1

Student Gender and Racial Demographics

Total Number of Students	26
Number of Male Students	9
Number of Female Students	17
Number of Caucasian Students (Male in parentheses)	12 (5)
Number of African American Students (Male in parentheses)	11 (3)
Number of Hispanic/Latinx Students (Male in parentheses	1 (0)
Number of Mixed Race Students (Male in Parentheses)	2 (1)

Role of the Researcher

A major difference between action research and traditional research involves the role of the researcher. In action research, the researcher takes an active approach to

finding a solution to a problem specific to his or her classroom, department, school, or district instead of trying to address a phenomenon that might impact education on a larger scale (Dana & Yendol-Hoppy, 2014; Mertler, 2014). Because it is designed to address a problem specific to a classroom, school, district, etc., and because it is often performed in a school setting where random sampling is impossible, action research cannot use the same quality standards as traditional research. The quality standards used by action research fall under the term "rigor" which is defined as the "quality, validity, accuracy, and credibility of action research" (Mertler, 2014, p. 27). Rigor, in a quantitative study such as this action research study, is accomplished by ensuring that the instruments, data, and findings are accurate, applicable to the problem, and without bias on the part of the researcher.

Table 3.2

Student GPA and Class Rank

Total Number of Students	26
Number of Students in the Bottom Quartile of Class Rank	15
Number of Students in the Third Quartile of Class Rank	9
Number of Students in the Second Quartile of Class Rank	2
Number of Students in the Top Quartile of Class Rank	0
Number of Students with GPA < 1.99	3
Number of Students with GPA between 2.0 – 2.9	12
Number of Students with GPA between 3.0 – 3.9	9
Number of Students with GPA > 4.0	2

In this action research study, the role of the researcher was that of the teacher-researcher. He actively participated in the design and delivery of the new pedagogical practices and assessments and collected and analyzed the data on his student-participants in an attempt to solve the problem of higher-order thinking skill development deficiencies in his CP Sociology classroom. This insider role allowed the teacher-researcher to gain valuable information regarding the study's effects on his students and, with adequate reflection before, during, and after the study, the teacher-researcher will be able to create a plan for professional growth and development for future courses.

Table 3.3

Student Previous Course Rigor

Total Number of Students	26
Number of Students with 7+ previous Honors or AP Classes	1
Number of Students with 5-6 previous Honors or AP Classes	2
Number of Students with 3-4 previous Honors or AP Classes	2
Number of Students with 1-2 previous Honors or AP Classes	4
Number of Students with 0 previous Honors or AP Classes	17

Since the teacher-researcher was an active participant in this study, he took great pains to address any rigor or ethical concerns regarding the participants and the study results. The teacher-researcher took an active role in creating an environment conducive to a study that was free from bias and/or rigor concerns through an attempt to utilize data collection tools that were independently generated and/or created in a format the students were familiar with and by ensuring the students that no dissertation data would impact their standing and/or score in the class. By utilizing the Critical Thinking Basic Concepts

and Understandings Online Test, the teacher-researcher eliminated any test bias that might have existed due to the use of a teacher-generated test. As a secondary attempt at eliminating any instrument bias, the teacher-researcher utilized Google Forms and Google Documents as the tools for student surveys and self-reflection. As the students utilized these tools in many other classes and consistently throughout their CP Sociology class, the teacher-researcher hoped to eliminate any bias or rigor concerns with regard to the data collection tools.

As this DP is to be presented to an outside organization and may be published, the teacher-researcher exhausted all means necessary to maintain the privacy and anonymity of his student-participants. In an effort to guarantee the anonymity of the student-participants, they were assigned a pseudonym that was used as a replacement for their name in all points in the study. The teacher-researcher complied with any and all procedures outlined by the CCSD Procedures for Conducting Research (CCSD, n.d.). According to this policy, all research must be approved by the Research Review Committee. The teacher-researcher was required to submit a research proposal along with a research summary. This proposal and summary included information on how and why data will be collected, how and why schools/students will be chosen, a list of materials and information involved in the study, a general outline of the research plan, and an informed consent form for all student-participants. On the informed consent form, student-participants must be made aware that the research is not sponsored by the school or district, that they have a choice on whether or not to participate in the study and can withdraw at any time, and that no penalty can be given for those choosing not to participate or withdraw from the research at any time. However, since this action

research plan is testing new curricular strategies within the current CP Sociology course, removal or refusal to participate in the study will only apply to inclusion of said student-participant's data in the study, not in their ability to remove themselves from the curricular content or pedagogical design

Lastly, it was the goal of the teacher-researcher to uphold his responsibility to provide a rigorous curriculum designed around national and district standards with the goal to provide the best quality education possible to each of his students. With this in mind, all student-participants received lessons designed around the American Sociological Association's (ASA) National Standards for High School Sociology (see Appendix C) that are intended to promote sociological competency and understanding (ASA, 2015). All student-participants were assessed through the same content, assignments, and pre- and posttest assessments, and all lessons attempted to create an environment whereby all students could be successful. Since this action research study was intended to discover the impact of a new pedagogical practice on the development of higher-order thinking skills, there were no ethical concerns regarding whether the student-participants will be placed in a rigorous or hostile academic environment.

Research Methods

To quantify the viability of PL as a pedagogy designed to promoted higher-order thinking, the teacher-researcher instituted an action research design in which the three domains of higher-order thinking, transfer, critical thinking, and problem-solving, explained by Brookhardt (2010) would be assessed. This study utilized a quantitative action research design in which two different designs were utilized: a one-shot case study and a one-group pretest-posttest. According to Mertler (2014), a one-shot case study is a

pre-experimental design in which a treatment that is expected to affect change in a group of subjects is applied and then measured at a single point in time. A one-group pretest-posttest design is a pre-experimental design where subjects are measured both before and after a treatment has been applied (Mertler, 2014). An action research design utilizing two different quantitative designs was appropriate to answer the problem of practice because the study was attempting to quantify the viability of a pedagogical design on higher-order thinking growth and development. Because the measurement of higher-order thinking skills is not easily quantified by a single test, multiple data points were utilized. Collecting quantitative data in multiple formats allowed the researcher to gather data that complements other data, offers richer insights, and garners results that highlight greater areas for future possible research (Caruth, 2013).

For the one-shot case study, quantitative data was collected via proficiency and/or mastery scores on individual authentic, alternative assessments/assignments assessed at the two highest levels of Bloom's Revised Taxonomy: Create and Evaluate (Anderson & Krathwohl, 2001) to test the development of both the transfer and problem-solving domains of higher-order thinking. As transfer is shown through a student's ability to think or apply knowledge and skills to new contexts and apply this knowledge in new ways and problem-solving is shown through a student's ability to find new solutions to complex problems (Brookhardt, 2010) and both are difficult to assess on traditional multiple-choice test (Brookhardt, 2010; Gulikers et al., 2004), the teacher-researcher used assessments/assignments that required students to create authentic, alternative assignments, assessments, projects, etc. with little-to-no instruction and/or direction. As students would need to create an assignment, assessment, and/or project on their own

without specific directions and/or rubrics and these assignments would require students to apply previous knowledge to new contexts, the teacher-researcher determined the skills necessary to complete such a task to fall under the scope of transfer and problem-solving and used the students' proficiency levels on accomplishing the assessments/assignment learning targets as evidence of transfer and problem-solving proficiency. The teacher-researcher assigned and assessed two assignments during Unit 2 and one assignment in both Unit 3 and 4 to be used to determine the number of students who reached proficiency after the introduction of the three tenants of PL. While a one-shot case study is traditionally measured at a single point in time (Mertler, 2014), the teacher-researcher opted to measure the students during Unit 2 in an effort to determine their baseline level of proficiency in the skills of transfer and problem-solving and offered flexibility in measurement times to account for individualized pacing and student's possible delayed experiences with the student-directed learning tenant not fully introduced until Unit 3.

In Unit 2, these assignments consisted of an authentic formative assessment and an alternative assessment (labeled a project) describing how the student relates, conforms, and deviates from American culture (see Appendix J). In the formative assessment, students were tasked with creating a formative assessment in the style of their choosing that assessed the content of the unit at a level of learning beyond that of the bottom two levels of Bloom's Revised Taxonomy (Anderson and Krathwohl, 2001). Students were given a copy of Bloom's Revised Taxonomy and were told they needed to cover specific content, provide an answer key or rubric, and provide rationalization for the assessment design, content, and level of learning but were given no specific instructions as to the format of the assessment, number of questions, etc. as a means of

requiring students to problem-solve and transfer their knowledge. In the culture project assignment, students were tasked with describing how the student relates, conforms, and deviates from American culture. The students were given instruction as to the general content and purpose of the assignment as well as the proficiency levels required for the learning target but were given no direction as to the format, length, etc. of the project.

Units 3 and 4 differed as they fully introduced the student-directed learning tenant of PL. This unit's design was fully student-directed which consisted of no teacher-designed assignments but did utilize traditional formative and summative assessments similar to those of the first and second units but placing greater emphasis on higher level questioning. Students were given the learning targets and sub-targets as well as descriptions of what was necessary to establish competency and proficiency levels for each of the sub-targets (see Appendix D). Students were directed to design their own assessments and lessons showing their level of competency and proficiency and were offered multiple individual planning meetings with the teacher-researcher. At the culmination of Unit 3 and again in Unit 4, students were assessed for proficiency in the transfer and problem-solving domains of higher-order thinking through the completion of authentic assessments/assignments regarding the learning targets and sub-targets. As students were given control of how these assessments/assignments were completed, and it was extremely difficult to address all learning targets and sub-targets with a single assessment, proficiency was determined by the student's overall average score of the proficiency levels of all learning targets. Students scoring and average of 3 (proficient) or 4 (mastery) were considered to be proficient.

For the one-group pretest-posttest method, quantitative data was collected via the Critical Thinking Basic Concepts and Understandings Online Test in order to test the development of the critical thinking domain of higher-order thinking. The Critical Thinking Basic Concepts and Understandings Online Test, developed by Dr. Linda Elder, Dr. Richard Paul, and Dr. Rush Cosgrove, is a comprehensive and foundational critical thinking concepts and principles test based on the substantive approach to critical thinking (Paul & Elder, 2007). This test focuses on the five essential dimensions of critical thinking: analysis of though, assessment of thought, dispositions of thought, skills and abilities of thought, and obstacles or barriers to critical thought. While many online critical thinking tests are available, most either assess concepts of critical thinking, which can be reduced to tests assessing formal and informal logic, or they assess psychological processes such as those found in Bloom's Taxonomy, which can assess abilities but may lay intellectual standards such as accuracy, clarity, etc. However, the tests developed by the Foundation for Critical Thinking, such as the test used in this study, assess the elements of thought as a whole (Paul & Elder, 2007).

The Critical Thinking Basic Concepts and Understandings Online Test attempts to measure the participant's level of understanding with regard to the fundamental concepts of critical thinking (Paul & Elder, 2007). However, the teacher-researcher chose only to focus on the Basic Critical Thinking Insight and Obstacles to Critical Thinking domains of the Critical Thinking Basic Concepts and Understandings Online Test as well as the Adjusted Raw Score calculated from the means of the two used domains because he felt the three remaining domains, Element of Thought, Intellectual Trait/Virtue, and Intellectual Standard, reflected more of a student's recognition of specific terminology

and/or categorization of a trait or ability. For the Intellectual Trait/Virtue domain, 12 of the 14 questions merely required students to correctly categorize a word or phrase as an "ability" or "trait" but also had options such as "element," "standard," "obstacle," and "none of the above." While the Element of Thought and Intellectual Standard domains consisted of greater numbers, 37 and 29 respectively, six of the Element of Thought questions and five of the Intellectual Standards questions were also questions in which students were required to correctly categorize a term with the same options offered for the Intellectual Ability/Trait questions. These two domains consisted of questions pertaining to terminology as well with the Elements of Thought domain covering terminology such as implications, inferences, assumptions, point of view, and questioning and the Intellectual Standard covering terminology such as projection, precision, depth, relevance, and clarity.

The Obstacles to Critical Thinking domain of the test consisted of 14 questions, 11 of which were questions in which students were asked to identify characteristics that would prevent a person from thinking critically. Examples of these characteristics include: self-deception, egocentric thinking, prejudice in thinking, distrust in reason, hypocrisy, and bias in thinking. The Basic Critical Thinking Insight domain of the test consisted of 25 questions. These questions required students to recognize general statements and understandings about critical thinking, which the teacher-researcher felt would be developed by the students on their own as they became more reflective learners and more practiced with critical thinking. Questions such as "Why do critical thinkers often ask analytical questions," "Why do critical thinkers assess their thinking," and "When is it important to clarify thinking?" were included in this domain.

During the 10-day introductory unit, the students were introduced to the Critical Thinking Basic Concepts and Understandings Online Test in an effort to establish baseline data for the one-group pretest-posttest method. The teacher-researcher purchased the online version of the test, which allows for students to take the test up to eight times over the course of four years. The teacher-researcher spent one class period guiding students through the test registration process as well as introducing them to the format, purpose, and importance of the test. The students then scheduled which day they would take the test in class on the school-provided Chromebook. Over the following week, all student completed the pretest of the Critical Thinking Basic Concepts and Understandings Online Test, were provided their scores, and met with the teacher-researcher to discuss their scores.

During the final 10 days of the course, the students were assessed with the same Critical Thinking Basic Concepts and Understandings Online Test to serve as the posttest assessment to determine possible development within the critical thinking domain of higher-order thinking. Again, the teacher-researcher dedicated a full class period to reintroducing the students to the registration/login process and to the format, purpose, and importance of the test. The students went through the same procedures from the pre-test of scheduling their test day and taking the test in class on the school-provided Chromebook. Over the following week, all student completed the pretest of the Critical Thinking Basic Concepts and Understandings Online Test, were provided their scores, and met with the teacher-researcher to discuss their scores on the posttest and the comparison of their scores.

Lastly, because the effort of the student and the pace with which he or she moved through the units could have dramatic impacts on the success of both the one-shot case study and the one-group pretest-posttest, the teacher-researcher opted to analyze quantitative data via student reflections and surveys, student participation levels, and teacher-researchers notes to determine student effort levels and student summative assessment completion dates to determine pacing levels. As effort is difficult to determine and easily influenced by simple personal or observer bias, and a variety of reasons not related to effort could prevent students from completing assignments, student effort levels were determined utilizing a three-part rubric consisting of student perceptions of effort levels, assignment completion percentages, and teacher-researcher observations of effort levels. Student pacing levels were determined via simple calculations of summative assessment completion dates analyzed in comparison with pre-determined class pacing dates. Results from the effort and pacing data would be combined and sub-categorized.

Procedure

The CP Sociology course that served as the site for this study was designed using the ASA National High School Sociology Standards which divides the course into four domains, hereto referred to as units (see Appendix C). As PL is a new and relatively misunderstood pedagogical design that shifts dramatically from the traditional, essentialist classrooms in which the students of this study have become accustomed, the teacher-researcher was aware that students would not be familiar, experienced, and or comfortable with this shift towards the flexible learning environments, competency-based progression, and student-directed learning tenants of PL. In an effort to offer a gradual

shift towards the three tenants and create an environment more conducive to PL, the teacher-researcher began the course with a 10-day introductory unit designed to familiarize the students with the terminology of PL, create an environment of collaboration, interaction, and reflection, and establish a feeling of trust between the students and the teacher-researcher. The teacher-researcher also opted to gradually introduce the three major tenants of PL over the first three instructional units, beginning first with flexible learning environments and competency-based progression and slowing integrating student-directed learning. An overview of the units, description of the timeline of PL tenant introduction, and explanation of the manifestations of these tenants in each unit is explained below.

Students were introduced to the course, the study, and the PL pedagogy during a 10-day introductory lesson emphasizing classroom culture, policies and procedures, PL design, study intents and purposes, and collection of baseline data. Because PL is a new and often misinterpreted pedagogical design (it has been used to define several different pedagogical styles at the teacher-researcher's school and none meet the same standards of PL utilized in this study), the teacher-researcher felt the need to utilize valuable classroom time to establish a culture conducive to PL and to familiarize the students with the expectations of the course and the study and begin the process of shifting them away from the essentialist designed classroom in which they are so ingrained. During the 10-day introductory unit, the teacher-researcher designed activities, lessons, lectures, and assignments that pushed students to become more familiar with the flexibility of the PL environment, the shift towards competency-based progression, and the inclusion of the student as the center of the learning process. Varied grouping strategies were utilized to

encourage students to be more flexible in their seating arrangements, activities were introduced that required students to move around the room throughout the class period, and students were required to reflect on information they learned and encouraged to apply the information to new contexts during introductory activities. Students were provided basic outlines for many activities and required to complete the design and/or direction of the activity in a way unique to their talents, interests, or ideas. Students were required to fully complete assignments before turning them in and were given extra time to do so as a way to reinforce the ideas of self-pacing and competency-based progression, and lastly, students were required to actively participate in discussions, meetings with the teacher-researcher, and in group activities to familiarize themselves with the process of taking ownership of their learning.

The 10-day introductory unit also served the purpose of familiarizing the students with the variety of technology to be used in the study (i.e. Chromebooks, Google Documents, Slides, Sheets, Forms, Sites, and Classroom) and collecting baseline data regarding demographics, academic performance, and academic rigor levels of the students. Baseline data for the one-group pretest-posttest method was also collected from the student-participants during this introductory unit using the Critical Thinking Basic Concepts and Understandings Online Test.

Upon completion of the introductory unit, the students were then slowly introduced to the PL model employed by this study, beginning first with the flexible learning environments and competency-based progression tenants in Units 1 and 2. The teacher-researcher chose to introduce the flexible learning environments and competency-based progression tenants first because he felt they were the easiest for the

student-participant to understand, and they serve as the foundation for PL instruction (i.e. meeting the student where they are, progressing through the course as a pace conducive to their ability, and assessing and progressing students based on evidence of competency acquisition).

The teacher-researcher introduced the flexible learning environments primarily through the arrangement of the classroom furniture, the variety of learning options, and the flexible pacing opportunities. With the classroom furniture arranged in multiple learning zones, students were encouraged to sit in areas most conducive to their learning preferences. As the units progressed, students were encouraged to move to different learning zones to receive and offer help from/to other students and/or were required to move when activities required specific grouping. Activities within the plan of the first two units consisted primarily of teacher-designed components (vocabulary sheets, videos, short discussions/lectures, and formative and summative assessments in the form of traditional multiple choice quizzes and tests) and were completed at a pace determined by the teacher and the student with an emphasis on competency over completion. However, students were provided multiple options for learning, including traditional teacher-directed mini-lectures, technology-based learning opportunities such as videos and webquests but were also given the opportunity to create and/or alter any assignments and/or retrieve information in the format they desired. Students were provided with data trackers during the first two units (see Appendix E for a sample data tracker) and were required to present completed data trackers to the teacher-researcher before completing the formative and summative assessments.

The teacher-researcher introduced the competency-based progression tenant of PL primarily though individual data tracking and meetings, formative assessment retakes and re-teaching activities, and summative assessments given only when the student is ready, as determined by the teacher-researcher and the student. Throughout each unit, the student-participants were encouraged to track their own progress through the use of a data tracker (see Appendix E). The students also met with the teacher-researcher periodically to develop individualized plans of completion and receive weekly check-ups to ensure the plan was being followed and remained appropriate based on learning and pacing levels. Each unit consisted of multiple components with each component aligned with a multiple choice formative assessment designed to gauge each students' competency of the content. Students were permitted to retake/resubmit assignments and/or formative assessments as needed as a further emphasis on competency-based progression but were required to complete a re-teaching activity prior to the retakes. Designs for these re-teaching activities included, but were not limited to: worksheets, mini-lectures, discussions, etc. Many re-teaching activities were teacher-designed, but students had the opportunity to design their own based on their preferences and/or needs. Upon completion of all formative assessments and with acceptable competency levels on all learning targets, students progressed to a traditional summative assessment for each unit that consisted of matching, multiple choice, and short answer questions covering content from the learning targets of the unit with questions from varying levels of Bloom's Revised Taxonomy (Anderson & Krathwohl, 2001). Students were not permitted to retake summative assessments, however, they were permitted to receive partial recovery credit from missed items on the summative assessment if they wrote

descriptive explanations for why they missed a question and/or why the new answer was correct.

During the second instructional unit, the students were also introduced to various self-assessment techniques as a way to better prepare them for the student-directed tenant that would be introduced with the third instructional unit. In Unit 2, these assignments consisted of an authentic formative assessment and an alternative assessment (labeled a project) describing how the student relates, conforms, and deviates from American culture (see Appendix J). In the formative assessment, students were tasked with creating a formative assessment in the style of their choosing that assessed the content of the unit at a level of learning beyond that of the bottom two levels of Bloom's Revised Taxonomy (Anderson and Krathwohl, 2001). Students were given a copy of Bloom's Revised Taxonomy and were told they needed to cover specific content, provide an answer key or rubric, and provide rationalization for the assessment design, content, and level of learning but were given no specific instructions as to the format of the assessment, number of questions, etc. as a means of requiring students to problem-solve and transfer their knowledge. In the culture project assignment, students were tasked with describing how the student relates, conforms, and deviates from American culture. The students were given instruction as to the general content and purpose of the assignment as well as the proficiency levels required for the learning target but were given no direction as to the format, length, etc. of the project. These individual, authentic assessments/assignments were collected and scored as baseline information to be used in the analysis of the one-shot case study assessing student proficiency levels in the transfer and problem-solving domains of higher-order thinking.

Beginning with the third instructional unit, the teacher-researcher implemented a PL design that addressed all three tenants: flexible learning environments, competency-based progression, and student-directed learning. This design was fully student-directed which consisted of no teacher-designed assignments. The unit did utilize traditional formative and summative assessments similar to those of the first and second units but placed greater emphasis on higher level questioning, eliminating any matching and/or definition-based assessment questions. Students were given the learning targets and sub-targets as well as descriptions of what was necessary to establish competency and proficiency levels for each of the sub-targets (see Appendix D). While direct-instruction was still provided regarding the content of the learning targets and sub-targets by the teacher-researcher in the form of mini-lectures, discussions, videos, etc., students were directed to design individual, authentic assessments/assignments showing their level of competency and proficiency and were offered multiple individual planning meetings with the teacher-researcher. These individual, authentic assessments/assignments were collected and scored as part of the one-shot case study to assess student proficiency levels in the transfer and problem-solving domains of higher-order thinking. Students were permitted to attempt the formative assessments when they determined they were prepared and, upon receipt of a passing score on each formative assessment, were permitted to take the summative assessment for the unit. Students were given the freedom to design and execute the learning targets and sub-targets in a way unique to themselves but were required to present their plan to the teacher-researcher prior to completion.

The design of the fourth instruction unit was similar to that of the third in that it encompassed all three tenants of PL, was fully student-directed through the use of

individual, authentic assessments/assignments based on unit learning targets and sub-targets, and collected and scored the individual, authentic assessments/assignments for proficiency in the transfer and problem-solving domains of higher-order thinking. The fourth instructional unit differed from that of previous units as it did not have traditional formative and summative assessments. For Unit 4, the learning targets and sub-targets were assessed as both classwork grades and summative assessment grades, and no formative assessment grades were collected due to time constraints of an ending school year. The students progressed through the unit in a similar fashion to Unit 3, utilizing some direct-instruction content delivery and completion of individual, authentic assessments/assignments based on the provided learning targets and sub-targets. Upon completion of Unit 4, the students completed a posttest again using the Critical Thinking Basic Concepts and Understandings Online Test.

Data Analysis

Data collected from the one-shot case study was analyzed at multiple points in the one-shot case study. Baseline proficiency levels were initially gathered via authentic assessments/assignments in Unit 2. Proficiency growth levels were gathered via authentic assignments in Units 3 and 4. Simple proficiency and/or mastery level rankings on the authentic assessments/assignments were recorded based on proficiency rubrics, with a 1 representing insufficient evidence of proficiency, 2 representing emerging proficiency, 3 representing proficiency, and 4 representing mastery. Proficiency achievement was calculated for individual students, the class as a whole, and within each sub-category. These proficiency calculations provide information used to determine the

viability of a PL as a pedagogy that can develop skills within the problem-solving and transfer domains of higher order thinking skills.

Data collected from the one-group pretest-posttest was analyzed through traditional statistical analysis. Descriptive statistics of mean, median, and range were calculated for individual students, the class as a whole, and within each sub-category on both the pre-and posttest via the Critical Thinking Basic Concepts and Understandings Online Test, focusing on the Basic Critical Thinking Insight and Obstacles to Critical Thinking domains of the test as well as the Adjusted Raw Score calculated via the mean of the two test domains. Gains for each student, the class as a whole, and within each sub-category was also calculated in each domain and the Adjusted Raw Score through simple subtraction of the pretest percentage from the posttest percentage. An analysis of this data provided quality information regarding individual student, class, and sub-category critical thinking growth that will be used to determine the viability of a PL as a pedagogy that can develop skills within the problem-solving and transfer domains of higher order thinking skills.

Data collected regarding student effort and pacing levels was analyzed using a three-point rubric for effort levels and a simple calculation of summative assessment completion for pacing levels to categorize the students into four distinct sub-categories: On-Pace/High Effort (On/High), On-Pace/Low Effort (On/Low), Off-Pace/High Effort (Off/High), and Off-Pace/Low Effort (OFF/Low). The three-point rubric consisted of student responses to reflections and surveys in which they were asked to self-labeled as Low or High Effort, completion percentages of class assignments in which 80% completion was used as the cutoff between Low or High Effort, and teacher-researcher

observations and notes in which the teacher-researcher categorized students in one of four categories: very hard working (VHW), works relatively hard (HW), works only hard enough to get by (CW), and not hard working (NHW). Students were determined to be of Low Effort by receiving Low Effort scores in two of the three points of the rubric. To determine pacing levels, student completion dates on the Unit 2 and Unit 3 summative assessment were compared with the dates of the pre-determined class pace summative assessment dates. Students determined to have taken the Unit 2 summative assessment at least one week later than the pre-determined summative assessment date would be labeled as Off-Pace. Student completion dates for the Unit 3 summative assessment were also analyzed to determine the consistency of student pacing levels. An analysis of this data provided the teacher-researcher with distinct sub-categories with which to further analyze the data from both the one-shot case study and the one-group pretest-posttest.

Plan for Reflecting with Participants on Data

Prior to the start of course content, the teacher-researcher spent 10 total class periods building trust and establishing a class culture that would better create an environment conducive for PL. The teacher-researcher thoroughly explained the experiment, participation guidelines, and purpose for the study. During those 10 total class periods, students were introduced to various policies, standard operating procedures, expectations for class participation, and an exhaustive explanation of PL in an attempt to address any bias the students have from negative experiences or views they might have regarding PL. As PL requires students to be at the forefront of the learning process and students are often inexperienced in this pedagogical model and culture, specific activities were introduced to familiarize students with student-led activities and

learning (see Appendix F). Throughout the 10 days, and throughout each instructional unit, the teacher-researcher emphasized competency over completion while students progressed through the unites at their own pace and were offered voice and choice in their learning and assignment/assessment process as a means of introducing major facets of the PL design..

Plan for Revising an Action Plan

For this study, the teacher-researcher identified a PL pedagogy and a CP Sociology course as the areas of focus and created a preliminary data collection plan based on previous literature, classroom experiences, and district pedagogical directions and trends. The teacher-researcher spent the 2016-17 school year familiarizing himself with the pedagogical practices and ideas of PL, experimenting with various designs, and crafting units utilizing the Sociology standards provided by the teacher-researcher's school district. During the fall semester of the 2017-18 school year, the teacher-researcher implemented a preliminary curricular plan based on a PL pedagogy and district standards to determine if the unit sequence and course calendar were conducive to the learning targets and the study calendar. Upon completion of the fall semester, the teacher-researcher determined that a shift in unit design and towards the National Standards for High School Sociology (ASA, 2015) was necessary in order to allow for a 10-day introductory unit designed solely to introduce students to the student-centric PL model and to adequately cover course content (see Appendix F).

Summary and Conclusion

The purpose of this action research study was to determine the impact of a PL model on the development of higher-order thinking skills in a CP Sociology classroom.

The teacher-researcher addressed this concern by implementing a PL pedagogical model based on flexible learning environments, competency-based progression, and student-directed learning on a group of 26 CP Sociology students in a class on his course load. The teacher-researcher utilized a quantitative action research design whereby he collected multiple forms of quantitative data in order to determine the validity of a PL pedagogy on the development of the three domains of higher-order thinking skills: transfer, critical thinking, and problem-solving (Brookhardt, 2010). Descriptive statistics of mean, median, and range on the Critical Thinking Basic Concepts and Understandings Online Test as well as simple statistical analysis of student growth on the one-shot case study assignments was analyzed and subdivided through the use of the quantitative data regarding pacing and effort levels to determine the effect of the PL model on the development of higher-order thinking skills. In the next chapter, this data was used to analyze the impact of the PL model on the development of higher-order thinking skills.

CHAPTER FOUR: FINDINGS AND RESULTS

This study utilized an action research design in an attempt to improve the development of higher-order thinking skills in the teacher-researcher's CP Sociology class. The identified problem of practice for this study was the failing of essentialist pedagogical strategies in the social studies classroom that focused on traditional, teacher-centered models in the development of higher-order thinking skills. To address this problem of practice, the teacher-researcher incorporated a PL pedagogical model centered on three major tenants: student-driven instruction, competency-based progression, and flexible learning environments, in a CP Sociology classroom during the spring semester of the 2017-18 school year. To quantify the viability of PL as a higher-order thinking developer, the teacher-researcher instituted a quantitative action research design utilizing a one-shot case study and a one-group pretest-posttest method in which the three domains of higher-order thinking, transfer, critical thinking, and problem-solving, explained by Brookhardt (2010) would be assessed. Quantitative data was collected via scores and proficiency levels on authentic, student-directed assessments/assignments to test the development of both the transfer and problem-solving domains of higher-order thinking and via the Critical Thinking Basic Concepts and Understandings Online Test, focusing on the Basic Critical Thinking Insight and Obstacles to Critical Thinking domains as well as the Adjusted Raw Score calculated from the mean of these two domains, to test the development of the critical thinking domain of higher-order thinking. In addition, quantitative data was collected via teacher-

researcher notes and observations, student reflections, and student surveys regarding pacing and effort levels as a means to subdivide the study and offer further explanation and examination. This data provides useful information about the viability of the PL model in regards to higher-order thinking growth. The collection of information from the data, statistics, tables, figures, and graphs of the multiple quantitative action research designs supports the discussion, implications, and recommendations in Chapter 5, leading to a determination of the viability of the PL model as a means to develop higher-order thinking skills in the social studies classroom.

Findings of the Study

As this study incorporates both a one-shot case study measuring transfer and problem-solving proficiency and a one-group pretest-posttest method measuring critical thinking growth that occurred over a full semester with pedagogical practices that varied as the course progressed, the teacher-researcher chose to discuss the findings and results of each of the studies in chronological order broken into three sub-sections of the study: the 10-day introductory unit, Units 1 and 2, and Units 3 and 4. Because PL is a pedagogical design that places the student in the center of the learning and allows for students to progress through the units and learning targets at a pace conducive to their ability and comprehension levels, the teacher-researcher also accounted for the pacing and effort levels of the students and divided the students into distinct sub-categories. The findings from the data regarding the sub-categories will be included in the sub-sections from which the data was collected. Further comparisons and analysis for each of the methods as well as the pacing and effort level sub-categorization will be shown in the interpretation of data section.

Ten-Day Introductory Unit

During the 10-day introductory unit, the students were introduced to the many facets of the course and the study in which they would participate, emphasizing classroom culture, PL design, study intents and purposes, the co-development of classroom policies and procedures, and the collection of baseline data. As PL is a new and relatively misunderstood pedagogical design that shifts dramatically from the traditional, essentialist classrooms in which the students of this study have become accustomed, the teacher-researcher was aware that students would be less familiar, experienced, and or comfortable with this shift towards the flexible learning environments, competency-based progression, and student-directed learning tenants of PL. In an effort to address this and establish a classroom culture that would be more conducive to the three tenants of PL, students participated in activities in which they were required to interact and collaborate with the class in large and small groups, developed classroom policies and procedures unique to their class, and debate/discuss controversial topics (see Appendix F).

The teacher-researcher also began introducing students to the flexible learning environments tenant of PL. By designing the classroom with multiple learning zones consisting of unique groupings of tables, a variety of seating furniture, and access to multiple learning options and by discouraging traditional restrictive seating charts, the teacher-researcher attempted to create an environment in which the students felt comfortable moving throughout the class and choosing seating options that best suits their daily needs. Students were also provided with options in how they presented information and/or completed assignments and activities, were introduced to Google

Classroom and other Google products used throughout the course as the learning platforms to provide digital learning access, and offered flexible due dates to reiterate the self-pacing components of the flexible learning environments tenant.

The teacher-researcher utilized this unit not only to familiarize the students with the course, PL design, and study expectations but also to obtain baseline data regarding demographics, student perceptions and reflections of strengths and weaknesses, student reflections and perceptions of PL that might have developed due to previous experiences with classes experimenting with a PL pedagogy, and critical thinking skills. To collect baseline demographic data, the students completed an introductory survey designed to provide the demographic information regarding their year in school, race, and gender, student reflection and perception information regarding strengths, weaknesses, familiarity with personalized learning, and feelings towards personalized learning, and academic performance indicators such as GPA, number of honors classes taken, and class rank (see Appendix G). This data was corroborated by the teacher-researcher through the Powerschool system used by the school when deemed necessary for accuracy.

Of the 26 students who became the subjects of this study, nine students identified as male while 17 identified as female. Twelve of the 26 students identified as Caucasian, 11 identified as African American, one identified as Hispanic, and two identified as mixed race. Only two of the 26 students were ranked in the top 40% of their class and had GPAs greater than 4.0 (4.03 and 4.08 respectively) on the school's weighted GPA scale. Consistent with the lower GPA and class ranking demographics of the study sample, the level of rigor of previous courses was also below the school average with

only one student taking more than seven Honors or AP classes and two taking between five and six Honors and AP courses.

In an effort to establish the effort level of the students of the study, the teacher-researcher surveyed the students regarding their biggest strengths and weaknesses. The results of this survey show that 22 of the 26 students surveyed at the start of the course listed "lack of effort," "lack of a desire to learn," and/or "lack of desire to succeed" as their greatest weaknesses (students were given the opportunity to choose more than one option). Further explanation of the student self-reflection on effort can be seen in table 4.1.

Table 4.1

Student Effort Self-Reflection

Low Effort Indicator	Number of Students	Percentage of Class
Lack of Effort	16	62%
Lack of Desire to Learn	5	19%
Lack of Desire to Succeed	3	12%
Total With Low Effort Indicator	22	85%

The teacher-researcher included each of these answer options as indicators of student self-identification as Low Effort. These self-reporting survey questions will be added to a rubric that will be used to determine each student's effort level in which students labeled as Low Effort on two of the three criteria will be deemed as Low Effort for the purposes of this study (see Appendix H for the overall student sub-categorization breakdown).

Lastly, the students were introduced to the Critical Thinking Basic Concepts and Understandings Online Test in an effort to establish baseline data for the one-group pretest-posttest method. This test attempts to measure the participant's level of understanding with regard to the fundamental concepts of critical thinking (Paul & Elder, 2007). However, because three of the test domains, Element Part of Though, Intellect Standard, and Intellect Trait/Virtue, were assessed with questions that would require the students to be taught and understand various critical thinking terminology and/or categorization of test-specific terms (Paul & Nosich, 2015), the teacher-researcher opted to focus solely on the scores within the domains of Basic Critical Thinking Insight and Obstacles to Critical Thinking as well as the Adjusted Raw Score to determine their critical thinking growth. The scores on the two test domains represent a percentage of questions answer correctly from that domain on the test while the Adjusted Raw Score consists of the mean of the scores on the two domains. The Basic Critical Thinking Insight domain of the test consisted of 25 multiple choice and true/false questions in which the students were assessed on general statements and understandings about critical thinking while the Obstacles to Critical Thinking domain consisted of 14 matching and multiple choice questions in which students were assessed on their recognition of terminology or beliefs that would prevent critical thinking.

A total of 26 students were administered the baseline Critical Thinking Basic Concepts and Understandings Online Test. Using the Adjusted Raw Score, Basic Critical Thinking Insight, and Obstacle to Critical Thinking domains of the test, the teacher-researcher calculated the mean, median, and range of each. The mean of the Adjusted Raw Score on the pretest was 38.36 with a median of 37.00 and a range of 49.00. The

mean of the Basic Critical Thinking Insight on the pretest was 48.70 with a median of 50.00 and a range of 38.00. Finally, the mean of the Obstacle to Critical Thinking on the pretest was 27.73 with a median of 25.00 and a range of 86.00. Further examination of the mean, median, and range of the baseline scores on the Average Raw Score and the two Critical Thinking Domains can be seen in table 4.2.

Table 4.2

Critical Thinking Baseline Mean, Median, and Range Scores

Domain	Pretest Mean	Pretest Median	Pretest Range
Adjusted Raw Score	38.36	37.00	49.00
Basic Critical Thinking Insight	48.70	50.00	38.00
Obstacle to Critical Thinking	27.73	25.00	86.00

Units 1 and 2

During Units 1 and 2, the students were introduced to the subject of sociology, the Sociological Perspective, and the Methods of Inquiry used by sociologists as well as the role of society, its structure, and its relationship to Sociology. All lessons of Unit 1 were teacher-designed, consisting of mini-lectures, journal self-reflections, group activities, content-specific assignments (labeled "exit passes"), and traditional formative and summative assessments (see Appendix I for the Unit 1 Plan and Sequence). The design of Unit 2 followed that of Unit 1, consisting primarily of teacher-designed lessons and activities; however, the teacher-researcher encouraged students to substitute authentic assignments when applicable. In these units, students were fully introduced to the PL tenants of flexible learning environments and competency-based progression and

partially introduced to the PL tenant of student-directed learning. In an effort to continue to introduce the students to the flexible learning environments tenant of PL, the teacher-researcher built on what was introduced in the 10-day introductory unit by providing a variety of learning options (online, groups, small group, and whole class) and utilizing more digital learning content through videos and Google Classroom. Students were introduced to the competency-based progression tenant of PL by being provided with the standards, objectives, and learning targets for the unit (see Appendix F), offered support and feedback based on their needs, given opportunities to complete, correct, and adjust all assignments before and after the suggested due date, given opportunities to retake all formative assessments (upon completion of re-teaching activities) until students showed proficiency and/or mastery, and given the opportunities to provide test corrections on summative assessments to retrieve partial credit. Students were partially introduced to the student-directed learning tenant of PL by being given opportunities to substitute authentic assignments when necessary. For example, journal entries were provided with multiple prompts with the option to choose between the prompts or create a unique prompt and offered flexibility in presenting information on individual and group assignments (i.e. outlining, traditional writing, knowledge web, infographic).

As a means of assessing the proficiency of students in the transfer and problem-solving domains of higher-order thinking, the teacher-researcher assessed student proficiency and/or mastery on individual authentic, alternative assignments assessed at the two highest levels of Bloom's Revised Taxonomy: Create and Evaluate (Anderson & Krathwohl, 2001). As transfer is shown through a student's ability to think or apply knowledge and skills to new contexts and apply this knowledge in a new ways and

problem-solving is shown through finding solutions to complex problems (Brookhardt, 2010) and both are difficult to assess on traditional multiple-choice tests (Brookhardt, 2010; Gulikers et al., 2004), the teacher-researcher used assignments that required students to create individual, authentic, alternative assignments, assessments, projects, etc. with little-to-no instruction and/or direction. As students would need to create an assignment, assessment, and/or project on their own without specific directions and/or rubrics, and these assignments would require students to apply previous knowledge to new contexts, the teacher-researcher determined the skills necessary to complete such a task to fall under the scope of transfer and problem-solving.

In Unit 2, these assignments consisted of the creation of an authentic formative assessment and an alternative assessment (labeled a project) describing how the student relates, conforms, and deviates from American culture (see Appendix J for directions and rubrics for each assignment). For the formative assessment, students were tasked with creating a formative assessment in the style of their choosing that assessed the content of the unit at a level of learning beyond that of the bottom two levels of Bloom's Revised Taxonomy (Anderson and Krathwohl, 2001). For example, students were discouraged from utilizing matching and/or multiple choice questions that merely required comprehension of definitions. Students were given a copy of Bloom's Revised Taxonomy and were told they needed to assess at least five of the learning targets or sub-targets from Unit 2 in their formative assessment, provide an answer key or rubric, and provide rationalization for the assessment design, content, and level of learning but were given no specific instructions as to the format of the assessment, number of questions, etc. as a means of requiring students to problem-solve and transfer their knowledge.

Of the 26 students participating in the study, 17 completed the formative assessment; however, three of these 17 were only partially completed. Of those 17 completed assessments, zero met the requirements for proficiency as they lacked the personalization of questions, higher-order questioning, and/or explanations and rationalizations of the assessment and/or questions. Consistent mistakes on the formative assessment involved lower-level questioning, missing rationale for content and/or question design, and inability to create unique examples involving unit content and/or terms. Through class discussions, students mentioned that they were not comfortable or practiced in creating assignments or assessments without specific direction from the teacher, creating quiz questions or formative assessments, or finding unique solutions to individual problems without a teacher-created guide or rubric.

In the culture project assignment, students were tasked with describing how the student relates, conforms, and deviates from American culture. The students were given instruction as to the general content and purpose of the assignment as well as the proficiency levels required for the learning targets but were given no direction as to the format, length, etc. of the project. They were required to include information about American norms, values, and culture in general, how the student aligns with these norms, values, and culture, and how they do not align with these norms, values, and culture (see Appendix J).

Of the 26 students participating in the study, only nine completed the culture project, with only one of those nine completed projects meeting the proficiency level. While students consistently provided information regarding understanding levels of American norms, values, and culture and provided examples for how they fit into

American culture, only one student was able to recognize ways in which she did not fit into American culture. It should be noted that this student was very aware of her Latina heritage, which made her recognition of how this heritage differs from traditional culture more obvious. Of the 17 students who did not complete the assignment, all mentioned confusion and the difficulty of creating assignments without clear direction as their reasons while six also mentioned time constraints from falling behind pace as a contributing factor. Due to time constraints and fears that students would continue to fall further behind the class pace, the fact that those students did not complete the formative assessment or the American Culture and Me project due to a misunderstanding of transfer and/or problem-solving skills, and the data being used as baseline understandings of proficiency and/or mastery levels, the teacher-researcher considered the students who did not complete either assignment from Unit 2 to be below proficiency levels and allowed them to progress to the Unit 2 summative assessment without completion of the individual, authentic assessments/assignments. These students were identified as those first scheduled to receive individual meetings regarding the Unit 3 and 4 individual, authentic assessments/assignments. Further explanation of the results of the problem-solving and transfer baseline assignments can be seen in Table 4.3.

Table 4.3

Problem-Solving and Transfer Proficiency: Baseline Results

Assignment	# Completed	# At Proficiency	Percentage
Unit 2 Formative Assessment	17	0	0%
American Culture and Me Project	9	1	4%
Completed Both Assignments	9	1	4%

As PL is a pedagogical design that allows students to progress through the units at a pace conducive to their ability and comprehension levels, the teacher-researcher also recorded data regarding student pace. In an effort to establish a baseline for pacing, the teacher-researcher created traditional, class pacing timelines to each unit. Students progressing through the units at or near the traditional pace were encouraged to maintain this pace; however, this predetermined class pace was flexible and could be adjusted should the class progress more slowly or more quickly than the predetermined pace. By collecting the dates of completion of each student on the Unit 2 summative assessment and comparing these dates to the date of the students established as the class pace, the teacher-researcher was able to determine the level of pacing of each student as well as establish the pacing level of the class as a whole. Upon completion of all Unit 2 summative assessments, the teacher-researcher discovered that 12 of 26 students were considered on-pace while 14 students were at least one full week behind the predetermined class pace. The statistical breakdown of on- and off-pace numbers can be seen in figure 4.1.

Units 3 and 4

Finally, during Units 3 and 4, the students were introduced to social relationships and the role that socialization plays in how humans learn to function in society as well as the role that these, and the previous units, play in social justice. As in Units 1 and 2, students were offered flexible learning environments and competency-based progression as they were afforded multiple options for learning, pacing, and seating and progressed through each unit only as they showed competency on the standards and objectives, but Units 3 and 4 differed as they fully introduced the student-directed learning tenant of PL.

This unit's design consisted of no teacher-designed assignments; however, mini-lectures and content-specific readings, videos, etc. were also provided. Unit 3 also utilized traditional formative and summative assessments similar to those of the first and second units with greater emphasis on higher level questioning.

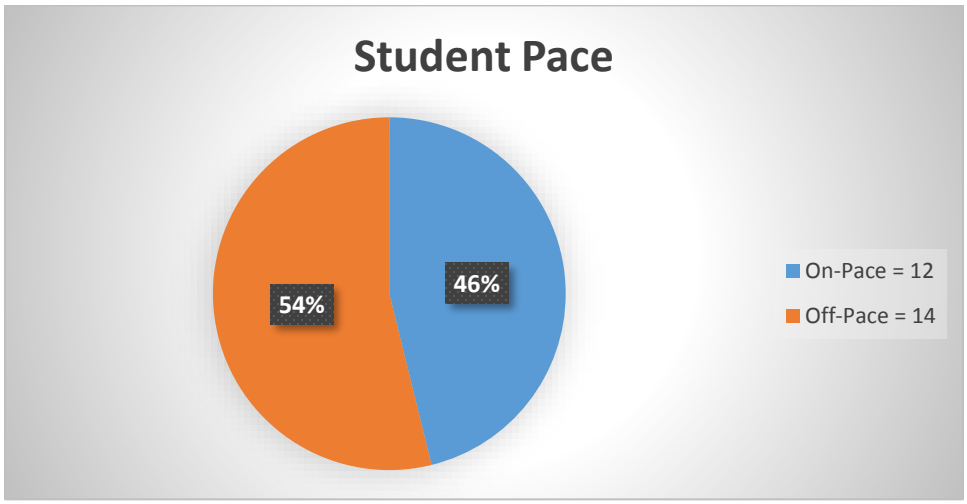

Figure 4.1

Student Pace After Unit 2

In an effort to introduce the student-directed tenant of PL, students were provided with the learning targets and sub-targets as well as descriptions of what was necessary to establish competency and proficiency levels for each of the sub-targets (see Appendix D). Students were directed to design their own assessments and lessons showing their level of competency and proficiency and were offered multiple individual planning meetings with the teacher-researcher. Each student met individually with the teacher-researcher at least three times in the first two weeks of Unit 3 in order to aid in the planning, brainstorming, and problem-solving necessary to make the transition to student-directed learning and assessment. Students were then given ample class time throughout the remainder of Unit 3 to continue working on their individual, authentic assessments/assignments. During

these times, the teacher-researcher worked individually with students to ensure they progressed through the traditional formative and summative assessments and received individual instruction where needed. For Unit 3, students were permitted to take the formative assessments when they decided they were ready, and upon receipt of a passing score on each formative assessment, were permitted to take the summative assessment for the unit. There were no traditional formative or summative assessments during Unit 4.

At the culmination of Unit 3 and again in Unit 4, students were assessed for proficiency in the transfer and problem-solving domains of higher-order thinking through the completion of individual, authentic assessments/assignments regarding the learning targets and sub-targets. Each learning target and sub-target was accompanied by proficiency levels (see Appendix D), and the teacher-researcher determined that completion to proficiency and/or mastery would represent proficiency in transfer and problem-solving skills as both were necessary in order to complete the individual, authentic assessments/assignments. As students were given control of how these assessments/assignments were completed, and it was extremely difficult to address all learning targets and sub-targets with a single assessment, proficiency was determined by the student's overall average score of the proficiency levels of all learning targets. Students scoring and average of 3 (proficient) or 4 (mastery) were considered to be proficient.

In Unit 3, 15 students completed all of the learning targets and sub-targets at or above the proficiency level. Four students completed at least two learning targets and sub-targets at or above the proficiency level, with 3 of these students showing improvement to proficiency in Unit 4. Of the 7 students who did not reach proficiency

on any of the learning targets in Unit 3, four showed improvement to proficiency on at least some learning targets and sub-targets in Unit 4 as measured by the proficiency levels aligned with the learning targets and sub-targets of Unit 4 (see Appendix D). Three students showed no growth and/or did not complete many assignments in Units 3 and 4 because they were severely behind class pace, were focused primarily on completing formative and summative assessments as a means of completing the minimum requirements for each unit, or lacked the motivation and/or skills to complete the individual, authentic assessments/assignments. In Unit 4, 19 students completed all of the learning targets and sub-targets at or above the proficiency level; however, combining the proficiency levels of the class as a whole, the total number of students who reached proficiency in at least one of the assignments/assessments from Units 3 and 4 was 21 students. It should be noted that the student achieving proficiency on the American Culture and Me project in Unit 2 also showed proficiency levels on the assignments for Units 3 and 4 and is included in the proficiency percentages for problem-solving and transfer. Visual representation of these statistics can be seen in table 4.4.

Table 4.4

Problem-Solving and Transfer Proficiency: Units 3 and 4

Assignment	# at Proficiency	Percentage
Unit 3 Learning Targets/Sub-Targets Proficiency	15	58%
Unit 4 Learning Targets/Sub-Targets Proficiency	19	73%
Combined Units 3 and 4 Proficiency	21	81%

**Note: Percentages includes student achieving proficiency in Unit 2.*

Student pacing data was also collected at the culmination of Unit 3, using the same collection method of analyzing the dates of completion for the Unit 3 summative assessment in comparison to the predetermined class pace. Again, students considered to be off-pace were those completing the Unit 3 summative assessment more than one week later than the predetermined class pace. The teacher-researcher recorded no change in the number of students considered to be off-pace with 12 of 26 students completing the Unit 3 summative assessment within one week of the predetermined class pace and the remaining 14 students completing the Unit 3 summative assessment more than one week after the predetermined class pace.

The teacher-researcher also completed the data collection regarding the effort levels of the students by tallying the percentage of completed assignments and analyzing the teacher observations and notes. The teacher-researcher determined that students completing less than 80% of graded assignments for the course would be included in the rubric for determining low-effort students. This percentage was chosen due to the high number of assignments required to be completed prior to students being able to complete the formative and summative assessments during the more scripted Units 1 and 2 and the ease of completion of many of the journal and reflection assignments included in each unit. Nine of the 26 students completed less than 80% of the graded assignments with 10 others holding completion percentages between 80 and 89%. Visual representations can be seen in table 4.5 (see Appendix H for individual student percentages).

The teacher-researcher also analyzed his notes and observations to determine the third indicator of low effort. Students were judged on a four category rubric with the bottom two categories being used to determine low-effort (see Appendix K). The

teacher-researcher recorded his perception of student effort each week utilizing the four category rubric to determine the teacher-observation indicator of low effort. Students were judged on length and quality of reflective assignments, individual discussions regarding effort with the teacher-researcher, and overall participation levels on class assignments and activities. Ten of the 26 students were categorized in the highest two categories with three students categorized as VHW and seven categorized as HW. Sixteen of the 26 students were categorized in the lowest two categories with eight students categorized as CW and eight categorized as NHW. Further analysis of the teacher-researcher observation of student effort can be found in table 4.6.

Table 4.5

Assignment Completion Percentage Breakdown

Completion Percentage	Number of Students	Percentage of Class
Above 90% Completion	7	27%
80-89% Completion	10	38%
65-79% Completion	3	12%
Below 65% Completion	6	23%
Total Below 80% Completion	9	35%

Lastly, in an effort to assess the possible growth in the critical thinking domain of higher-order thinking, the students were assessed with a posttest using the Critical Thinking Basic Concepts and Understandings Online Test during the final 10 days of the course, regardless of where they were in the pacing process. Again, for the posttest a total of 26 students were administered the test. Using the Adjusted Raw Score, Basic Critical Thinking Insight, and Obstacle to Critical Thinking domains of the test, the

teacher-researcher calculated the mean, median, and range of each. Scores on the Basic Critical Thinking Insight and Obstacle to Critical Thinking domains represent a percentage of questions answer correctly from that domain on the test while the Adjusted Raw Score represents the mean of the two test domains. The mean of the Adjusted Raw Score on the pretest was 40.80 with a median of 39.50 and a range of 55.00. The mean of the Basic Critical Thinking Insight on the pretest was 50.31 with a median of 50.00 and a range of 30.00. Finally, the mean of the Obstacle to Critical Thinking on the pretest was 30.46 with a median of 29.00 and a range of 93.00. Further examination of the mean, median, and range of the baseline scores on the Average Raw Score and the two Critical Thinking Domains can be seen in table 4.7.

Table 4.6

Breakdown of Teacher-Researcher Effort Observations

Category	Number of Students	Percentage of Class
Very Hard Working (VHW)	3	11%
Hard Working (HW)	7	27%
Completed Work, Low Effort (CW)	8	31%
Not Hard Working (NHW)	8	31%
Total Qualifying for "Low Effort"	16	62%

Interpretation of Results

The findings from this study are broken into two sections: information from the one-shot case study measuring transfer and problem-solving growth and information from the one-group pretest-posttest method measuring critical thinking growth.

However, the teacher-researcher noted that two factors impacted the results of this study: the level of effort of the students and the level of student pacing. As a result, a brief analysis and breakdown of the class into four distinct sub-categories within each of these categories was deemed necessary. Upon explanation of the sub-categories, the teacher-researcher will then present the overall patterns and results that emerged when the data sets were compared.

Table 4.7

Critical Thinking Posttest: Mean, Median, and Range Scores

Domain	Posttest Mean	Posttest Median	Posttest Range
Adjusted Raw Score	40.80	39.50	55.00
Basic Critical Thinking Insight	50.31	50.00	30.00
Obstacle to Critical Thinking	30.46	29.00	93.00

Pacing and Effort Sub-Categories

Personalized learning "repositions the student within the learning and teaching process" (Rickabaugh, 2016, p. 5). With this repositioning, the necessity for the students to participate and be willing to put in effort becomes paramount as the lessons, direction, etc. is placed solely in their hands. Personalized learning also promotes competency-based progression and allows for flexibility in pacing and design (BMGF, 2014; BMGF, 2015; CCSD, 2015; Rickabaugh, 2016). This requires that attention be paid to the pacing levels of the students to offer further explanation and examination. As the PL design for this study was implemented gradually and was only fully introduced in the final two units, students who were behind the class pace had far less experience with fully

implemented PL units. Student pacing could also impact the study results because the teacher-researcher noticed that students who were behind felt the need to focus on completing assignments over working through learning targets and using higher-order thinking skills. Due to this shift towards the student and self-pacing, it is necessary to recognize how the level in which the learners participate as well as the pace in which they complete work might impact their higher-order thinking development.

Because the effort of the student and the pace with which he or she moved through the units could have dramatic impacts on the success of the PL design, the teacher-researcher opted to categorize the students into four distinct sub-categories: On-Pace/High Effort (On/High), On-Pace/Low Effort (On/Low), Off-Pace/High Effort (Off/High), and Off-Pace/Low Effort (OFF/Low). Division into these sub-categories allowed the data to be analyzed as a whole as well as analyzed across the four sub-categories. To determine these groups, the teacher-researcher analyzed quantitative data via his notes and observations of each student, student reflections, and student surveys discussing their effort and pacing level. Students who were found to be more than one full week behind the teacher-determined class pace were considered to be Off-Pace. The teacher-researcher determined student pace initially at the conclusion of Unit 2 but reassessed at the conclusion of Unit 3 to account for students who may progress faster as they become more comfortable with the PL design. However, no changes in pacing classification occurred upon the reassessment. The teacher-researcher used completion levels and scores, individual observations of student engagement and participation, and student self-assessment of their effort and participation levels to determine student effort classification. Completion of less than 80% of assignments, adjusting for student pacing,

were considered Low Effort as were teacher observation and student self-reflections of Low Effort. Students who were labeled as Low Effort in at least two of the three categories from the rubric were classified as Low Effort while all others were classified as High Effort (see Appendix H). Upon analyzation, five students were sub-categorized as On/High with seven sub-categorized as On/Low. Four students were sub-categorized as Off/High with ten students sub-categorized as Off/Low. Student breakdowns of these sub-categories are further discussed in table 4.8.

Table 4.8

Student Sub-Category Breakdown

Sub-Category	Number of Students	Percentage of Class
On/High Students	5	19%
On/Low Students	7	27%
Off/High	4	15%
Off/Low	10	39%

One-Shot Case Study

Of the 26 students participating in the study, 17 completed the formative assessment originally assigned in Unit 2; however, three of these 17 were only partially completed. Of those 17 completed assessments, zero met the requirements for proficiency as they lacked the personalization of questions, higher-order questioning, and/or explanations and rationalizations of the assessment and/or questions. In the culture project assignment, only nine of the 26 students completed the project, with only one of those nine completed projects meeting the proficiency level. Through class

discussions, students mentioned that they were not comfortable or practiced in creating assignments or assessments without specific direction from the teacher, creating quiz questions or formative assessments, or finding unique solutions to individual problems without a teacher-created guide or rubric. Of the 17 students who did not complete the culture project, all mentioned confusion and the difficulty of creating assignments without clear direction as their reasons while six also mentioned time constraints from falling behind pace as a contributing factor.

In Units 3 and 4, the students improved and reached significantly higher proficiency totals in the transfer and problem-solving skill domains of higher-order thinking skills. As the purpose of the one-shot case study was to measure the development of skills instead of content knowledge, using assessments that assess different learning targets can still be considered valid as the skills assessed remain the same. In Unit 3, 15 students completed all of the learning targets and sub-targets at or above the proficiency level. Four students completed at least two learning targets and sub-targets at or above the proficiency level, with three of these students showing improvement to proficiency in Unit 4. Of the seven students who did not reach proficiency on any of the learning targets in Unit 3, four showed improvement to proficiency on at least some learning targets and sub-targets in Unit 4. Three students showed no growth and/or did not complete many assignments in Units 3 and 4 because they were severely behind class pace and were focused primarily on completing formative and summative assessments as a means of completing the minimum requirements for each unit. Visual representation of these statistics can be seen in table 4.9.

When analyzing the growth patterns within the four sub-categories discussed above, further explanation could be gleaned. Of the 17 students who completed the formative assessment in Unit 2, five of the five members of the On/High group completed the assessment, six of seven of the On/Low group completed the assessment, one of four of the Off/High group completed the assessment, and five of ten of the Off/Low group completed the assessment; however, three of the five from the Off/Low group turned in formative assessments that were only partially completed. Of the nine students who completed the culture assignment in Unit 2, 3three of the five members of the On/High completed the assignment, five of the seven members of the On/Low group completed the assignment, one of the four members of the Off/High group completed the assignment, while zero of the ten Off/Low group members completed the assignment. The one student who completed the culture assignment fully and with mastery was a member of the On/High group.

Table 4.9

Problem-Solving and Transfer Proficiency: Final Results

Assignment	Students at Proficiency	Percentage
Unit 2 Formative Assessment	0	0%
Unit 2 Culture Project	1	4%
Unit 3 & 4 Learning Targets/Sub-targets	21	81%
Total Students Reaching Proficiency	21	81%

When analyzing the growth in the transfer and problem-solving domains according to the assignments of Units 3 and 4, an interesting pattern emerged regarding

the breakdown of students into their sub-categories. All members of the On/High sub-category showed growth by completing all learning targets of a Unit at or above proficiency with four of the five showing growth in Unit 3 and the final member showing growth in Unit 4. All members of the On/Low sub-category also showed growth with six of seven showing growth in Unit 3 and the final member showing growth in Unit 4. All members of the Off/High group showed growth with two of four showing growth in Unit 3 and the final two members showing growth in Unit 4. Lastly, only five of ten members of the Off/Low group showed growth with three of ten showing growth in Unit 3 and two showing growth in Unit 4. Each of the five students who did not show growth in Units 3 or 4 were members of the Off/Low subgroup. Table 4.10 offers further explanation of the results of the sub-categories in regard to transfer and problem-solving skill growth.

Table 4.10

Sub-category Breakdown of Transfer and Problem-Solving Proficiency

Sub-Category	Formative Assessment (# Proficient)	Culture Project (# Proficient)	Unit 3-4 (# Proficient)	% Proficient
On/High	5 of 5 (0)	3 of 5 (1)	5 of 5 (5)	100%
On/Low	6 of 7 (0)	5 of 7 (0)	7 of 7 (7)	100%
Off/High	1 of 4 (0)	1 of 4 (0)	4 of 4 (4)	100%
Off/Low	5 of 10* (0)	0 of 10 (0)	5 of 10 (5)	50%

*Note: Three of the five were only partially completed

One-Group Pretest-Posttest Method

As a means of assessing the growth of students in the critical thinking domain of higher-order thinking, the teacher-researcher assessed the potential student growth

utilizing a one-group pretest-posttest method in which students were assessed using the Critical Thinking Basic Concepts and Understandings Online Test during the first 10 days of the course and again during the final 10 days of the course. In this test, students' levels of understanding with regard to the fundamental concepts of critical thinking were assessed on a 100 question multiple choice, matching, and true/false online assessment using the domains of Basic Critical Thinking Insight, Element Part of Thought, Intellect Standard, Intellect Trait/Value, and Obstacles to Critical Thinking. However, because three of the test domains, Element Part of Though, Intellect Standard, and Intellect Trait/Virtue, were assessed with questions that would require the students to be taught and understand various critical thinking terminology and categorization of test-specific terms (Paul & Elder, 2007), the teacher-researcher opted to focus solely on the scores within the domains of Basic Critical Thinking Insight and Obstacles to Critical Thinking, in which the students were assessed on general statements and understandings about critical thinking and their recognition of terminology and/or beliefs that would obstruct critical thinking, as well as the Adjusted Raw Score.

The scores on the two test domains represent a percentage of questions answered correctly from that domain on the test while the Adjusted Raw Score consists of the mean of the scores on the two domains. Using the Adjusted Raw Score, Basic Critical Thinking Insight, and Obstacle to Critical Thinking domains of the test, the teacher-researcher calculated the mean, median, and range of each. All scores represent a percentage of questions answer correctly from that domain on the test (see Appendix L for overall student scores and gains).

A total of 26 students were administered both the pretest and posttest Critical Thinking Basic Concepts and Understandings Online Test. The mean of the Adjusted Raw Score on the pretest was 38.36 with a median of 37.00 and a range of 49.00. The mean of the Basic Critical Thinking Insight on the pretest was 48.70 with a median of 50.00 and a range of 38.00. Finally, the mean of the Obstacle to Critical Thinking on the pretest was 27.73 with a median of 25.00 and a range of 86.00. The mean of the Adjusted Raw Score on the posttest was 40.80 with a median of 39.50 and a range of 55. The mean of the Basic Critical Thinking Insight on the posttest was 50.31 with a median of 50.00 and a range of 30.00. Finally, the mean of the Obstacle to Critical Thinking on the posttest was 30.45 with a median of 29.00 and a range of 93.00.

Table 4.11

Critical Thinking Test: Mean and Median Scores and Growth

Domain	Pretest Mean	Posttest Mean	Mean Gain	Pretest Median	Posttest Median	Median Gain
Adjusted Raw Score	38.46	40.80	2.34	37.00	39.50	2.50
Basic Critical Thinking Insight	48.70	50.31	1.61	50.00	50.00	0.00
Obstacle to Critical Thinking	27.73	30.46	2.72	25.00	29.00	4.00

When comparing the pretest and posttest scores, gains can be seen across both domains as well as the Adjusted Raw Score in mean. The Adjusted Raw Score mean

increased by 2.34, the Basic Critical Thinking Insight mean increased by 1.61, and the Obstacle to Critical Thinking mean increased by 2.72. Gains were also seen in the median scores of the Adjusted Raw Score and the Obstacle to Critical Thinking domain while the median score of the Basic Critical Thinking domain remained the same. The Adjusted Raw Score median increased by 2.50, and the Obstacle to Critical Thinking median increased by 4.00. Lastly, the range increased in both the Adjusted Raw Score and Obstacle to Critical Thinking domain while it decreased in the Basic Critical Thinking domain. The Adjusted Raw Score range increased by 6.00, and the Obstacle to Critical Thinking range increased by 7.00. The Basic Critical Thinking Insight range decreased by 8.00. Further analysis of the growth scores of mean, median, and range on the three domains of critical thinking test can be seen in Table 4.11.

The breakdown of individual student growth numbers and percentages are as follows:

Adjusted Raw Score: Sixteen students showed growth with a mean growth of 8.06 while nine students regressed with a mean regression of 7.67. One student showed no change.

Basic Critical Thinking Insight: Twelve students showed growth with a mean growth of 15.17 while twelve students regressed with a mean regression of 9.83. Two students showed no change.

Obstacle to Critical Thinking: Thirteen students showed growth with a mean growth of 13.15 while seven students regressed with a mean regression of 12.86. Six students showed no change.

Further visual evidence can be seen in Figures 4.2-4.4.

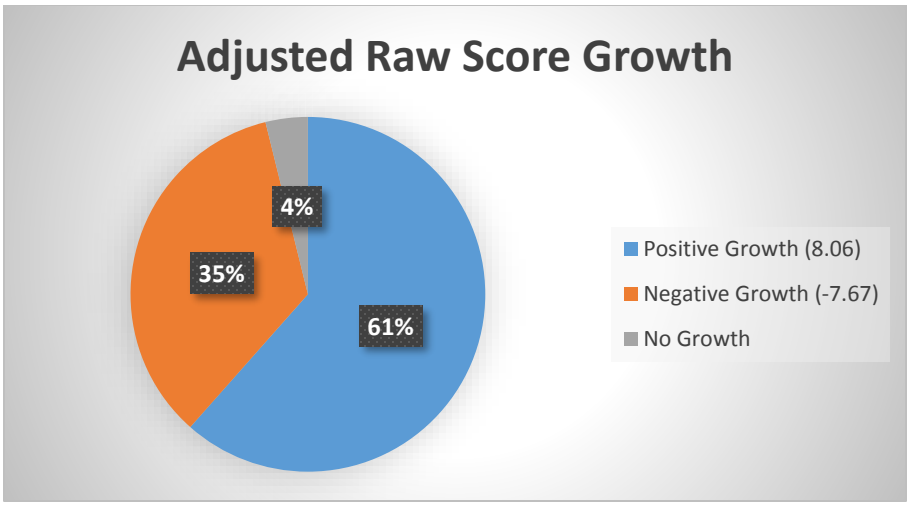

Figure 4.2

Percentage of Students Showing Growth in Adjusted Raw Score

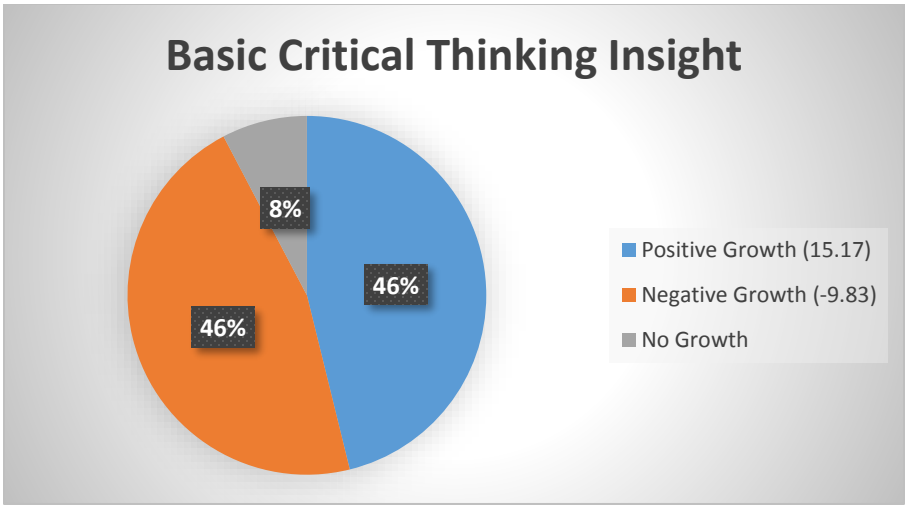

Figure 4.3

Percentage of Students Showing Growth in Basic Critical Thinking Insight

In the On/Low sub-category, growth was shown in five of the seven students on the Adjusted Raw Score. The increased scores showed an average increase of 3.20%; however, the average score of the entire sub-category remained at 0.00%. Growth was shown in three of the seven students on the Basic Critical Thinking Insight domain with an average growth of 8.00%. The growth of the entire sub-category on the Basic Critical

Thinking Insight domain was 1.86%. Growth was shown in four of the seven students on the Obstacle to Critical Thinking domain with the average growth of increased scores at 9.00%, but again, the average growth of the entire sub-category remained at 0.00%.

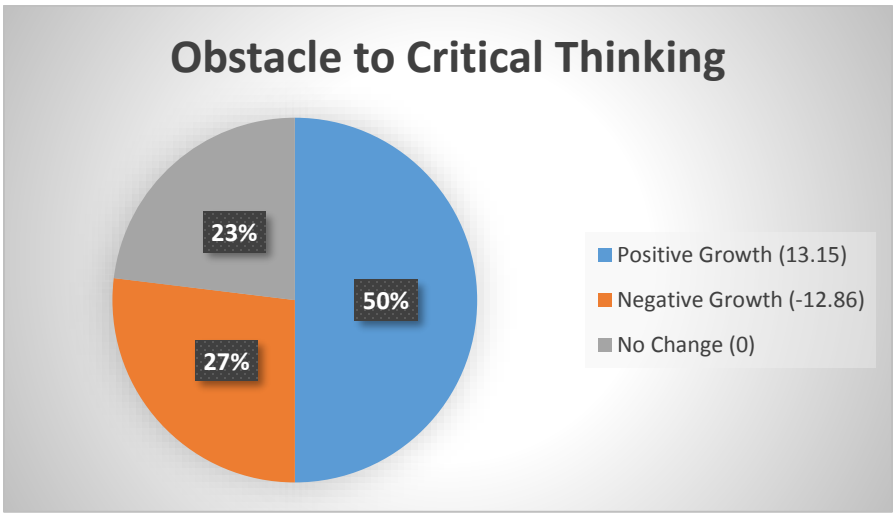

Figure 4.4

Percentage of Students Showing Growth in Obstacle to Critical Thinking

In the Off/High subgroup, growth was shown in three of the four students in each of the critical thinking domains as well as the Adjusted Raw Score. The growth of the Adjusted Raw Score average among students who showed improvement was 15.00% while the average increase of the sub-category as a whole was 10.50%. The growth of the Basic Critical Thinking Insight among improving students was 26.00% with the average growth of the entire sub-category at 14.50%. The growth of the Obstacle to Critical Thinking domain for improved students was 16.67% while the average improvement of the entire sub-category was 5.25%.

Finally, the scores in the Off/Low group showed a different trend as more students showed negative growth in each of the two critical thinking domains as well as the Adjusted Raw Score. Negative average growth was shown in the Basic Critical

Thinking Insight domain as well as the Adjusted Raw Score while positive average growth was shown in the Obstacle to Critical Thinking domain. Of the ten students in this sub-category, only two showed positive growth on the Basic Critical Thinking Insight domain with 14.00% as the average improvement. However, the overall growth of the sub-category for this domain was -3.40%. Three of ten students showed positive growth on the Obstacle to Critical Thinking with an average growth of 16.67%, while the average of the sub-category on this domain showed growth at 2.20%. Finally, four of ten students showed growth on their Adjusted Raw Scores with an average of improved students at 7.50% with the overall growth of the sub-category at -1.00%. Further explanation of these results can be seen in Figure 4.5.

Conclusion

This study attempted to address the failing of essentialist pedagogical strategies in the social studies classroom in regard to the development of higher-order thinking skills by incorporating a PL pedagogical model emphasizing student-driven instruction, competency-based progression, and flexible learning environments. With a gap in the research regarding PL's impact on higher-order thinking skills and its ability to be introduced successfully in the social studies classroom, this study sought to discover the viability of a PL pedagogical design on the growth of higher-order thinking skills in a secondary CP Sociology course. Although the study was limited by its action research design, inability to follow-up with students as they become more comfortable and practiced with PL, and inability to compare student growth scores on the Critical Thinking Basic Concepts and Understandings Online Test with those of a larger sample, the overall results of this study indicate that PL should be considered a viable

pedagogical design that could positively impact the growth of higher-order thinking skills as it showed positive growth in both the transfer and problem-solving domains as well as in some aspects of critical thinking, although the percentage increased dramatically as you accounted for pacing and effort.

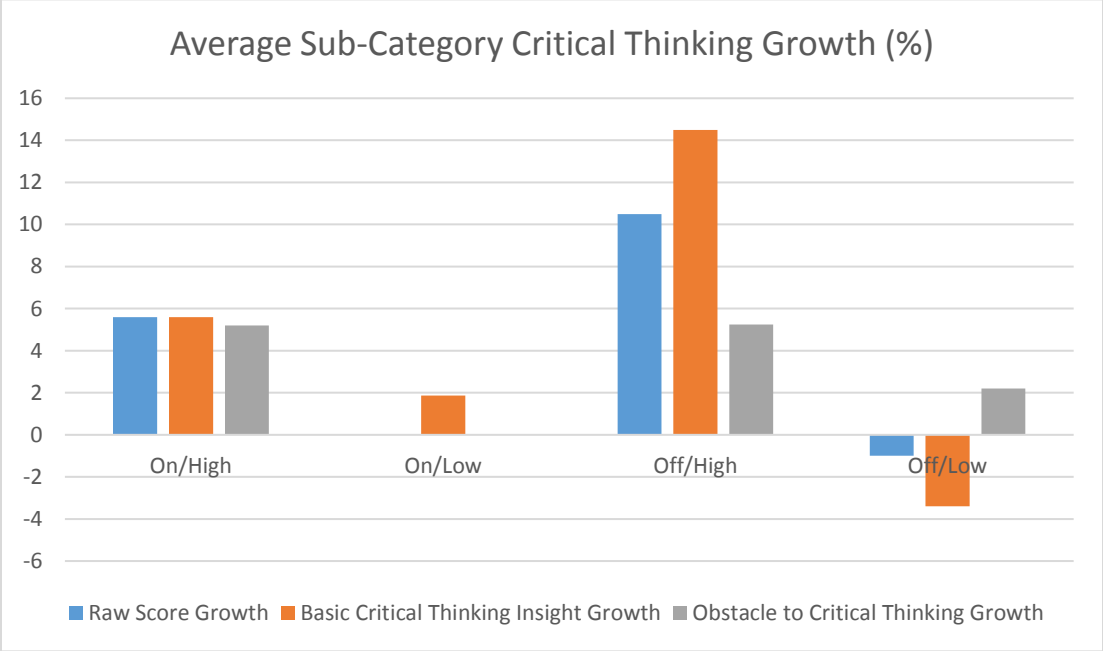

Figure 4.5

Critical Thinking Growth: Sub-Category Breakdown

Students were assessed using a quantitative action research design in which two different designs were utilized: a one-shot case study aimed at assessing transfer and problem-solving growth and a one-group pre-test-posttest aimed at assessing critical thinking growth. Within the one-shot case study, students showed 81% growth in transfer and problem-solving skills from Unit 2 through Units 3 and 4. In the one-group pretest-posttest method, students showed increases in the two critical thinking domains tested as well as the Adjusted Raw Score that calculated the mean between the two domains. Of the 26 students tested, 61% showed an increase in the Adjusted Raw Score

with a mean increase of 2.34, 46% showed an increase in the Basic Critical Thinking Insight domain with a mean increase of 1.61%, and 50% showed an increase in the Obstacle to Critical Thinking domain with a mean increase of 2.72%. When adjusted for effort and pace, the percentage of students and the mean showing growth increases significantly across both methods of this study.

These findings provide evidence that a PL pedagogy is a viable option for developing higher-order thinking skills in a social studies classroom in regard to transfer, critical thinking, and problem-solving. This viability is shown in the results of the one-shot case study and the one-group pretest-posttest though further evidence and study must be conducted before these findings can be generalized to other classrooms, schools, and/or school districts.

CHAPTER FIVE: DISCUSSIONS, IMPLICATIONS, AND RECOMMENDATIONS

As time has changed, what is necessary to be successful in America has also changed. The focus on rote memorization and lower-level cognitive skills with a blind patriotic sentiment in a rigid, industrial environment has waned and given rise to a need to focus on the development of higher-order thinking skills in a more flexible and creative environment that will ensure students compete on a global stage and are prepared for involvement in the more complex, global society of the 21st century (Pink, 2009; USDE, 2010). This shift has prompted educators to search for pedagogical strategies that allow for these new focuses while allowing them to continue to function within their essentialist designed schools. This study concerns the modern need for students who possess more higher-order thinking skills and can function in autonomous settings, the need for a pedagogical shift away from the essentialist-driven, traditional social studies classrooms towards a constructivist view of student-centered instruction in order to accomplish this task, and the possible impact of PL as a model that would allow for this change in pedagogical practice and increase in higher-order thinking skills.

The teacher-researcher became interested in this topic as he noticed his students focusing on memorizing details and facts for tests and quizzes and merely going through the motions as they completed assignments and activities. Students struggled to transfer information they had learned through traditional means to other problems and activities and rarely thought critically when attempting to accomplish these tasks. This perceived higher-order thinking deficiency prompted the teacher-researcher to search for a

pedagogical practice that would shift the focus away from the teacher and rote memorization and towards to student and higher-order thinking. Through research and professional development, the teacher-researcher discovered PL and decided to attempt a study to determine if the introduction of PL would impact the development of higher-order thinking skills. The research question that guided this study was: What is the impact of a PL model on the development of higher-order thinking skills in a CP Sociology classroom?

Chapter One introduced the reader to the identified problem of practice, purpose statement, and research question guiding this study. Chapter Two grounded the study in research through a thorough review of the related literature on PL, student-centered instruction, various curricular pedagogies, competency-based assessment, student engagement and motivation, and higher-order thinking skills as well as provided a detailed description of the theoretical constructs of progressivism and constructivism. Chapter Three detailed the action research methodology used to collect, analyze, reflect, and report all data and findings as well as provided detailed chronological procedures. Chapter Four reported the data findings and related the findings of the identified problem of practice. The following chapter will provide an overview of the study, discuss its major findings and implications, describe an action plan in response to these findings and implications, and present areas of needed future research.

Overview: Summary of the Study

In an attempt to discover the viability of the PL model on the development of higher-order thinking skills, the teacher-researcher implemented a quantitative action research study that collected data via a one-shot case study and a one-group pretest-

posttest method in his CP Sociology classroom during the spring semester of 2018. The problem of practice for this study involved deficiencies in the development of higher-order thinking skills in secondary social studies students and posited that the essentialist, teacher-centered instruction most readily used in today's social studies classroom (Vogler & Virtue, 2007) contributes to this higher-order thinking skill deficiency (Roberson & Woody, 2012). This study attempted to address the need to focus on the development of higher-order thinking skills in a more flexible and creative environment that would ensure students compete on a global stage and are prepared for involvement in the more complex, global society of the 21st century (Pink, 2009; USDE, 2010). Designing a PL pedagogy around three major tenants: flexible learning environments, student-directed instruction, and competency-based progression (CCSD, 2015), the teacher-researcher placed the student at the center of the learning and utilized data collection techniques aimed at assessing the three domains of higher-order thinking: transfer, problem-solving, and critical thinking (Brookhardt, 2010).

For the one-shot case study, quantitative data was collected via proficiency and/or mastery scores on individual authentic, alternative assessments/assignments assessed at the two highest levels of Bloom's Revised Taxonomy: Create and Evaluate (Anderson & Krathwohl, 2001) to test the development of both the transfer and problem-solving domains of higher-order thinking. Baseline proficiency levels were initially gathered via authentic assessments/assignments in Unit 2. Proficiency levels were gathered via individual authentic, alternative assessments/assignments in Units 3 and 4. Simple proficiency and/or mastery level rankings on the authentic assessments/assignments were recorded based on proficiency rubrics, with a 1 representing insufficient evidence of

proficiency, 2 representing emerging proficiency, 3 representing proficiency, and 4 representing mastery. Proficiency achievement was calculated for individual students, the class as a whole, and within each sub-category. For the one-group pretest-posttest, quantitative data was collected via scores on the Critical Thinking Basic Concepts and Understandings Online Test, focusing on Basic Critical Thinking Insight, Obstacles to Critical Thinking, and adjusted Raw Scores to test the development of the critical thinking domain. Data collected from the one-group pretest-posttest was analyzed through traditional statistical analysis. Descriptive statistics of mean, median, and range were calculated for individual students, the class as a whole, and within each sub-category on both the pre-and posttest via the Critical Thinking Basic Concepts and Understandings Online Test. Gains for each student, the class as a whole, and within each sub-category was also calculated in each domain and the Adjusted Raw Score through simple subtraction of the pretest percentage from the posttest percentage. In addition, data was analyzed to determine sub-categories for students regarding effort and pacing levels. These sub-categories were determined utilizing a three-point rubric (see Appendix H) to determine student effort level and by analyzing summative assessment completion dates in comparison to pre-determined class-pace summative assessment completion dates to determine student pacing level. Students were then sub-categorized into one of the following four sub-categories: On/High, On/Low, Off/High, and Off/Low.

Major Points of the Study

Because the study utilized two separate quantitative research designs the results of the study were broken into two sections: information from the one-shot case study measuring transfer and problem-solving growth and information from the one-group

pretest-posttest method measuring critical thinking growth. As PL is a pedagogical design that places the students in the center of the instruction and allows for progression through the units at a pace conducive to their competency levels, the teacher-researcher also analyzed the data in regard to the sub-categories of On/High, On/Low, Off/High, and Off/Low. The analyzed data in relation to the sub-categories is included in each section below.

One-Shot Case Study

On the assignments/assessments from Unit 2, the teacher-researcher noticed that students struggled in finding ways to transfer their knowledge and solve the problems of creating authentic assignment/assessments. For the formative assessment, only 17 of the 26 students completed the assignment, with three of the 17 students only completing the assignment partially. On the culture project/presentation, only nine of the 26 students completed the project with only one of those students completing the project to proficiency. Each of the seventeen students who did not complete the assignment mentioned confusion and difficulty of creating assignments without clear direction as reasons for not completing the assignment. Six of those students also mentioned time constraints from falling behind class pace as a contributing factor.

On the assignments from Units 3 and 4, the teacher-researcher began to see growth, as well as greater completion levels. In Unit 3, 15 students completed all of the learning targets and sub-targets at or above the proficiency level. Four students completed at least two learning targets and sub-targets at or above the proficiency level, with three of these students showing improvement in Unit 4. Of the seven students who did not reach proficiency on any of the learning targets in Unit 3, four showed

improvement to proficiency on at least some learning targets and sub-targets in Unit 4. Three students showed no growth and/or did not complete many assignments in Units 3 and 4 because they were severely behind class pace and were focused primarily on completing formative and summative assessments as a means of completing the minimum requirements for each unit.

When analyzing growth patterns of the one-shot case study within the four sub-categories, an interesting trend emerged. All members of the On/High sub-category showed growth by completing all learning targets of a Unit at or above proficiency with four of the five showing growth in Unit 3 and the final member showing growth in Unit 4. All members of the On/Low sub-category also showed growth with six of seven showing growth in Unit 3 and the final member showing growth in Unit 4. All members of the Off/High group showed growth with two of four showing growth in Unit 3 and the final two members showing growth in Unit 4. Lastly, only five of ten members of the Off/Low group showed growth with three of ten showing growth in Unit 3 and two showing growth in Unit 4. Each of the five students who did not show growth in Units 3 or 4 were members of the Off/Low subgroup.

One-Group Pretest-Posttest

When comparing the pretest and posttest scores, gains can be seen across both domains as well as the Adjusted Raw Score in mean. The Adjusted Raw Score mean increased by 2.34, the Basic Critical Thinking Insight mean increased by 1.61, and the Obstacle to Critical Thinking mean increased by 2.72. Gains were also seen in the median scores of the Adjusted Raw Score and the Obstacle to Critical Thinking domain while the median score of the Basic Critical Thinking domain remained the same. The

Adjusted Raw Score median increased by 2.50, and the Obstacle to Critical Thinking median increased by 4.00. Lastly, range increased in both the Adjusted Raw Score and Obstacle to Critical Thinking domain while it decreased in the Basic Critical Thinking domain. The Adjusted Raw Score range increased by 6.00, and the Obstacle to Critical Thinking range increased by 7.00. The Basic Critical Thinking Insight range decreased by 8.00. The breakdown of student growth and regression numbers and percentages are as follows:

Adjusted Raw Score: Sixteen students showed growth with a mean growth of 8.06 while nine students regressed with a mean regression of 7.67. One student showed no change.

Basic Critical Thinking Insight: Twelve students showed growth with a mean growth of 15.17 while twelve students regressed with a mean regression of 9.83. Two students showed no change.

Obstacle to Critical Thinking: Thirteen students showed growth with a mean growth of 13.15 while seven students regressed with a mean regression of 12.86. Six students showed no change.

When analyzing the one-group pretest-posttest scores on the Critical Thinking Basic Concepts and Understandings Online Test within the four sub-categories, a similar interesting pattern emerged. In the On/High sub-category, growth was shown in four of the five students in both the Basic Critical Thinking Insight domain and the Adjusted Raw Score while three of five students showed growth in the Obstacle to Critical Thinking domain. In the On/Low sub-category, growth was shown in five of the seven students on the Adjusted Raw Score, in three of the seven students on the Basic Critical

Thinking Insight domain, and in four of the seven students on the Obstacle to Critical Thinking domain. In the Off/High subgroup, growth was shown in three of the four students in each of the critical thinking domains as well as the Adjusted Raw Score. Finally, the scores in the Off/Low group showed a different trend as more students showed negative growth in each of the two critical thinking domains as well as the Adjusted Raw Score.

Implications of the Findings of the Study

The teacher-researcher completed this study in an attempt improve the development of higher-order thinking skills by shifting the emphasis of the learning from the teacher towards the student and found success beyond the results analyzed in the one-shot case study and the one-group pretest-posttest. While the results of the data collected in the study were nominal and cannot be compared to greater trends in critical thinking growth, these results furthered the teacher-researcher's belief in continuing to utilize and refine this PL pedagogical design. Along with the quantitative results specifically collected in this study, the teacher-researcher observed further positive results beyond those indicated in the data collected which lend credence to the need for further quantitative and qualitative analysis regarding these observed results. It should be noted that the following results and implications are the result of the observations of the teacher-researcher not through specific data collection. Therefore, these results require further studies aimed at collecting specific data regarding these observations.

Of primary importance, the teacher-researcher observed a dramatic increase and improvement in the positive interpersonal relationships with each of his students. The requirement of consistent and timely feedback, individual guidance and direction offered

to students, and the freeing up of major portions of the teacher-researcher's time by shifting the emphasis of the learning towards the student allowed for increased individual conversations and meetings with the students. This increase in personal interaction with all students afforded the teacher-researcher the opportunity to better understand and adapt to the learning needs of his students, and it offered him better opportunities to encourage, motivate, and manage student behaviors. While this study did not collect data regarding the number of interactions, student and/or teacher-researcher perceptions regarding possible interpersonal relationship improvement, or student perceptions regarding the value of these perceived interpersonal relationship improvements, it should be noted that the shift towards a PL pedagogy in which the teacher is forced to interact with students beyond base content and/or test-prep conversations can lead to significant improvements in interpersonal relationships with students. These improvements have been shown to encourage trust in the classroom, increase student comfortability in academic risk taking, and improve student performance and motivation (Rickabaugh, 2016; Weimer, 2013).

A second positive result involved student reflection and metacognition. The teacher-researcher noticed that the students in the PL classroom showed increased student reflection and metacognition skills as well as increased student-initiated adjustments to learning. By taking away the restrictions and strict learning paths present in essentialist, teacher-directed classrooms, allowing students multiple opportunities to show proficiency and/or competency, and requiring students to design lessons, assignments, and assessments individually, students were forced to utilize reflection and metacognition skills to adjust to problems that might arise throughout the semester. As students became more prepared in this metacognition and reflection, they became more independent and

more capable of making adjustments individually without the aid or direction offered by the teacher-researcher. This independence should allow for students to be more autonomous throughout future lessons, which would increase the possibilities of student engagement and motivation (Nordgren, 2013; Wery & Thomson, 2013).

Lastly, the teacher-researcher noticed that the PL pedagogy positively impacted traditionally lower performing students. As Lent (2014) suggested, the student-centered approach has shown great success with groups most impacted by high rates of failures, drop-outs, and grade retentions as student autonomy in planning and curricular design creates a situation of less disenfranchisement as students can choose their own topics instead of merely being exposed to topics and curriculum chosen by teachers and others that may fall outside of the their own interests, norms, experiences, and demographical groups. Many students in this study traditionally labeled as low-performing mentioned in discussions with the teacher-researcher that the flexible learning environments and competency-based progression, with their emphasis on progression at a pace conducive to the students' abilities and on competency instead of grading, prevented a feeling defeatism and/or failure as they provided multiple opportunities to take their time on assignments and learning targets without fear of punishment or reduced grades and to correct mistakes and achieve success.

While the study offers multiple positive results, the teacher-researcher also noted negative results that can be attributed to the implementation of a PL design. Personalized learning designs attempt to tap into the intrinsic motivations of the students by providing them a sense of autonomy in their decision-making process and by shifting the attention of the learning towards the needs and interests of the student (Rickabaugh, 2016; USDE,

2010). This autonomy and shift towards student interests has been found to be extremely successful at motivating for higher-learning, creativity, and problem-solving (Nordgren, 2013; Pink, 2009; Ryan & Deci, 2000) but becomes more difficult as students get older and the burdens of society and/or school become more prevalent (Ryan & Deci, 2000). As evidenced by the percentage of students qualifying as Low Effort and the observations by the teacher-researcher that many students continued to struggle to be motivated by many of the student-directed activities in which they were unaccustomed to completing, the teacher-researcher noted that motivation continued to be a concern. While students did not become defiant when pushed to work or get back on track, maintaining organization and encouraging students to put forth their best effort was a challenge when the teacher-researcher shifted the learning away from the teacher-designed lessons and activities of Units 1 and 2. As PL requires students to be at the center of their learning, addressing motivation in a PL classroom is paramount.

Another negative result of the implementation a PL design involved time and managerial constraints. Keeping up with data tracking and student pacing as well as truly understanding and gauging where students are in the learning process and what their needs may be became difficult due to these time and managerial constraints. While PL provides teachers the ability to interact with students more frequently and on a deeper level as their duties shift from dissemination of information to facilitation of information, conversations, feedback, and individual planning and support meetings have the tendency to take up considerable time. This, coupled with the variety of pacing levels that can exist in a PL classroom and the variety of needs that students require based on their pacing and competency levels, can lead to difficulty in maintaining time and

organizational management, which can impact a teacher's ability to address all student needs. The teacher-researcher noted that, as the study progressed, the strains of keeping up with the variety of pacing levels and working closely with students to fully understand the expectations of student-directed learning became more difficult. This also increased the difficulty of maintaining organization and preventing students from wasting time, losing motivation, or getting off track.

A final negative result of implementing a PL design involved the changing of student perceptions of learning, progression, grading, etc. As this study was completed in a secondary social studies course with students experiencing between 10 and 12 years of essentialist-designed school classrooms and systems, shifting these perceptions became increasingly difficult due to these years of essentialist influence. This difficulty was exacerbated as this study was conducted in a semester-long course in which students had a limited amount of time to adjust to the PL design. The teacher-researcher noted that students often expressed frustration with the expectations and shifting emphasis towards student-directed learning of a PL pedagogy. Many students struggled to shift their focus away from grades, completion of assignments, and teacher-directed learning towards an emphasis on learning, competency, and independent construction of knowledge, and these struggles may have impacted the results of the study as these students never fully embraced the tenants of PL.

While the negative results mentioned above impacted the success of the PL design, they should not detract from the positive aspects and results of the study. Much of the frustration and negative results can be attributed to a lack of available technological aids, teacher-researcher inexperience with running classrooms that utilize a

full PL design, an inability to motivate Low Effort students, and student inexperience with PL environments. Each of these can be addressed in an effort to mitigate these negative results and increase the impacts of PL designed pedagogical classrooms.

Action Plan

This study was designed as action research and, as such, the cyclical nature of action research requires the teacher-researcher analyze his plan and results and revisit the problem of practice with a new action plan. This study represented the second year of an attempted introduction of a PL pedagogy in his CP Sociology class. As part of his future action plan, the teacher-researcher plans to continue to refine his PL pedagogy, modifying the content, structure, and assessments based on the findings of the data and observations of this study. In an effort to address the negative results and/or difficulties noted above and continue implementing a successful PL pedagogy, the teacher-researcher plans to utilize educational technology aimed at increasing his efficiency and organization, allowing for more time to be spent with the students. New technology in the form of data and competency trackers would increase efficiency and organization while collaborative technologies would allow the teacher to better utilize grouping as a means of offering student-led support to free up greater time that can be spend on lower performing and/or lower motivated students. The teacher-researcher also plans to find more creative ways of motivating students in his classroom by finding ways to allow students to personalize their learning more towards interests that would spark their intrinsic motivations (Redding, 2014) and/or emphasize the general understanding of the value of the skill, task, or learning target at hand (Ryan & Deci, 2000).

While changes to the PL design would be aimed at mitigating the difficulties of organization, time management, and motivation, the teacher-researcher plans to address the difficulty of implementing a PL design with students who are ingrained and influenced by years of interaction with an essentialist-designed system by taking advantage of the current trend of PL as a buzz word in his current school and district. First, the teacher-researcher plans to increase the number of students exposed to PL designs by recruiting other teachers in his department and school to implement PL designs in their classrooms and by offering support in how to successfully implement PL designs that truly place the student at the center of the learning. This increase in teachers providing PL designs would not only increase the number of students exposed to and familiar with PL pedagogical designs but would increase the likelihood of school or district-sponsored educational technology that could be used to improve efficiency and data driven instruction, increase the pedagogical knowledge base, and provide support systems within the school.

Also, as PL has become a popular term and pedagogical practice within the teacher-researcher's district, the teacher-researcher will attempt to build upon the success and design of this study to benefit the school and district as a whole by outlining the methodology, defining the key terms of PL, providing a working course map, explaining how flexible learning environments, competency-based progression, and student-directed learning can work in the current essentialist system, and offering specific student-directed assignment options and examples. Through these training and design aids, the teacher-researcher can provide quality professional development and instructional support to those interested in moving towards a PL pedagogical design which should lead to

increased numbers of teachers utilizing PL designs as well as increased numbers of students comfortable and familiar with these designs.

Suggestions for Future Research

While PL is rapidly becoming a popular school improvement buzz word and pedagogical practice aimed at instructional change, research has mostly centered on its impacts on motivation, engagement, and/or standardized test scores in elementary schools or secondary English and mathematics classrooms (BMGF, 2014; BMGF, 2015; CCSD, 2015; Taege, Krauter, & Lees, 2015). As this study was unique in both its attempt to study the viability of PL on the development of higher-order thinking skills and its impacts within the social studies department, future research should continue in regard to both higher-order thinking growth and impacts of PL specifically within the social studies classroom. Also, as PL disrupted the traditional classrooms in which the students were accustomed and this study implied that effort may impact PL success, future research could study the impacts of student experience and comfortability with PL on its success and ways in which teachers can establish classroom cultures in which students will adapt to PL more quickly and show improved effort and buy-in. Lastly, as the teacher-researcher noted dramatic increases in interpersonal relationships with students as a result of the shift towards a more student-centric classroom, future research could study the various impacts of increased and improved interpersonal relationships between teachers and students in student-centric and/or PL classrooms.

In order to continue to increase the literature on the impacts of PL, more research should be conducted within various social studies classrooms. One possible research study would be to analyze the impacts of PL on student performance on standardized,

content-specific summative assessments. As many social studies courses assess students on their grasp of the content (Vogler & Virtue, 2007), many social studies teachers fear that a shift away from traditional, teacher-centered, direct instruction would result in lower test scores, and a study focusing on PL's impact on student test scores could shed light on the validity of these fears. These studies would attempt to show teachers that a move towards a student-centric pedagogical method would not detract from student performance on the standardized End of Course examinations and/or Advanced Placement exams.

Another possible research study in relation to PL and social studies would be to study the impact of PL pedagogical designs on student perceptions of social studies. As students often discuss their boredom in social studies classrooms or their low interest in traditional social studies content, PL affords students the opportunity to personalize their experiences within the social studies classroom, and it could be interesting to see if a shift in student perceptions of social studies as a whole occurs as students experience PL pedagogical designs and take control of their learning and content direction.

As the teacher-researcher noticed through observations and student surveys and reflections that many students were confused by PL and its expectations and/or were ill-prepared for such a dramatic shift in the culture and pedagogy of their classroom, further research should also center on the impacts of experience and comfortability with PL on its success and ways in which students can be more prepared for authentic instruction and assessment, self-directed learning, and various other student-centered pedagogical practices. Possible research study ideas could be designed to assess the impact that repeated experience and/or increased comfortability with PL has on the development of

higher-order thinking skills by extending the study to multiple years to research the impacts of PL over extended periods of time or immersing students in PL through implementation in all courses they take. This research could offer hope to teachers who struggle to see results early and often when first introducing PL pedagogical models into the classroom and offer realistic expectations of success and/or failure for teachers attempting to introduce PL into classrooms with students who lack experience and/or comfortability with PL.

As this study indicates student effort levels impact the success of PL in regards to higher-order thinking growth and proficiency, further studies should also be conducted regarding the ways in which teachers can address these concerns and design PL pedagogy to encourage increased student effort, motivation, and buy-in. One possible research study could be conducted that tested various strategies aimed at increasing this student effort, motivation, and/or buy-in in PL classrooms. This research study would shed light on many concerns teachers may have regarding the amount of work students will conduct and the amount of learning that may take place when teachers relinquish control of daily lesson planning and delivery.

Lastly, as the teacher-researcher noted the dramatic improvement in interpersonal interactions and relationships with his students as a result of this shift towards a PL pedagogy, future studies should address these increases and improvements. A possible research study could be conducted on the impacts of increased interpersonal relationships and student's perceptions of the teacher, the class, and/or their belief in their potential for success in the class. Another possible research study could be conducted to study the impacts of improved interpersonal relationships on student performance. These research

approaches would attempt to offer extra incentives for teachers to utilize a more student-centric approach to teaching pedagogy.

Conclusion

This study focused on the impacts of a PL pedagogical design in a social studies classroom with the research question seeking to determine its impact on higher-order thinking skills specifically. The data analysis revealed two major discoveries: (a) PL is a viable pedagogical method at increasing higher-order thinking skills and (b) student pacing and effort impact the success and growth levels of PL on all domains of higher-order thinking. Though the student growth in scores on the posttest aimed at assessing the critical thinking domain of higher-order thinking were nominal and cannot be compared to greater trends in critical thinking growth, this study showed that PL is a viable pedagogical method at increasing higher-order thinking skills overall as well as a viable method of covering content and increasing personal relationships with students in a social studies classroom.

While the results of this study have given credence to the validity of transforming the pedagogical method away from a teacher-centered classroom towards a student-centered classroom, and that PL is a viable pedagogical design to do just that, this simple shift is not in and of itself enough. As students enter the classroom with their own story, abilities, histories, and life trajectories, both positive and negative, the pedagogical design utilized to provide success for all students must account for these variances. Personalized learning is certainly capable of accomplishing this as it is designed to meet the students where they are, put them at the center of their learning, and emphasize competency over progression. However, greater attention must be paid to specific strategies that can be

implemented within the PL framework to better take advantage of the personalization of the pedagogy and positively engage, motivate, and educate all students.

In conclusion, this cannot be the culmination of the research on PL. The teacher-researcher feels that further research studies are needed regarding the role of PL on higher-order thinking development, the role of PL on the retention of content-specific information within the social studies classroom, the role of experience and comfortability with PL in regard to its success, and the various means in which PL can be implemented to increase student effort and buy-in to help determine the full impacts of a PL pedagogy on the growth of the 21st century skills determined by Daniel Pink (2009), the Profile of the South Carolina Graduate (2015), and many others to be integral to the success of today's students. Along with further research, the teacher-researcher believes there should be an increase in student-centered and/or PL designed classrooms within his school and social studies department in an effort to better familiarize the students with student-centric learning and decrease the negative impacts of essentialist experiences and influences on students.

REFERENCES

American Sociological Association. (2015). *National Standards for High School Sociology.* Final Edition. Washington, D.C.: American Sociological Association.

Anderson, L. & Krathwohl, D. (Eds.) (2001). A taxonomy for learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives (Abr. Ed.). New York: Longman.

Au, W. (2007). High-stakes testing and curriculum control: A qualitative metasynthesis. *The Curriculum Studies Reader 36*(5), 258-267.

Bill and Melinda Gates Foundation. (2014). *Early progress: Interim research on personalized learning.* Seattle, Washington: RAND Corporation.

Bill and Melinda Gates Foundation. (2015). *Continued progress; Promising evidence on personalized learning.* Seattle, Washington: RAND Corporation.

Bohan, C. H. (2003). Early vanguards of progressive education: The Committee of Ten, the Committee of Seven, and social education. *Journal of Curriculum & Supervision, 19*(1), 73-94.

Brookhart, S. (2010). How to assess higher-order thinking skills in your classroom. Alexandria, VA. ASCD Member Books.

Caruth, G. D. (2013). Demystifying mixed methods research design: A review of the literature. *Online Submission.*

Center for Mental Health in Schools. (2015). *Personalizing learning and addressing barriers to learning: Two continuing education units.* Los Angeles, CA: UCLA. Retrieved from: http://smhp.psych.ucla.edu/pdfdocs/personlizeI.edu

Charleston County School District. (n.d.). *Procedures for Conducting Research in Charleston County Schools*. Retrieved from: http://www.ccsdschools.com/0170/ReportsStatistics/ResearchProcedures.php

Charleston County School District Office of Assessment and Evaluation. (2015). *Early progress: Initial research on Personalized Learning.* Charleston, SC. Retrieved from: https://drive.google.com/drive/search?q=personalized%20learning%20early%20progress

Chicosky, C.L. (2015). Restructuring the modern educational system in the United States: A look at the value of compulsory education law. *Bringham Young Education and Law Journal, (1);* 1-75.

Cohen, L (1999). Section III: Philosophical perspectives in education, part 3. [Web notes]. Retrieved from: http://www.oregonstate.edu/instruct/ed416/PP3.html

Dana, N. F., & Yendol-Hoppey, D. (2014). *The reflective educator's guide to classroom research: Learning to teach and teaching to learn through practitioner inquiry* (3rd ed.). Thousand Oaks, CA: Corwin.

DBQ Project. (2015). A*bout the DBQ project.* Retrieved from: http://www.dbqproject.com/what-is-the-dbq-project.php

Dewey, J. (1938). *Experience and education.* New York, NY. Kappa Delta Pi.

Durr, C., Lahart, T., & Mass, R. (1999). Improving critical thinking skills in secondary math and social studies classes.

Educational Broadcasting System. (2004). *Concept to classroom: What is constructivism?* Retrieved from: http://www.thirteen.org/edonline/concept2class/constructivism/

Felder, R. & Brent, R. (1996). Navigating the bumpy road to student-centered instruction. *College Teaching, 44*(2), 43-47.

Fischer, C., Bol, L., & Pribesh, S. (2011). An investigation of higher-order thinking skills in smaller learning community social studies classrooms. *American Secondary Education, 39*(2), 5-26.

Gillard, Sa., Gillard, S., & Pratt, D. (2015). A pedagogical study of intrinsic motivation in the classroom through autonomy, mastery, and purpose. *Contemporary Issues in Education Research, 8(1),*1-6.

Goldin, C. & Katz, L. F. (1999). Human capital and social capital: The rise of secondary schooling in America, 1910-1940. *Journal of Interdisciplinary History 29*(4), 683-723.

Gulikers, J. T., Bastiaens, T. J., & Kirschner, P. A. (2004). A five-dimensional framework for authentic assessment. *Educational Technology, Research, and Development, 52*(3), 67-86.

Harland, T. (2003). Vygotsky's Zone of Proximal Development and problem-based learning: Linking a theoretical concept with practice through action research. *Teaching in Higher Education, 8*(2), 263-272.

Higgins, S., Wall, K., Baumfield, V., Hall, E., Leat, D., & Whoolner, P. (2005). Learning in schools: Phase 3 evaluation year 1 final report. London, Campaign for Learning.

Hofferber, N., Eckes, A., & Wilde, M. (2014). Effects of autonomy supportive vs. controlling teachers' behavior on students' achievements. *European Journal of Educational Research, 3(4),* 177-184.

Iorio, S. H. & Yeager, M. E. (2011). School reform: Past, present, and future (Manuscript submitted for publication, College of Education, Wichita State University). Retrieved from http://webs.wichita.edu/depttools/depttoolsmemberfiles/COEdDEAN/School%20Reform%20Past%20Present%20and%20Future.pdf

Jones, G. & Brader-Araje, L. (2002). The impact of constructivism on education: Language, discourse, and meaning. *American Communication Journal*, *5*(3), 1-10.

Kanselaar, G. (2002). Constructivism and socio-constructivism. Retrieved from http://www.unhas.ac.id/hasbi/LKPP/Hasbi-KBK-SOFTSKILL-UNISTAFF-SCL/Mental%20Model/Constructivism-gk.pdf

Larabee, D. (2005). Progressivism, schools, and schools of education: An American romance. *Paedagogica Historica, 41*(1-2), 275-288.

Limbach, B. & Waugh, W. (2014). Implementing a high-impact, critical thinking process in a learner-centered environment. *Journal of Higher Education Theory and Practice, 14*(1), 95-99.

Lent, R. (2014). The secret to sustainable learning. *Principle Leadership, 15(4),* 22-25.

Mertler, C. (2014). Action research: Improving schools and empowering educators (4th ed.) Thousand Oaks, CA: Sage Publications, Inc.

Nanney, B. (2004). Student Centered Learning. Retrieved from: http://ollyusofalhaj.ipgkti.edu.my/sumber/resosbestari/PENDEKATAN/scl/7%20SCL-Nanney.pdf

National Education Association. (2015). *Code of Ethics.* Retrieved from: http://www.nea.org/home/30442.htm

Newmann, F. M. (1991). Promoting higher order thinking in social studies: Overview of a study of 16 high school departments. *Theory & Research in Social Education, 19*(4), 324-340.

Nordgren, R. (2013). Pink's "Motivation 3.0" and student-centered schooling: Creating life-long learners for the 21st Century. *Journal of Research and Innovative Teaching, 6(1), 3-11.*

Null, J.W. (2007). William C. Bagley and the founding of essentialism: An untold story in American educational history. *Teachers College Record. 109*(4); 1013-1055.

Onosko, J. (1991). Barriers to the promotion of higher-order thinking in social studies. *Journal of Curriculum Studies, 19*(4), 341-366.

Parker, W., Mosburg, S., Bransford, J., Vye, N., Wilkerson, J., & Abbott, R. (2011). Rethinking advanced high school coursework: tackling depth/breadth tension in the AP US Government and Politics course. *Journal of Curriculum Studies, 43(4),* 533-559. doi: 10.1080/00220272.2011.584561

Pink, D. H. (2009). *Drive: The surprising truth about what motivates us.* New York: Riverhead

Pogrow, S. (1985). Remembering the path to excellence. *Phi Delta Kappan, 67*(2), 123-125.

PowerSchool at Charleston County School District (2016). *System reports* [Data file]. Available from https://powerschool.charleston.k12.sc.us/admin/home.html

Profile of the South Carolina Graduate [PDF]. (2015, October). Columbia, SC: South Carolina Education Oversight Committee

Redding, S. (2014). *Personal competencies in personalized learning.* Philadelphia, PA: Temple University, Center on Innovations in Learning.

Rickabaugh, J. (2016). *Tapping the power of personalized learning: A roadmap for school leaders.* Alexandria, VA: ASCD.

Roberson, S. & Woody, C. (2012). Declaring civil war on essentialist teaching. *The Clearing House, 85*(5), 207-212. http://dx.doi.org/10.1080/00098655.691567

Ryan, R. & Deci, E. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology, 25, 54-67.* http://doi:10.1006/ceps.1999.1020

Saragih, S. & Napitupulu, E. (2015). Developing student-centered learning model to improve high order mathematical thinking ability. *International Education Studies, 8*(6), 104-112.

Schiro, M. S. (2013). *Curriculum theory: Conflicting visions and enduring concerns* (2nd ed.). Thousand Oaks, CA: Sage Publications.

South Carolina Department of Education. (2011). *South Carolina Social Studies Academic Standards.* Columbia, SC. http://ed.sc.gov/instruction/standards-learning/social-studies/standards/

South Carolina Department of Education. (2015). 2015 *State of South Carolina annual school report card.* Retrieved from: http://ed.sc.gov/assets/reportCards/2015/high/c/h1001014.pdf

Spring, J. (2014). *The American school: a global context*. (9th ed.). New York: McGraw-Hill.

Stanford History Education Group. (n.d.). *History of SHEG.* Retrieved from: https://www.sheg.stanford.edu/history-sheg

Taege, J. Krauter, K, Lees, J. & Temple University, C.L. (2015). Personalized learning in Wisconsin: FLIGHT Academy, Connect: Making Learning Personal. *Center on Innovations in Learning, Temple University.*

Town of Mount Pleasant Department of Planning and Development. (2016). *Town of Mount Pleasant 2016 demographics report* [Data file]. Retrieved from: http://www.tompsc.com/DocumentCenter/View/17486

Turner, S. (2011). Student-centered instruction: Integrating the learning sciences to support elementary and middle school learners. *Preventing School Failure, 55*(3), 121-131.

Twyman, J. & Redding, S. (2015). Personal competencies/personalized learning: Reflection on instruction. A peer-to-peer learning and observation tool. *Council of Chief State School Officers.*

U.S. Department of Education. (2010). *Engaging and empowering learning through technology.* Washington, DC: Retrieved from: https://tech.ed.gov/netp/learning/

Usher, A. (2011). Public schools and the original federal land grant program: A background paper from the Center on Educational Policy. *Center for Educational*

Policy. Retrieved from: http://www.eric.ed.gov/contentdelivery/servlet/ERICServlet?accno=ED518388

Vogler, K. & Virtue, D. (2007). "Just the facts, ma'am": Teaching social studies in the era of standards and high-stakes testing. *Social Studies, 98(2),* 54-58.

Vygotsky, L. S. (1978). *Mind in society: The development of higher mental processes.* Cambridge, MA: Harvard University Press.

Waldrip, B., Yu, J., & Prain, V. (2016). Validation of a model of personlised learning. *Learning Environments Research, 19,* 169-180.

Weimer, M. (2013). *Learner-centered teaching: Five key changes to practice.* (2nd ed). San Francisco, CA: Jossey-Bass.

Wery, J. & Thomson, M. (2013). Motivational strategies to enhance effective learning in teaching struggling students. *British Journal of Learning Support. 28(3),* 103-108. doi: 10.1111/1467-9604.12027

APPENDIX A: CCSD DISTRICT PERMISSION RESPONSE

Dr. XXXXX,

I am currently enrolled in the Doctor of Education (Ed.D.) in Curriculum and Instruction program through the University of South Carolina and am planning to conduct my dissertation research during the 2017-18 school year. This cover letter and additional documents will serve as the submission of a research proposal.

My dissertation research will investigate the impact of Personalized Learning on the development of higher order thinking skills, and I am seeking participation from students at Wando High who are registered for my US Government and the Constitution course—approximately 30 students. This study would utilize data from a test of higher order thinking skills (for use at the start of the course as baseline information and at the culmination of the research to test possible increase in higher order thinking skill proficiency), research-validated instruments on Personalized Learning techniques as curriculum design aids, and scores from traditional summative assessments currently used in the course. The study would require two units of class time during the spring 2018 semester (approximately 4 weeks).

I have discussed this proposal with Dr. Eppelsheimer, principal of Wando High, and she is in support of this research. Students and teachers may benefit from this research as the attempt is to create a social studies model of Personalized Learning that will not only increase higher-order thinking skills but will also prevent a drop in standard, content-heavy summative assessment scores. The educational community, particularly those interested in Personalized Learning, would benefit by having a study discussing the implementation of a Personalized Learning curriculum specifically designed to increase higher order thinking skills. Currently there are no studies related to this topic, and my research would positively impact the Personalized Learning research base. CCSD will benefit from this research because I can share information with other teachers throughout the district interested in Personalized Learning as well as share information with our current Personalized Learning communities.

Please contact me at 843-822-5645 or mark_hladek@charleston.k12.sc.us with any questions, comments, or concerns. I am looking forward to this study!

Sincerely,

Mark Hladek

Mark Hladek, Social Studies Teacher (US Government & Sociology), Ed.D. in Curriculum and Instruction Candidate

Research Proposal

The purpose of this study is to determine the effect of a personalized learning model on the development of the higher-order historical thinking skills. This study is for partial fulfillment of my Doctor of Education in Curriculum and Instruction program through the University of South Carolina and constitutes the dissertation research for the program. The research question for this study is "What is the impact of a personalized learning model on the development of higher-order historical thinking skills in a US Government classroom?"

Background

As has become the norm in the era of teacher accountability and high-stakes testing, many social studies curricula and pedagogical practices have evolved to include fast-paced, teacher-centered instruction focusing only on the content listed in the standards and objectives of the course curriculum guides and tested on standardized tests (Vogler & Virtue, 2007). This essentialist instructional philosophy focuses on the lowest levels of Bloom's taxonomy without developing higher-order thinking skills such as critical thinking and problem-solving (Robertson & Woody, 2012). Personalized learning is a pedagogical practice designed to increase student achievement through a shift from the traditional, teacher-centered, direct-instruction model to a student-centered model focused on meeting students where they are in the learning process and tailoring an individual instructional plan, varying the learning experience to prepare student for life beyond school, and creating an environment that is flexible that allows for student ownership and voice in the learning process (CCSD, 2015).

The personalized learning model employed by this action research study will mirror that currently being promoted throughout CCSD. This model is designed around student-directed learning, competency-based progression, and flexible learning environments (CCSD, 2015) in an attempt to emphasize higher-order historical thinking skills over that of low-level cognitive recall of historical content. Evidence from previous studies regarding the implementation of a personalized model in various classrooms throughout the district has shown growth in student achievement and reduction in failure rates in mathematics and language arts classes, and it is the intention of this action research study to discover if the personalized learning model will impact student achievement with regard to the development of higher-order historical thinking skills in the social studies classroom.

References:

Charleston County School District Office of Assessment and Evaluation. (2015). *Early progress: Initial research on Personalized Learning.* Charleston, SC.

Roberson, S. & Woody, C. (2012). Declaring civil war on essentialist teaching. *The Clearing House, 85*(5), 207-212.

Vogler, K. & Virtue, D. (2007). “Just the facts, ma’am”: Teaching social studies in the era of standards and high-stakes testing. *Social Studies, 98(2),* 54-58.

Data Collection Information, Schedule, and Analysis

Quantitative Research: One-group pretest/posttest design

1. Data Collection:
    a. Collect scores from test of higher-order thinking skill proficiency (for baseline proficiency level)
    b. Collect scores from various formative assessments throughout the units
    c. Collect scores from summative assessments throughout the units
    d. Collect scores from test of higher-order thinking skill proficiency (posttest)
    e. Collect attendance rates (minimum attendance rate required for inclusion of results)
    f. Collect participation rates through participation logs, self-pacing guides, teacher meeting notes, and teacher field notes
2. Analysis:
    a. Raw data of test of higher-order thinking skill proficiency (pre and posttest)
    b. Raw data of formative and summative assessments
    c. Raw data of participation and attendance rates
    d. Correlation of scores between baseline information and assessments
    e. Correlation of participation and attendance rates with minimum requirements

For qualitative data, the study will require 2 instructional units consisting of approximately 4 weeks of instructional time. All units and content covered will be consistent with the current standards utilized by CCSD for the US Government and the Constitution course, and all students will be required to take department-sponsored common and course ending assessments.

Identification of Intended Schools/Sites

Wando High

Selection Method for Participants/Schools

Students in my US Government and the Constitution Course during the spring 2018 Semester. There will be approximately 25-30 students participating in the study, assuming everyone agrees to be included in the study.

Impact on Instructional Time at the Schools Intended

- Quantitative Data
    - Spring 2018 Semester: 2 instructional units consisting of approximately 4 weeks
    - All instructional time spent on this study will be consistent with time spent by other US Government and the Constitution teachers and sections.

What the Participants will be asked to do

- All participating students will participate in all units and Personalized Learning Designs.
- All participating students will be required to complete all assignments and assessments associated with the units.
- All participating students will complete a pre and posttest designed to gauge the level of higher order thinking proficiency (only those meeting the minimum attendance requirements will have their scores included in the study).

Potential Risks and Benefits to the Participants

- Risks:
    - Loss of privacy related to student information
    - Poor implementation of Personalized Learning Instruction
    - Drop in content-related summative assessment scores
- Benefits:
    - Increased autonomy
    - Personalized instruction aimed at increasing intrinsic motivation
    - Potentially increased proficiency of higher order thinking skills

Informed Consent Letter

See letter in packet.

Written Materials that Participants Will Receive

- Higher order thinking skills baseline test
- Higher order thinking skills posttest
- Personalized Learning pacing guides for each unit
- Various worksheets and assignments associated with the units
- Summative assessments based on content standards and objectives

Identification of CCSD Administrators, Staff, or Others Who Researcher has Communicated with about the Project

Dr. Sherry Eppelsheimer, Principal; Mr. Jeffrey Blankenship, Associate Principal; Mr. Jason Brisini, Social Studies Department Chair

Thesis/Dissertation Approval Letter

This letter will be obtained by the end of the fall 2017 semester from a professor on my doctoral committee at the University of South Carolina.

The Institutional Review Board at the University of South Carolina will process my proposal by the end of the fall 2017 semester.

After receipt of both documents, I will give them to the Assessment and Evaluation office of CCSD.

APPENDIX B: STUDENT PERMISSION FORM

This year (2017-2018) marks my eleventh year teaching (eighth overall at Wando High School), and over the years I have worked hard to hone my skills and improve my classroom. I take great pride in working to improve the educational experience of my students each year, and as a way to continue to improve this, I enrolled in the Doctor of Education (Ed.D.) in Curriculum and Instruction program at the University of South Carolina. I have taken classes for the last several years, and it is now time to complete my dissertation research for this program.

The University of South Carolina utilizes an action research model for their Ed.D. program, which means I and required t0 find a problem in my classroom and/or school and perform a research study on that topic. The topic I chose is Personalized Learning, which is an instructional model designed to teach students with a more student-centered and autonomous approach. The personalized learning model I will use centers around student-directed learning, competency-based progression, and flexible learning environments. This means that students are given more freedom and autonomy to guide and tailor their learning, move forward in the lessons and units as they show their proficiency (self-pacing), have opportunities to correct mistakes and failures, and work in a classroom setting that allows for maximum flexibility of the learning environment.

Students will still receive lessons designed around the same content standards and objectives as all other Sociology courses and will take all applicable unit and course tests; however, the lessons will be designed to be more student-centered and personalized than traditional social studies lessons. Many studies have shown that personalized learning helps to increase student engagement and achievement as well as increases the level of comprehension and higher-order thinking. Personalized learning also affords me greater flexibility in the classroom, allowing me to spend more individualized time with each of my students (based primarily on need).

Your student was selected to participate in this study because he or she is in my 1st block Sociology course for the spring 2018 semester. There is no penalty for not participating, and the student may withdraw from the study at any time without penalty; however, withdrawal from the study does not mean the student is exempt from the personalized learning setting. Withdrawal merely means that the student's information (scores on assessments, participation rates, etc.) will not be used or recorded in the study. Charleston County School District and Wando High School are neither sponsoring nor conducting this research.

Physical, psychological, legal, or other risks are not increased for students as a result of participation in this study, and no personal information will be recorded and/or shared for any student. All scores and information will be coded to maintain the highest levels of anonymity, as I will be the only person with access to personal identifying

information. The results of this study will be published in my dissertation, which will be available on the internet. If any parent/guardian wishes to see materials before providing their consent, I would be happy to meet, discuss the study, and provide the materials.

The study will run for the entirety of the spring semester. All aspects of the study will be conducted during normal class times with typical homework, study, etc. time required.

Data collection for this study will consist of the following:

- Pre- and posttests assessing proficiency in higher-order thinking skills
- Formative and Summative Assessments based on content, concepts, etc.
- Participation and attendance logs and guides
- Teacher meeting notes and logs

This information will be analyzed for basic statistical information and to determine the effect of a personalized learning model on the development of higher-order thinking skills in the social studies classroom.

Students would benefit from this research by being given greater control over the direction and assessment of their content, being given increased opportunities to correct mistakes and failures (retakes, re-teaching activities, etc.) designed to create an environment focused on learning instead of scoring, being educated in an environment that is more flexible and able to adapt to the specific needs of the student, and increase one-on-one interaction with the teacher (depending on need). Currently there are no studies available related to this specific topic. Therefore, this research could positively impact the social studies education research base as well as the general personalized learning community. CCSD may benefit from this research as I plan to share information throughout the district related to the information gleamed from this study.

Should you have any questions, comments, or concerns about this study and/or your student's participation in it, please contact me at mark_hladek@charleston.k12.sc.us. As I move frequently throughout the day and am located in the learning cottages of the Wando community, email is the preferred method of initial contact. I look forward to having you as a part of this wonderful study.

Sincerely,
Mark Hladek
Social Studies Teacher at Wando High School
Ed.D. Candidate at the University of South Carolina

Student: I, _____, agree to participate in this study on Personalized Learning and higher-order thinking. I understand that I may opt out of the study at any time without penalty.

Signature: _____ Date: _____

Parent/Guardian: The student named above has my permission to participate in this test of a study and learning method.

Signature: _____ Date: _____

Parent/Guardian: I do NOT wish for my student to participate.

Signature: _____ Date: _____

APPENDIX C: AMERICAN SOCIOLOGICAL ASSOCIATION NATIONAL STANDARDS

Domain 1: The Sociological Perspective and Methods of Inquiry	
Assessable Competencies	**Essential Concepts**
1.1: Students will identify sociology as a scientific field of inquiry.	1.1.1: Scientific Method 1.1.2: Hypothesis 1.1.3: Independent and Dependent Variables 1.1.4: Scientific Study of Society
1.2: Students will compare and contrast the sociological perspective and how it differs from other social sciences.	1.2.1: Impact of Social Context on Human Behavior 1.2.2: Social Construction of Reality 1.2.3: Sociological Imagination
1.3: Students will evaluate the strengths and weaknesses of major methods of sociological research.	1.3.1: Surveys and Interviews 1.3.2: Experiments 1.3.3: Observations 1.3.4: Content Analysis 1.3.5: Research Ethics
1.4: Students will identify, differentiate among, and apply a variety of sociological theories.	1.4.1: Functionalist Perspective 1.4.2: Conflict Theory 1.4.3: Symbolic Interaction
Domain 2: Social Structure: Culture, Institutions, and Society	
2.1: Students will describe the components of culture.	2.1.1: Nonmaterial Culture, including Norms and Values 2.1.2: Material Culture 2.1.3: Subcultures
2.2: Students will analyze how culture influences individuals, including themselves.	2.2.1: Ethnocentrism 2.2.2: Cultural Relativity 2.2.3: Culture Shock 2.2.4: American Values
2.3: Students will evaluate important social institutions and how they respond to social needs.	2.3.1: Social Institutions such as: Family, Education, Religion, Economy, and Government 2.3.2: Social Statuses and Roles
2.4: Students will assess how social institutions and cultures change and evolve.	2.4.1: Shifting Historical Context such as: Industrial Revolution, Urbanization, Globalization, and The Internet Age 2.4.2: Countercultures 2.4.3: Social Movements

Domain 3: Social Relationships: Self, Group, and Socialization	
3.1: Students will describe the process of socialization across the life course.	3.1.1: Primary Agents of Socialization: Family, Peers, Media, Schools, and Religion 3.1.2: Deviance and Conformity
3.2: Students will explain the process of the social construction of the self.	3.2.1: I & Me 3.2.2: Role-Taking 3.2.3: Generalized Other 3.2.4: Identity
3.3: Students will examine the social construction of groups and their impact on the life chances of individuals.	3.3.1: Reference Groups 3.3.2: Primary and Secondary Groups 3.3.3: In-Groups and Out-Groups
Domain 4: Stratification and Inequality	
4.1: Students will identify common patterns of social inequality.	4.1.1: Privilege 4.1.2: Power 4.1.3: Racial and Ethnic Inequality 4.1.4: Class Inequality 4.1.5: Gender Inequality
4.2: Students will analyze the effects of social inequality on groups and individuals.	4.2.1: Life Chances 4.2.2: Social Problems 4.2.3: Inter- and Intra-Group Conflict
4.3: Students will explain the relationship between social institutions and inequality.	4.3.1: Distribution of Power through Social Institutions 4.3.2: Potential of Institutions to Produce, Reinforce, or Challenge Inequality
4.4: Students will assess responses to social inequality.	4.4.1: Individual Responses to Inequality 4.4.2: Group Responses to Inequality, such as Social Movements 4.4.3: Social Policy Responses to Inequality

APPENDIX D: UNITS 2-4 LEARNING TARGETS AND COMPETENCY LEVELS

Unit 3: Social Relationships, Groups, and Socialization

Unit 3 Learning Targets

1. Describe the Process of Socialization across the Life Course.
2. Explain the Process of the Social Construction of the Self.
3. Examine the Social Construction of Groups and their impact on the Life Chances of Individuals.

Sub-Targets and Levels of Mastery

1.1 – Socialization
1. Define socialization and explain how it might occur in each of the stages of life
2. Describe how role-taking (including each stage of role-taking) is a part of socialization.
3. Explain the process of socialization that leads individuals to reach Generalized Other.
4. Completion of the socialization portion of the "Who am I?" project.

1.2 – Agents of Socialization
1. List and define the primary agents of socialization (family, peers, education, religion, government/economics, and mass media).
2. Discuss how and why the agents of socialization work to socialize individuals.
3. Describe how the effects of the agents of socialization can be used to change behavior (total institutions, desocialization).
4. Completion of the Agents of Socialization portion of the "Who am I?" project.

1.3 – Deviance
1. Define Deviance.
2. Define the 3 main theories that lead to deviance: Strain, Differential Association, and Labeling.
3. Explain which theory you feel is most accurate (must explain why it is better than the others).
4. Completion of the Deviance portion of the "Who am I?" project.

1.4 – Conformity
1. Define Conformity.
2. Define the 2 maim theories of Social Control: Social Bond and Containment.
3. Explain which theory you feel is most effective in ensuring Conformity (must explain why you feel it is better than the other).
4. Completion of the Conformity portion of the "Who am I?" project.

2.1 – Identity and the Self

1. Define and explain the terms related to identity and the self (self-concept, me & I).
2. Describe how the self-concept makes humans more individual than other animals.
3. Describe the difference between self-concept and Mead's 2 parts of the self.
4. Completion of the Self-Concept portion of the "Who am I?" project.

2.2 – Self-Image

1. Define and explain the terms related to self-image (looking-glass self and self-esteem).
2. Explain how self-concept is different than self-esteem.
3. Discuss how the looking-glass self could lead to distorted self-images.
4. Completion of the Self-Image portion of the "Who am I?" project.

2.3 – Identity Formulation and Self-Regulation

1. Define and explain the terms related to identity formulation and self-regulation (significant others, reference groups, anticipatory socialization, life-cycle, and role-taking).
2. Explain the role reference groups and anticipatory socialization plays in the development of humans.
3. Describe how role-taking and generalized other helps humans self-regulate their behavior.
4. Completion of the Identity Formulation and Self-Regulation portion of the "Who am I?" project.

3.1 – Types of Groups

1. Define the various types of groups (primary & secondary groups, in-group, out-group, formal & informal groups).
2. Explain why the following collections of individuals are not considered groups: social aggregate, social network, and social category.
3. Discuss the 6 major components of a bureaucracy and explain the pros and cons of this type of formal group.
4. Completion of the Types of Groups portion of the "Who am I?" project involving in-group and out-group behavior.

3.2 – Group Behavior

1. Define various terms related to group behavior (conformity, conflict, coercion, power, authority, groupthink, groupshift).
2. Discuss how individual behavior differs from group behavior (specifically mentioning how individuals alter their behaviors in groups).
3. Explain how social dilemmas impact society and how individuals deal with these dilemmas.
4. Differentiate and analyze various group behavior/crowd theories, focusing on which you feel is most accurate.

Unit 4: Social Justice and Inequality

Unit 4 Learning Targets

1. Examine the patterns of social inequality.
2. Explain the role of social constructions and social institutions in social inequality.
3. Describe the various responses (individual, group, and social) to social injustices.

Sub-Targets and Levels of Mastery

1.1 – Power, Privilege, and Equality
1. Define power, privilege, inequality, equality, equity, and marginalization.
2. Describe how power and privilege can lead to marginalization.
3. Explain how the terms from above are related.
4. Discuss how the terms from above impact individuals differently.

1.2 – The Big 8 Social Justice Categories
1. List the Big 8 Social Justice categories and define social location.
2. Explain why each of the Big 8 categories are a part of Social Justice.
3. Discuss how the Big 8 categories are related to inequality.
4. Describe how a person's social location within the Big 8 categories impacts their level of equality/inequality in society.

2.1 – Social Constructs and Inequality
1. Define the term social construct.
2. Explain why societies use social constructs.
3. Discuss how social constructs help to shape visions of reality in a society.
4. Describe how social constructs affect inequality in a society.

2.2 – Social Institutions and Inequality
1. Define the term social institution.
2. Explain why societies use social institutions.
3. Discuss the role social institutions play in shaping a society and how they are developed.
4. Describe how social institutions affect inequality in a society.

3.1 – Individual and Group Responses to Social Injustice
1. Discuss how various individual might respond to social injustice.
2. Discuss how various groups might respond to social injustice.
3. Explain how individual and group responses might lead to social movements.
4. Describe at least 2 social movements (be sure to discuss how they are responding to social injustice).

3.2 – Social Policy Responses to Social Injustice
1. Define social policy and explain how it relates to social injustice.
2. Discuss how social policy could be used to impact social injustice.
3. Describe at least 2 social policies that have been enacted to address social injustices.
4. Suggest at least 2 new social policies that could be enacted to address current issues in social justice/injustice.

APPENDIX E: SAMPLE DATA TRACKER

Unit 2 Data Tracker – Sociology

Student Name: _____ Block: _____

Assignments for Unit 2 (Add Date Completed and Initial When Completed)

ALL ASSIGNMENTS ON THIS LIST WILL BE GRADED!!!

** Indicates requirement for advancement to next lesson/unit*

Assignments:		Class Pace Date:	Date Completed:	
1.	Journal 2.1	2/19	_____	Initial:
2.	Group Work: Unique Norms	2/20	_____	Initial:
3.	Exit Pass: Unit 2, Day 2	2/20	_____	Initial:
4.	*Group Work: Culture Definitions	2/21	_____	Initial:
5.	Journal 2.2	2/21	_____	Initial:
6.	*Group Work: Cultural Diversity	2/22	_____	Initial: _
7.	Journal 2.3	2/22	_____	Initial:
8.	*Formative Assessment: 5 ?s	2/22	_____	Initial:
9.	*Unit 2, Section 1 Quiz: Culture	2/23	_____	Initial:
	Score(s): _____			
10.	Exit Pass: Unit 2, Day 5	2/23	_____	Initial:
11.	Journal 2.4	2/26	_____	Initial:
12.	Group Work: Types of Societies	2/28	_____	Initial:
13.	*Individual Work: Status Web	2/28	_____	Initial:
14.	Exit Pass: Unit 2, Day 7	2/28	_____	Initial:
15.	*Exit Pass: Unit 2, Day 8	3/1	_____	Initial:
16.	Journal 2.5	3/1	_____	Initial:
17.	*Group Work: Social Institutions	3/2	_____	Initial:
18.	Exit Pass: Unit 2, Day 9	3/2	_____	Initial:
19.	Exit Pass: Unit 2, Day 10	3/5	_____	Initial:
20.	*Formative Assessment: Section 2	3/6	_____	Initial:
	Score: _____			
21.	*American Culture Project	3/12	_____	Initial:
	Score: _____			
22.	*Review Game/Guide	3/12	_____	Initial:

23. *Unit 2 Test	3/13	_____	Initial:
Score:	_____		
24. Unit 2 Test Corrections	3/14	_____	Initial:
Score:	_____		

APPENDIX F: INTRODUCTORY UNIT PLAN, SEQUENCE, AND ACTIVITY LIST

Wednesday, January 10 – Intro, Day 1

Unit Objectives:

1. To learn student names and information and introduce students to teacher.
2. To sign students into technology services used in classroom.
3. To learn student understanding of Personalized Learning.

Agenda: Bellwork: Complete Notecard Introduction; Assigned Chromebook/Agreements; Login/Sign-Ups for Google Classroom & Remind101; Student Information Sheet (Google Form); Mr. Hladek Introduction; Google Classroom Post (Personalized Learning) Exit Pass/Follow-Up: Complete Student Information Sheet and Google Classroom Post

Thursday, January 11 – Intro, Day 2

Unit Objectives:

1. To get to know students and begin establishing a culture of interaction and collaboration.
2. To begin designing a student-centered classroom with student agency, voice, and choice.

Agenda: Bellwork: Ice Breaker Activity/Name Game; Day 1 Recap (new students complete Day 1); Ideal Classroom Activity; Exit Pass 2 Journal Exit Pass/Follow-Up: Journal on ideal classroom design, function, etc.

Friday, January 12 – Intro, Day 3

Unit Objectives:

1. To explain syllabus and course sequence.
2. To introduce Personalized Learning and expectations.
3. To continue designing a student-centered classroom with student agency, voice, and choice.

Agenda: Bellwork: Pick up Syllabus/Parent Letter (read); Go over Syllabus/Parent Letter; Discussion: What is Personalized Learning?; Introduce Unit Roadmaps (Pass out Intro Unit Roadmap); Introduction to Expectations and Standard Operating Procedures (SOPs); Exit Pass Google Form and Document Exit Pass/Follow-Up: Google Form and Document on Important and Missing SOPs

Tuesday, January 16 & Wednesday, January 17 – Intro, Days 4 & 5

Unit Objectives:

1. To continue designing a student-centered classroom with student agency, voice, and choice.
2. To design standard operating procedures and classroom expectations.

Agenda: Bellwork: Discuss with neighbor the SOP exit pass assignment from Day 3; Group Activity: SOP Committees (Development of SOP proposals); SOP Committee proposals and petitions for change; SOP Committee Reconvening (address necessary

changes); SOP Committee presentations and final proposals; SOP finalization Exit Pass/Follow-Up: Think of necessary flow-charts for SOPs and/or changes to proposals

Thursday, January 18 – Intro, Day 6

Unit Objectives:

1. To continue designing a student-centered classroom with student agency, voice, and choice.
2. To design standard operating procedures and classroom expectations.

Agenda: Presentation and signing of SOPs; Design and completion of necessary flowcharts; Explanation of Mr. Hladek's Dissertation/Experiment and expectations; Discussion of Dissertation Pre-Test Exit Pass/Follow-Up: Sign-up/create login for Pre-Test

Friday, January 19 – Intro, Day 7

Unit Objectives:

1. To establish baseline data on student abilities in Critical/Higher Order Thinking.
2. To reflect on student abilities and ways for students to improve.

Agenda: Bellwork: Login to Pre-Test on Critical Thinking; Complete Pre-Test; Exit Pass Journal/Reflection Exit Pass/Follow-Up: Journal/Reflection on Pre-Test performance, ways to improve, and reasons for current levels of performance

Monday, January 22 – Intro, Day 8

Unit Objectives:

1. To model expectations for Personalized Learning assignments/lessons.
2. To practice self-preparation, planning, execution of self-directed assignments.

Agenda: Bellwork: Research Martin Luther King, Jr. Day; Discussion on Pre-Test results; Introduction of MLK assignment/debate;

Exit Pass on Pre-Planning for assignment Exit Pass/Follow-Up: Pre-Planning proposal for MLK assignment

Tuesday, January 23 – Intro, Day 9

Unit Objectives:

1. To model expectations for Personalized Learning assignments/lessons.
2. To practice self-preparation, planning, execution of self-directed assignments.

Agenda: Bellwork: Discussion with neighbors about Exit Pass Pre-Planning; Collaboration in finalizing Pre-Planning; Execution of Pre-Planning and Debate Preparation; Exit Pass Reflection on Debate Expectations

Exit Pass/Follow-Up: Reflection/journal on Debate Expectations

Wednesday, January 24 – Intro, Day 10

Unit Objectives:

1. To practice participating in classroom discussions/debates.
2. To practice self-regulation of classroom discussions/debates/assignments.
3. To reflect on skills and necessary improvements for self-directed assignments.

Agenda: Bellwork: Finalize Preparations for MLK Debate; MLK Debate; Discussion: How did the Debate go?; Exit Pass Reflection; Turn in Intro Unit Roadmap

Exit Pass/Follow-Up: Turn in Intro Unit Roadmap; Reflection on student preparation for debate (what did they do right/wrong, what strategies can they work on to be better; etc.)

APPENDIX G: STUDENT BASELINE SURVEY QUESTIONS

1. Last Name, First Name:
2. Age (at the time of this survey):
3. Gender (please choose the gender with which you identify):
    a. Male
    b. Female
    c. Transgender
    d. I choose not to identify with a gender
4. Race (please choose the race with which you identify):
    a. Caucasian
    b. African American
    c. Asian
    d. Native American
    e. Latinx/Hispanic
    f. Mixed Race
5. Year in School:
6. How would you rank yourself as a student (overall)
    a. Likert Scale 1-10 (1 = weakest; 10 = strongest)
7. Why would you choose to rank yourself with this number?
8. What are your strengths as a student (choose all that apply)?
    a. Academic Ability
    b. Effort/Hard Work
    c. Desire to Learn
    d. Desire to Succeed
    e. Compliance (willingness to listen to and carry out directions/activities)
9. What are your weaknesses as a student (choose all that apply)?
    a. Academic Ability
    b. Effort/Hard Work
    c. Desire to Learn
    d. Desire to Succeed
    e. Compliance (willingness to listen to and carry out directions/activities)
10. What is your experience level with Personalized Learning?
    a. I have taken no PL classes and know little to nothing about it.
    b. I have taken no PL classes but have a decent understanding about it.
    c. I have taken 1-2 PL classes but still know nothing about it.
    d. I have taken 1-2 PL classes and have a decent understanding about it.
    e. I have taken more than 2 PL classes but still know little to nothing about it.
    f. I have taken more than 2 PL classes and have a decent understanding about it.
11. What are your feelings about classes that are taught with Personalized Learning?
    a. I don’t have an opinion/I have never taken a PL class.
    b. I did not have a good experience/do not like classes taught with PL
    c. I had a good experience/do like classes taught with PL

12. Do you feel you have a good understanding of how Personalized Learning will work in Mr. Hladek's classroom after his initial explanation?
    a. No, I am still rather confused.
    b. Yes, I am somewhat confident I understand.
    c. Yes, I am fully confident I understand.

APPENDIX H: INDIVIDUAL STUDENT EFFORT AND PACE SUB-CATEGORIZATION CHART

Student	Pacing Level	Self-Rank	Completion %	Observation	Sub-Cat
C1	On-Pace	Low	87	CW	On/Low
K1	Off-Pace	Low	79	NHW	Off/Low
M1	On-Pace	High	100	VHW	On/High
A1	On-Pace	Low	89	HW	On/High
G1	On-Pace	High	100	VHW	On/High
K2	On-Pace	Low	92	CW	On/Low
K3	Off-Pace	Low	87	HW	Off/High
A2	On-Pace	Low	87	CW	On/Low
J1	Off-Pace	Low	82	CW	Off/Low
J2	On-Pace	Low	89	CW	On/Low
D1	Off-Pace	Low	95	HW	Off/High
K4	Off-Pace	Low	63	NHW	Off/Low
I1	On-Pace	Low	87	CW	On/Low
K5	Off-Pace	Low	64	NHW	Off/Low
S1	On-Pace	Low	58	CW	On/Low
D2	Off-Pace	Low	87	NHW	Off/Low
S2	Off-Pace	Low	87	HW	Off/High
E1	On-Pace	High	100	VHW	On/High
N1	On-Pace	Low	92	HW	On/High
O1	Off-Pace	Low	55	NHW	Off/Low
C2	Off-Pace	Low	58	NHW	Off/Low
A3	On-Pace	Low	84	CW	On/Low
H1	Off-Pace	Low	68	NHW	Off/Low
A4	Off-Pace	Low	76	HW	Off/Low
J3	Off-Pace	High	100	HW	Off/High
W1	Off-Pace	Low	61	NHW	Off/Low

APPENDIX I: UNIT ONE PLAN AND SEQUENCE

Class Pace Assignment Sheet-----Unit 1 (Intro to Sociology, Sociological Perspective, & Methods of Inquiry)

Thursday, January 25 – Unit 1, Day 1

National Standards for High School Sociology Learning Domain:
Domain 1: The Sociological Perspective and Methods of Inquiry.
Objectives:

4. To understand and define Sociology as a social science.
5. To distinguish between Sociology and Psychology.

Agenda: Bellwork: Watch Crash Course Video on Intro to Sociology and write an individual definition of Sociology; Group Work: Finding a working definition (small groups and larger groups) – Larger groups will add their definition to class document on Google Classroom; Class discussion/PPT on Intro to Sociology; Journal 1.1: How might Sociology be useful to me? How might an understanding of Sociology benefit me and those around me?; Exit Pass, Unit 1, Day 1: Individual definition of Sociology and 1 question of interest about the subject (Google Form).
Extension/Follow-Up: Journal 1.1 and Exit Pass, Unit 1, Day 1

Friday, January 26 & Monday, January 29 – Unit 1, Day 2 & 3

National Standards for High School Sociology Learning Domain:
Domain 1: The Sociological Perspective and Methods of Inquiry.
Objectives:

1. To understand and define society and social constructs.
2. To explain why Sociology is an area of study.

Agenda: Bellwork: Write your own definition of a society; Group Work: Finding a working definition of a society; Discussion: How is a society set up? What is its purpose? Why is it set up this way?; PPT on Society and Social Constructs; Journal 1.2: What are social constructs, and how do they impact people?; Bellwork: Think, Pair, Share: What impact would social constructs have on us?; Discussion: Role of Social Constructs on human behavior; PPT on 5 Concepts of Sociology and Why we study it; Exit Pass Unit 1, Day 3: What areas of study do you feel might exist in Sociology?
Extension/Follow-Up: Journal 1.2 and Exit Pass, Unit 1, Day 3

Tuesday, January 30 – Unit 1, Day 4

National Standards for High School Sociology Learning Domain:
Domain 1: The Sociological Perspective and Methods of Inquiry.
Objectives:

1. To explain the history of Sociology and why it exists.
2. To discuss various areas of study for Sociology.
3. To prepare for a formative assessment on Unit 1, Section 1.

Agenda: Bellwork: Look up various areas of study for Sociology; PPT on History of Sociology; Group Work: Famous Sociologists and Areas of Study; Exit Pass, Unit 1, Day 4: 3 areas of study you find most interesting and why; Prepare for Unit 1, Section 1 Quiz

Extension/Follow-Up: Exit Pass, Unit 1, Day 4; Prepare for Unit 1, Section 1 Quiz

Wednesday, January 31 – Unit 1, Day 5

National Standards for High School Sociology Learning Domain:
Domain 1: The Sociological Perspective and Methods of Inquiry.
Objectives:

1. To complete a formative assessment on Unit 1, Section 1.
2. To begin planning a Case Study project.

Agenda: Bellwork: Prepare for Unit 1, Section 1 Quiz; Complete Unit 1, Section 1 Quiz (and retakes); Journal 1.3: Which topic might you choose for your Case Study, and why?
Extension/Follow-Up: Journal 1.3

Thursday, February 1 – Unit 1, Day 6

National Standards for High School Sociology Learning Domain:
Domain 1: The Sociological Perspective and Methods of Inquiry.
Objectives:

1. To define and understand the terms Social Imagination and Sociological Perspective.
2. To apply Social Imagination and Sociological Perspective in the design of a research study.

Agenda: Bellwork: Define the terms Imagination and Perspective and explain how they might be useful for the study of Sociology; Discussion and Notes: Social Imagination and Sociological Perspective; Group Work/Application: Using Social Imagination and the Sociological Perspective, interpret specific student actions and search for catalysts for these actions; Individual Work: Begin designing a social research plan on one student action of interest; Journal 1.4: Define Social Imagination and Sociological Perspective and explain why these terms are important in the study of Sociology; Exit Pass: Unit 1, Day 6: Complete the document outlining a research proposal.
Extension/Follow-Up: Journal 1.4; Exit Pass: Unit 1, Day 6

Friday, February 2 – Unit 1, Day 7

National Standards for High School Sociology Learning Domain:
Domain 1: The Sociological Perspective and Methods of Inquiry.
Objectives:

1. To define key terms relating to sociological research.
2. To begin formulating a research question to be studied in an individual case study.

Agenda: Bellwork: Finish Exit Pass: Unit 1, Day 6 and discuss your project; Individual/Group Work: Definitions and Questions on Research; Discussion and Notes: Types of Research; Formative Assessment: Explain Quantitative and Qualitative Research; Formative Assessment on Research; Journal 1.5: Scientific Method, Qualitative vs Quantitative Research in your project and research question
Extension/Follow-Up: Finish Journal 1.5 (submit to Mr. H for review)

Monday, February 5 – Unit 1, Day 8

National Standards for High School Sociology Learning Domain:
Domain 1: The Sociological Perspective and Methods of Inquiry.
Objectives:

1. To analyze and interpret various data types.
2. To continue formulating a research question to be studied in an individual case study.

Agenda: Bellwork: Research study on "Cartoon Violence"; Case Study Template Round 1; Individual/Group Work: Variables, Correlation/Causation, Reliability/Validity/Bias; Discussion/Notes; Exit Pass: Unit 1, Day 8: Variables in Your Study
Extension/Follow-Up: Exit Pass: Unit 1, Day 8

Tuesday, February 6 – Unit 1, Day 9

National Standards for High School Sociology Learning Domain:
Domain 1: The Sociological Perspective and Methods of Inquiry.
Objectives:
1. To define and understand various data collection tools in Sociological research.
2. To explore Ethics in Sociological research.
3. To prepare for a quiz on Sociological research.

Agenda: Bellwork: Thinking of Data Collection; Individual Work: Types of Data Collection; Group Work: Ethics in Research; Case Study Template Round 2; Review for Section 2 Quiz; Exit Pass: Unit 1, Day 9: Ways to Better Prepare for the Quiz
Extension/Follow-Up: Exit Pass: Unit 1, Day 9; Prepare for Section 2 Quiz

Wednesday, February 7 – Unit 1, Day 10

National Standards for High School Sociology Learning Domain:
Domain 1: The Sociological Perspective and Methods of Inquiry.
Objectives:
1. To complete a quiz on Sociological research.
2. To complete a Case Study proposal for Sociological research.
3. To examine and analyze the Three Sociological Perspectives.

Agenda: Bellwork: Prepare for the section 2 quiz; Take the section 2 quiz (and retakes); Case Study Proposal; Individual Work: Three Sociological Perspectives; Video/Notes on Three Sociological Perspectives; Exit Pass: Unit 1, Day 10: Perspective You Agree with Most
Extension/Follow-Up: Case Study Proposal; Exit Pass, Unit 1, Day 10

Thursday, February 8 – Unit 1, Day 11

National Standards for High School Sociology Learning Domain:
Domain 1: The Sociological Perspective and Methods of Inquiry.
Objectives:
1. To examine and analyze the Three Sociological Perspectives.
2. To prepare arguments for an argumentative essay.

Agenda: Bellwork: Finish/Discuss Exit Pass, Unit 1, Day 10; Notes on 3 Sociological Perspectives; Group Work: Grouped by Perspective, write debate points to present arguments FOR their perspective; Discussion: Each group presents info (opposing groups take notes to use as counter arguments); DBQ Outline Rough Draft
Extension/Follow-Up: DBQ Outline Rough Draft

Friday, February 9 – Unit 1, Day 12

National Standards for High School Sociology Learning Domain:
Domain 1: The Sociological Perspective and Methods of Inquiry.
Objectives:
1. To examine and analyze the Three Sociological Perspectives.
2. To outline arguments for an argumentative essay.

Agenda: Bellwork: Strengths and Weaknesses of essay writing (and how these can be addressed); Writer's Workshop; Finalize DBQ Outline (Begin writing)

Extension/Follow-Up: Final DBQ Outline

Monday, February 12 – Unit 1, Day 13

National Standards for High School Sociology Learning Domain:
Domain 1: The Sociological Perspective and Methods of Inquiry.
Objectives:
1. To prepare for a summative assessment on Unit 1.
2. To practice various test preparation techniques.

Agenda: Bellwork: How can I ensure I am prepared for the Unit 1 test?; Review for Test (each student prepares a review guide/game); Discussion of test expectations

Extension/Follow-Up: Review for Unit 1 Test

Tuesday, February 13 – Unit 1, Day 14

National Standards for High School Sociology Learning Domain:
Domain 1: The Sociological Perspective and Methods of Inquiry.
Objectives:
1. To take a summative assessment on Unit 1.
2. To complete an argumentative essay.
3. To complete a Case Study Proposal

Agenda: Quick review for Unit 1 test; Unit 1 test and test corrections; DBQ writing; Case Study Proposals

Extension/Follow-Up: Complete Case Study Proposal

Wednesday, February 14 – Unit 1, Day 15

National Standards for High School Sociology Learning Domain:
Domain 1: The Sociological Perspective and Methods of Inquiry.
Objectives:
4. To review a summative assessment on Unit 1.
5. To complete an argumentative essay.
6. To complete a Case Study Proposal

Agenda: Bellwork: Journal 1.6: What did I learn about myself in regards to how I handled Unit 1? How can I do better in Unit 2?; Unit 1 Test Recap (and corrections); Finish DBQ Essays; Finish Case Study Proposals; Begin Data Collection Tool Rough Draft

Extension/Follow-Up: Rough Draft: Data Collection Tool

Unit 1 Standards and Indicators

Domain 1: The Sociological Perspective and Methods of Inquiry

1.1- Students will identify sociology as a scientific field of inquiry.
1.2- Students will compare and contrast the sociological perspective and how it differs from other social sciences.
1.3- Students will evaluate the strengths and weaknesses of the major methods of sociological research.
1.4- Students will identify, differentiate among, and apply a variety of sociological theories.

APPENDIX J: FORMATIVE ASSESSMENT AND AMERICAN CULTURE AND ME OUTLINES

Unit 2 Formative Assessment

- Individually, you will be tasked with creating quiz questions that would make students apply or analyze information, not merely define terms (use terms and information from Unit 2).
- You MUST include the following in your rewrites:
    - Question (fully written out in the best format you can think of)
    - Answer (fully written out in the best format you can think of)
    - Reason this question should be included in this Unit's formative assessment.
    - Reason this question assesses more than just a definition or lower level thinking.

Category	Level 1 – Insufficient Evidence of Proficiency	Level 2 – Emerging Proficiency	Level 3 – Proficiency	Level 4 – Mastery
Inclusion of Proper Questioning	Includes a few questions but none are asked above the bottom 2 levels of Bloom's.	Includes a few questions but only some are asked above the bottom 2 levels of Bloom's.	Includes several questions with most asked above the bottom 2 levels of Bloom's.	Includes several questions with all asked above the bottom 2 levels of Bloom's.
Inclusion of Reasoning for Question's inclusion	Includes no reasoning for questions included and/or reasoning for questions included do not make sense or aren't applicable.	Includes valid and accurate reasoning for some questions.	Includes valid and accurate reasoning for most questions.	Includes valid and accurate reasoning for all questions.

Inclusion of Reasoning for Question Level	Includes no reasoning for question levels and/or reasoning do not make sense or aren't applicable.	Includes valid and accurate reasoning for some question levels.	Includes valid and accurate reasoning for most question levels.	Includes valid and accurate reasoning for all question levels.

American Culture and Me Project

- For your formative assessment for Unit 2, Section 3 you will be working on an individual project discussing the relationship between you as an individual and the Norms, Values, and Culture of America.
- There is no outline for this project as it is completely up to you on how you do it (please choose a presentation medium other than an essay or ppt).
- This will count as a full quiz grade.
- Things you will need to have in your project:
    - Information about American Norms, Values, and Culture in general
    - Information about how you align with American Norms, Values, and Culture (and why)
    - Information about how you don't align with American Norms, Values, and Culture (and why)
- You can do this in any format you would like EXCEPT a ppt or written essay.

Category	Level 1 – Insufficient Evidence of Proficiency	Level 2 – Emerging Proficiency	Level 3 – Proficiency	Level 4 – Mastery
Overview of Norms, Values, and Culture	Covers norms, values, and culture in-depth with details and examples. Subject knowledge is excellent.	Includes essential knowledge about norms, values, and culture. Subject knowledge appears to be good.	Include information about norms, values, and culture but covers only a small variety of each.	Little to no norms, values, and culture are discussed.

Personal Alignment with Norms, Values, and Culture	Discusses many norms, values, and culture that the student practices and explains how they do not fit into American norms, values, and culture.	Discusses some norms, values, and culture that the student practices and mostly explains how they do not fit into American norms, values, and culture.	Discusses some norms, values, and culture that the student practices but does not explain how they do not fit into American norms, values, and culture.	Discusses less than 3 norms, values, and culture that the student practices and does not explain how they do not fit into American norms, values, and culture.
Personal Misalignment with Norms, Values, and Culture	Discusses many norms, values, and culture that the student practices and explains how they do not fit into American norms, values, and culture.	Discusses some norms, values, and culture that the student practices and mostly explains how they do not fit into American norms, values, and culture.	Discusses some norms, values, and culture that the student practices but does not explain how they do not fit into American norms, values, and culture.	Discusses less than 3 norms, values, and culture that the student practices and does not explain how they do not fit into American norms, values, and culture.

APPENDIX K: RUBRIC DESCRIPTION OF TEACHER-RESEARCHER OBSERVATION OF STUDENT EFFORT LEVELS

Abbreviations:

VHW = Very hard working

Always on task; Completes all work; Student focused on learning, not scoring/grading

HW = Works relatively hard

Usually on task; Completes most work; Student seems focused on learning but more worried about scoring/grading

CW = Works only hard enough to get by

Mostly on task; Completes enough work to progress; Student focused solely on receiving credit with no emphasis on learning

NHW = Not hard working

Rarely on task; Does not complete enough work to progress without multiple prompts; Hard to motivate; Does not seem to care about grades and/or learning

APPENDIX L: OVERALL STUDENT CRITICAL THINKING SCORES AND GAINS

Student	Raw Score Pre-	Raw Score Post-	Raw Gain	BCTI Pre-	BCTI Post-	BCTI Gain	Obstacle to CT Pre-	Obstacle to CT Post-	Obstacle to CT Gain
C1	37	22	-15	44	36	-8	29	7	-22
K1	33	51	18	52	52	0	14	50	36
M1	47	53	6	44	48	4	50	57	7
A1	51	59	8	44	60	16	57	57	0
G1	44	52	8	52	60	8	36	43	7
K2	43	46	3	56	48	-8	29	43	14
K3	33	59	26	30	68	38	36	50	14
A2	69	77	8	52	60	8	86	93	7
J1	39	32	-7	64	40	-14	14	21	7
J2	41	42	1	52	48	-4	29	36	7
D1	20	34	14	40	60	20	0	7	7
K4	41	33	-8	52	36	-16	29	29	0
I1	42	44	2	48	52	4	36	36	0
K5	33	25	-8	52	36	-16	14	14	0
S1	37	36	-1	52	64	12	21	7	-14
D2	32	39	7	44	64	20	21	14	-7
S2	37	42	5	60	40	-20	14	43	29
E1	37	53	16	44	56	12	29	50	21
N1	50	40	-10	56	44	-12	43	36	-9
O1	29	29	0	36	36	0	21	21	0

C2	29	33	4	36	44	8	21	21	0
A3	45	47	2	68	64	-4	21	29	8
H1	35	24	-11	48	40	-8	21	7	-14
A4	28	22	-6	48	44	-4	7	0	-7
J3	36	33	-3	36	56	20	36	7	-29
W1	32	33	1	56	52	-4	7	14	7